





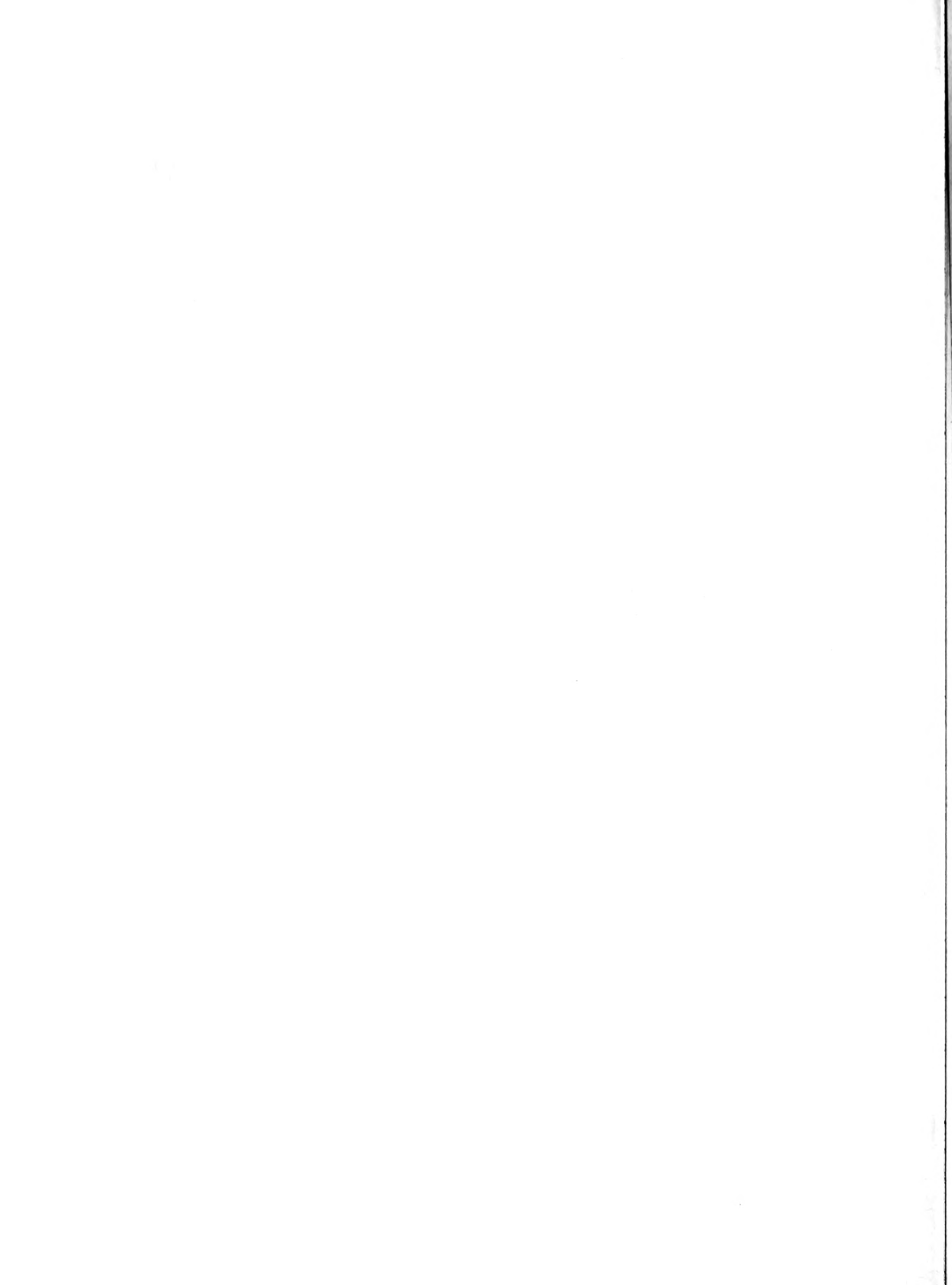
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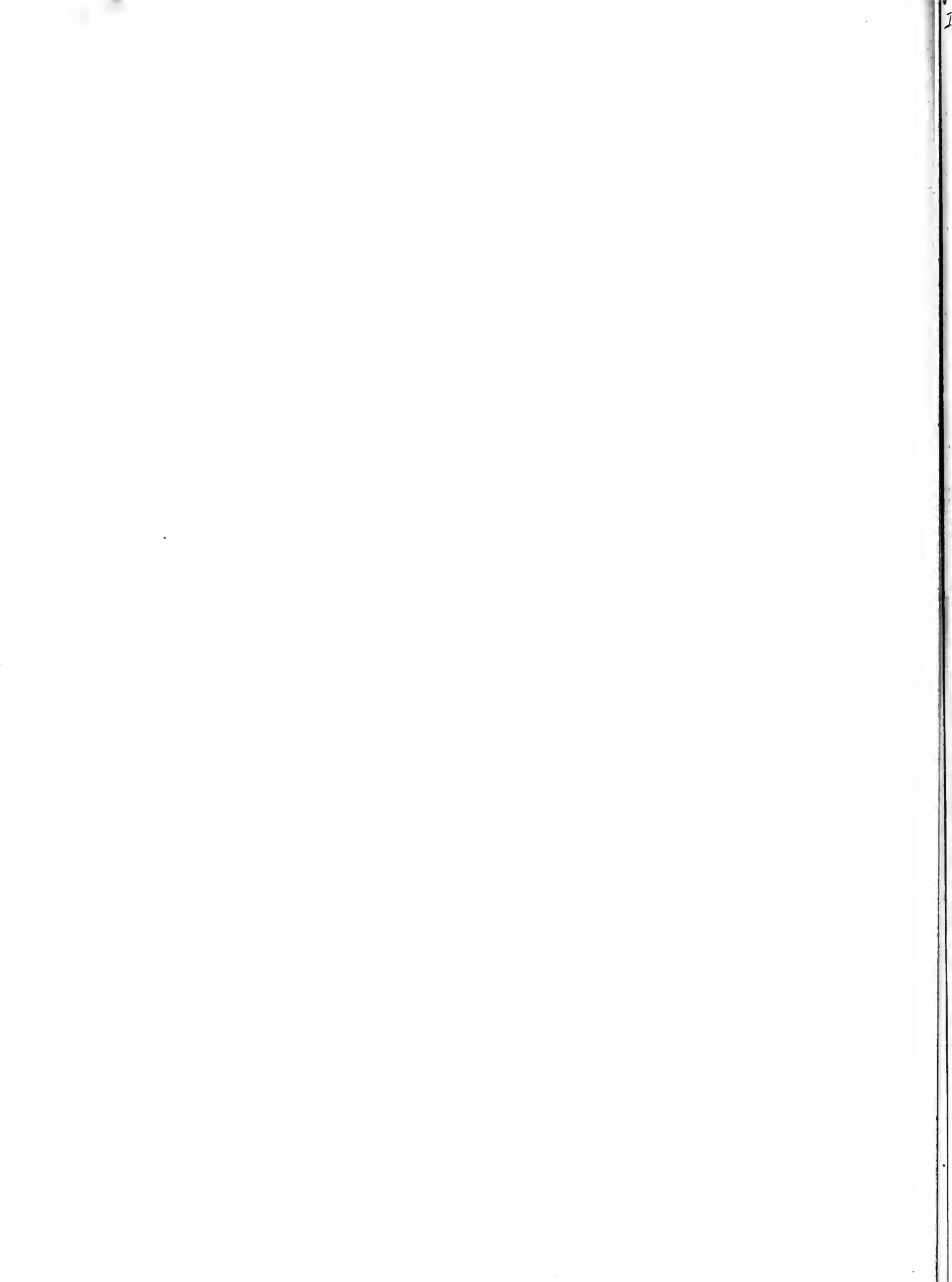
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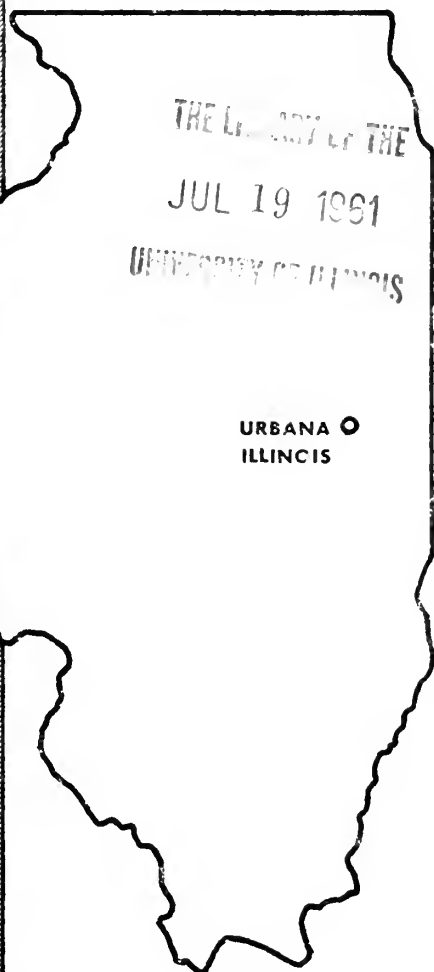
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Star Feature



THE "WHAT" IN TEACHING TEXTILES

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Helen Haughton

THE "WHAT" IN TEACHING TEXTILES

Helen Haughton, Eastern Illinois University
Elizabeth Simpson, University of Illinois

"I realize I need to teach textiles! Many of our last year's difficulties in clothing construction and observable disasters in laundering ready-mades were due to new fabrics and finishes, new terms on labels that my students did not understand. I believe I could figure out the "know-how" of teaching textiles if only I had the "know-what" available! Please, ILLINOIS TEACHER, give me this "WHAT"--and fast!"

As an answer to such pleas, this issue is devoted to the basic concepts in textiles, organized around clothing units of study in a graduated sequence of difficulty. We hope every busy homemaking teacher finds it helpful. Also a few suggestions on use have been added.

Major objectives related to textiles

Following are the major objectives for clothing units of study in the secondary school.

- * Knowledge of the various fibers commonly used in fabrics
- * Knowledge of the characteristics of the plant fibers commonly used in fabrics
- * Knowledge of the characteristics of the animal fibers commonly used in fabrics
- * Knowledge of the characteristics of the man-made fibers commonly used in fabrics
- * Knowledge of fiber blends commonly used in fabrics
- * Understanding of terms used to describe fibers and fabrics
- * Understanding of the factors which affect the strength and appearance of yarns
- * Understanding of the processes used in constructing non-woven fabrics
- * Understanding of the knitting process
- * Understanding of the basic weaves used in making fabrics
- * Understanding of the more complicated weaves
- * Understanding of the term, cloth count
- * Understanding of the common finishing processes used on fabrics
- * Ability to select textiles applying the understandings of fibers, fabrics, and finishes
- * Ability to use labels and advertisements in making wise selections of textiles
- * Knowledge of the governmental agencies that protect the consumer in his purchase of textiles
- * Knowledge of the major federal acts that protect consumers of textiles
- * Knowledge of the major trade practice rules that protect consumers of textiles

Scope and Sequence Chart for Teaching Textiles

Textiles Area	7th Grade	8th Grade	9th Grade	10th Grade	11th and 12th Grades
A. Fibers and their properties	Cotton	Cotton (review) Linen	Review the natural fibers and their characteristics	Comparative qualities of different fibers The protein fibers: Wool Silk Wool Labeling Act of 1939	Special emphasis on the newer man-made fibers: High-tenacity rayons Pill-resistant polyesters Modacrylics Metallics Elastics Minerals Textile Products Fiber Identification Act of 1960 Federal Trade Commission rulings on fibers Social and economic aspects of textiles
B. Fabrication	Recognition of simple cotton fabrics Structural design Quality features Terminology, as: Selvage, raw edge, grain, etc.	Review selection and use of cotton fabrics	Basic weaves: Identification Uses Variations Identification of common fabrics Use of common fabrics	Non-woven fabrics in relation to their uses Introduction to a few of the less common weaves	Fabrics made of synthetic fibers or blended fibers: Identification Uses Review of common weaves Less common weaves as Jacquard, etc. Yarns and yarn terminology

Textiles Area	7th Grade	8th Grade	9th Grade	10th Grade	11th and 12th Grades
C. Finishing Processes	Reasons for finishing fabrics Resin-treating cottons	Some common finishes, as: Mercerizing Sizing Piece dyeing Yarn dyeing Roller printing	Importance of special finishes	Continued study of special finishes	Hand printing processes Machine printed processes Mill finishes
D. Care of textiles	Care of cotton, resin-treated cotton	Cotton and linen Simple spot removal	Yarn structure in relation to care Weaves and finishes in relation to care	Consideration of fabric characteristics in relation to their use: Woven Non-woven	Removal of specific stains

Scope and sequence for teaching textiles

Members of a Workshop on the Teaching of Clothing and Textiles, held at the University of Illinois during the summer term, 1960, developed the scope and sequence chart for teaching textiles shown on pages two and three. Included are both the junior and senior high school levels. In developing the chart, consideration was given to the textiles with which students would be concerned in both their construction and buying experiences.

Content of the textiles area in the form of basic concepts

A statement of content in the form of basic concepts to be taught at the different levels was developed as a next step. Charts containing these basic concepts are presented in this publication; there are four charts for each grade level, one on fibers and their properties, one on fabrication, one on finishes, and one on care of textiles. These charts are not to be considered complete and polished in every detail. Further, they should be considered flexible; many of the basic concepts which have been placed at senior high school levels might well be taught in simplified forms at lower levels. They should serve as an aid to the teacher who wishes to improve her teaching in this area by making certain that she is including some of the basic learnings that are important for today's busy homemaker faced with

the vast array of clothing and household textiles on the market. Most of the materials presented in this issue of the Illinois Teacher have been checked by specialists in the field of clothing and textiles. Of course, it is true that in these areas, as in most others, authorities may differ somewhat in their views! It is also true that the field of textiles is expanding very rapidly and what is true today may be modified by further developments tomorrow. Hence, the alert homemaking teacher will need to read and study constantly to keep herself up to date in the field.

Textiles Content for Seventh Grade

TEXTILE TOPICS

BASIC CONCEPTS

Study of Fibers:

Cotton

Source	The fibers for the cotton yarn are obtained from the seed pod of the cotton plant.
Production	The basic manufacturing processes involved in the development of the fiber into yarn include: carding, combing, drawing out, twisting, and winding.
Properties of the cotton fiber:	
Twist	The amount of twist to the inch in a yarn is one factor in the appearance, the durability and the serviceability of the yarn in a fabric.
Length	The length of a fiber is one indication of the quality of a fiber. For example, Egyptian and pima cotton fibers are recognized as two of the better grades and range in length from approximately 1-1/4" to 1-3/4" in length.
Resistance to heat	Since the cotton fiber is resistant to heat, it can be ironed at a high temperature.
Resistance to soaps	Cotton can be washed in strong soapy water, as it is not damaged from this action.
Damage by perspiration and anti-perspirants in the presence of heat	Perspiration and anti-perspirants can damage cotton fibers, particularly in the presence of heat. For this reason care should be exercised in pressing a soiled garment.

TEXTILE TOPICSBASIC CONCEPTS

Seventh Grade

<u>Cotton</u> (cont.)	Bleaching can cause damage to fibers. However, moderate bleaching can be used, if necessary, on cotton fibers:
Bleaching	Chlorine bleaches are used successfully on cotton fabrics that have not been given a resin treatment.
Sunlight exposure	In order to lengthen the life of a cotton fabric, avoid hanging to dry in the sun any longer than is necessary because the sun's rays may cause discoloration and weakening of the fibers.
Affinity for dyestuff	Since cotton fibers can be dyed easily, cotton fabrics are available in many attractive colors. Colors stay bright if proper care is given to the fabric.
Resilience and elasticity	Cotton fibers have poor resilience and elasticity, so the fabric made from cotton tends to wrinkle unless it has been treated with a wrinkle-resistant finish.
Vulnerability to mildew	Since the cotton fiber may mildew, it is important that the fabric is dry before storing. In order to avoid mildew, do not leave cotton clothes sprinkled and in a warm place for too long a time.

Fabrication

Fabric grain	If the lengthwise thread of the fabric is at right angles to the crosswise thread the fabric is said to be "on grain."
Structural design	Structural design is that pattern produced by the way the fabric is woven and/or the type of yarn. For example: A fancy fabric as a brocade is produced by the Jacquard loom. Dimity may be produced by a plain weave using a yarn variation.

Terminology

Raw edge	If the edge of a fabric is unfinished whether it is on the straight grain or otherwise, it is a raw edge.
Selvage (Selvedge)	Selvage is the finished edge of the fabric and runs parallel to the lengthwise threads.
Simple sizing in cotton	Simple sizings, such as starches, are used in some loosely woven cotton fabrics to make them appear firmer.

Fabrication - Cotton (cont.)

Simple sizing used in cotton fabrics usually disappears after the first washing leaving them limp and sleazy.

Finishes

Meaning of finishing fabrics and reasons for finishes

As fabric comes from the loom it is in an unfinished state and is known as "grey" or "gray" goods. In order to make this cloth more attractive it is given different treatments to "finish" or improve its appearance or "feel."

Different finishes

A cotton fabric with a plain weave may be: starched to give it body (as percale); coated with a wax or resin to give it a slick finish (as chintz); treated to make some of the yarns pucker (as plisse); put through rollers to press a pattern into the fabric (as embossed fabrics); and treated with a resin to make the fiber resist wrinkling (as some drip-dry cottons.)

If a white residue is present after a sample of cotton fabric has been torn, the fabric contains much starch and will probably lack body and durability after it is washed.

Care of Textiles

Care of Cotton:

Common spot removal
grease
chocolate
ice cream
pencil
soft drinks

Most common spots on cotton can be removed with a liquid detergent if the detergent is rubbed into the spot before the fabric is washed.

The sooner a spot is treated, the more easily it is apt to be removed; removing a spot immediately results in less energy required in caring for the fabric and less damage to the fabric.

Washing temperature of cotton fabric

Cotton fabrics should be washed in hot water in order to loosen soil and dissolve body oils.

Washing temperature of resin treated and cotton blend fabrics

Resin treated cotton fabrics and cotton blend fabrics should be washed in warm or hot water in order to soften the fabric and reduce amount of wrinkles in soiled clothing. They should be rinsed in cold water so that new wrinkles will not tend to "set in."

TEXTILE TOPICSBASIC CONCEPTSSeventh Grade

Care of Textiles - Cotton (cont.)Pressing
temperature
of cotton
fabric

Cottons should be pressed at a high temperature (cotton setting on an iron) in order to easily smooth the fabric.

Pressing
temperature
of resin-
treated
fabrics and
cotton blend
fabrics

Resin treated cottons generally need a lower temperature and less pressing than do regular cottons in order to smooth the fabric.

Cotton blended with other fabrics should be ironed at the temperature required for the least heat-resistant fiber present in order to prevent damage to the fabric.

Finishes that
can be added
to the cotton
fabric at
home.

Commercial softeners are finishes which can be applied at home in order to make the fabric softer and easier to iron.

Commercial
softeners

Commercial softeners of this type should be put into the last rinse so the other rinses will not wash it away.

Crocking

Crocking, which is caused by an excessive amount of dye, can be tested by rubbing the article with a white cloth.

Starch

Starch is used in order to give the cotton fabric a crisp appearance and to give the fabric more body so that it seems to stay "fresh-looking" for a longer period of time.

Textiles Content for Eighth Grade

TEXTILE TOPICBASIC CONCEPTS

Study of FibersLinen

Source

The linen fiber is obtained from the stem of the flax plant

Production

Processes included in the production of the linen yarn are: rippling, retting, scutching, hackling, and spinning.

Study of Fibers - Linen (cont.)

Properties of
the linen fiber:

Wrinkle resistance	Since linen wrinkles very easily it is desirable to have a crease-resistant finish applied to the fabric.
Moisture absorption	The ability of linen fabrics to take up moisture quickly makes this an ideal fabric to use for dish towels, etc. The fabric is comfortable to wear because it takes up body moisture.
Very resist- ant to soap	Strong soaps can be used as linen is not damaged by them.
Fiber Strength	Because of the brittleness of the linen fiber, a garment may tend to show wear along sharply creased edges, unless the fabric has been treated with a resin.

Finishes

Review the reasons for finishing fabric

Fabrics have always had some finishes applied but in the last 30 years many new finishes have been developed and now the finish applied to a cloth can be as important as the fiber content.

Some of the
common finishes

Merceriza- tion	Mercerization is often used on cotton fabrics. It consists of using a caustic soda on the fabric or yarn and results in creating a light reflecting surface which increases the luster of the cloth.
Sizing:	Sizings are applied to the cloth in order to add body, stiffness, or smoothness, and may or may not, be durable to washing or dry cleaning, depending upon the substance used for sizing.
Color as a method of changing the appear- ance of cloth	The stage of weaving at which the color is added is often used to describe the method of dyeing on the label attached to the cloth.
Piece dyeing	The color may be added after the fabric is woven and this is called piece-dyeing.

TEXTILE TOPICBASIC CONCEPTS

Eighth Grade

Finishes - Linen (cont.)

Yarn dyeing	The color may be added before the fabric is woven into a cloth and this is called yarn dyeing.
Printing, a process for further changing the appearance of the cloth	
Roller printing	There are many methods of printing cloth but the most commonly used is roller printing which prints a pattern on the cloth by means of engraved rollers.
Distinguishing printing from dyeing	By examining the outline of the pattern on both sides of the fabric it is usually possible to see that on one side the design is more clearly defined if the fabric has been printed. If necessary, examine a yarn pulled from the fabric. If the fabric has been printed the yarn will show areas on which the color is not equally distributed.

Care of Textiles

Review care of cotton from seventh grade

Care of linen	Less energy and time will be required and less damage will result to the fabric if a stain is treated as soon as possible.
Spot removal learned for cotton is the same for linen	
How to remove other common spots from cotton and linen fabrics	Blood can be removed if the fabric is soaked in cold water until the spot turns brown and then washed in warm soapy water.
blood coffee tea fruit juice	If the blood stain is an old one and has dried, soaking the stain in strong salt water may loosen it.
ballpoint pen stain	A ballpoint pen stain may be removed by dabbing it with a concentrated detergent before washing.

TEXTILE TOPIC	BASIC CONCEPTS	Eighth Grade
Washing temperature of linen fabric	Linen should be washed at a hot water temperature (except for colors) in order to loosen soil and dissolve body oils. Colors will stay brighter longer if they are washed in a water temperature cooler than that used for white cottons or linens	
Pressing temperature	A very hot iron is needed in order to straighten the hard smooth surface of the linen fabric.	
Prevention of fading sunlight	Colors will stay brighter, longer if colored garments are hung to dry in the shade or if they are tumble dried.	
<u>Textiles Content for Ninth Grade</u>		

TEXTILE TOPIC	BASIC CONCEPTS
<u>Study of Fibers</u>	
<u>Rayon</u>	
Source	Rayon is manufactured from regenerated cellulose.
Production	
Viscose	Wood pulp or cotton fiber is soaked in caustic soda, then treated with other chemicals until the liquid can be forced through the holes of a spinneret into sulphuric acid, which hardens the newly formed rayon filaments.
Cuprammonium	Cotton linters are boiled with caustic soda and soda ash, bleached with chlorine, then washed and dried. The pulp is dissolved in copper oxide and ammonia, forming a solution ready for spinning. The name cuprammonium is derived from these two substances. The spinning solution is forced through large holes in a spinneret, and is then stretched and twisted into a yarn.
Properties of rayon	Viscose and cuprammonium have basically the same properties.
Fibers are smooth	The smoothness of the rayon fiber results in the fiber's tending to shed dirt.

Study of Fibers - Rayon (cont.)

Strength Rayon must be washed very carefully so that the fabric does not stretch or shrink out of shape because it loses 50% of its strength when wet.

Hand In order for rayon to look "alive" a finish of some kind should be used to give the fabric body.

Polyester

Dacron

Sources Dacron comes from hydrogen, nitrogen, oxygen, and carbon which is arranged in chemical structures in controlled proportions.

Production Dacron is manufactured through a complex chemical process, involving many steps, the final step being the forcing of a liquid through a spinneret in order to form the yarn.

Properties

Strong and abrasion resistant Because the dacron fiber is so strong and resists abrasion, garments made from dacron should be long wearing and durable.

Wrinkle resistant Because dacron resists wrinkling and recovers from wrinkling, a garment made from dacron should require a minimum of care.

Color Since dacron is naturally white it does not need to be bleached.

Static electricity in the fiber One should look for antistatic finishes because the dacron fiber builds up static electricity.

Dacron T62

Hand In hand, dacron T62 resembles silk and is therefore soft and comfortable to wear.

Other properties Properties are similar to those of dacron; however, it has improved wicking properties.

Study of Fibers - Polyester

Dacron 64

Pill resistant

Dacron 64 has improved resistance to pilling. It is blended with wool, but not with cotton.

Nylon 420

Nylon 420 is a newly developed nylon which results in a yarn which is more difficult to stretch. When this yarn is blended with cotton the fabric blend is stronger.

Nylon

Source

Nylon is a generic name for a group of proteinlike chemical products classed as synthetic linear polymers.

Production

Nylon is manufactured through a complex chemical process, involving many steps, the final step being the forcing of the liquid through a spinneret in order to form the yarn.

Properties

Melting point

Nylon has a low melting point; therefore, a low heat should be used in pressing.

Static electricity of fiber

Nylon generates excessive electrical charges and therefore attracts particles of lint and soil. Antistatic finishes may be obtained.

Moisture absorption

Nylon is a non-absorbent fiber and dries quickly; this makes it a "convenient" fiber.

Abrasion resistant

Nylon does not need to be pampered in laundering because it is a tough, durable fiber.

Effect of sunlight

Hang nylon in the shade or tumble dry because nylon fabrics are disintegrated by sunlight.

Resistant to mildew and moths

Nylon needs no special treatment or precautions in this area.

Strenght

Nylon wears well because it is a very strong fiber.

Acrylics

Creslan, acrilan, orlon and zefran

These are "trade names" put out by different chemical companies

Study of Fibers - Acrylics (cont.)

Properties of resilience and elasticity	Acrylics resist and recover well from wrinkles. They are good minimum care fabrics.
Bulk & Weight	Acrylics may be used satisfactorily in the manufacture of winter clothing, because the bulkiness tends to provide warmth with light weight.
Resistance to light	Acrylic fibers are resistant to deterioration from weathering but may darken after prolonged exposure to sunlight.
Resistance to moths, mildew, insects, etc.	The problem of storage is simplified as there is little damage to the fabrics from these causes.
Resistance to alkalies	Acrylics will not be damaged if washed in strong soaps for short periods of time because they are resistant to alkalies.
Moisture absorption	Spots will be relatively easy to remove as they are not absorbed by the acrylic fiber. Little water is absorbed into the fiber as it is being washed so it will dry quickly.
Fiber color	The fiber color is not naturally white but must be dyed or tinted to obtain whiteness. The tints that are used to make acrylics white, may be affected by sunlight or heat so precaution must be used when caring for acrylics.
Effects of temperature	One must use low ironing temperature and warm water for laundering in order to keep fiber from turning yellow.
Strength	Acrylics can be washed with little danger of damaging the fibers during the washing period because the wet strength is comparable to the dry strength.

Acetate

Source	Acetate is made from combining cellulose and chemicals.
Production	Acetate is produced in a method similar to that used in producing other thermoplastics.

Study of Fibers - Acetate (cont.)

Properties

Effects of heat	Acetates must be ironed at a low temperature in order to avoid melting the fiber.
Effect of acetone	Precaution must be used when using fingernail polish remover near an acetate fabric, as it will destroy the fabric.
Durability	Acetate should be used for party clothes instead of every day clothes because it will not withstand hard wear. Because acetate can be heat set it can be made to hold pleats.
Effect of alkalies	One should use mild soap when laundering acetate to avoid damaging fibers.
Strength	One must use extreme care in handling acetate during the washing period as it loses much of its strength when it gets wet.
Color	Acetate seldom needs to be bleached because it is naturally white.

Arnel (Triacetate)

Source and production	Arnel is made from cellulose and a chemical. It is produced by much the same method as are the other thermoplastics.
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Properties

Melting point	Arnel may be ironed at a higher temperature than acetate.
Elastic recovery, resilience and dimensional stability (stretching and shrinking)	Arnel possesses properties similar to the other minimum care fibers, but can be obtained at a lower cost than most.
Durability	Arnel is not considered as durable as many of the thermoplastics.

Study of Fibers - Arnel (cont.)

Fiber color Arnel does not need to be bleached because white arnel remains white.

Strength Arnel is stronger than acetate.

Care of Textiles

Review of the simple techniques used in the care of cotton and linen fabrics from seventh and eighth grades The more soiled a fabric is allowed to become the longer the washing period required and consequently the more possibility of damage to the fiber.

Any stain on fabric should be treated as soon as possible to prevent setting of the stain.

The different kinds of construction found in a fabric and their relationship to the care required

The more highly twisted the yarn the more possibility of shrinking or stretching in laundering.

Some crepes, for example, shrink considerably when wet but are relatively easy to restore to their original shape by blocking; others cannot be restored.

Fabrics, other than wool, are thought by some authorities to be more shrinkage sensitive to methods of drying and pressing than to the manner of washing.

Yarn structure in relation to washing, drying, and pressing

The maximum shrinkage usually occurs after the third laundering.

True crepes are more resistant to raveling than yarns with low twist and therefore need not be handled as carefully.

True crepes present some problems in pressing but the secret is to work quickly with as little pressure and moisture as possible to obtain a smooth fabric.

Loosely twisted yarns

Loosely twisted yarns, as those found in sateen, require care in handling in order to avoid snagging.

Linen yarns are usually loosely twisted, but special care in ironing must be taken because linen fibers absorb little moisture and if repeatedly pressed in a crease, will break at that point.

Care of Textiles (cont.)

Weaves and finishes
and their rela-
tionship to
pressing and
washing

Loosely woven
fabrics

In general a loosely woven fabric is more apt to shrink in washing, more easily loses its shape when pressed, and ravel more readily; this results in a fabric which needs finished edges and should be laundered and pressed carefully.

Finishes

Starched
finishes

A loosely woven fabric may be starched in home laundering to give it body.

Many fabrics are given a "starching" treatment when they are woven and this may or may not be durable to washing or dry cleaning.

Back filling, (a type of sizing) often found on inexpensive towels and sheets, is a layer of starch on one side of a fabric. It is a temporary finish and is usually removed in the first washing.

Resin
finishes

Resin (another form of sizing) treated fabrics are considered durable but the durability depends to some extent, on the care given to them.

Some resins absorb chlorine; this is called chlorine retention and is the result of a reaction of the chlorine of the bleach with the nitrogen of the resin to form chloramine.

Objectional odors are some times present and may be released during ironing of a resin treated fabric.

Resin treated fabrics tear more easily and should be washed with little agitation or rubbing.

Most resin treated fabrics wrinkle when wet and retention of creases from ironing should be avoided by washing in warm water at low agitation speed and hanging to drip dry.

Care of Textiles - Resin finishes (cont.)

They may be ironed with a warm iron.

Many of the resins used for crease-resistant finishes and shrinkage control on cotton, linen and rayon cause these fabrics to pick up and hold lint from the wash water.

Resins are used to create a glazed effect on some fabrics and will require ironing to restore the luster to the flat surface after washing.

Embossed effects, created by resins on the fabric, should not be ironed, or ironed on a very thickly padded ironing board to avoid flattening the raised pattern.

Polished cotton may have a thin layer of resin on the surface and may wrinkle badly if machine washed.

Textiles Content for Tenth GradeStudy of FibersSilk

Source	Silk comes from a filament spun by the silkworm. Silk is produced mostly in the far eastern countries because the skill and time required to cultivate the silkworm and obtain the silk filament from the cocoon are not available nor practical in the western countries.
Production	Processes involved in the production of the silk yarn include: reproduction and growth of the silkworm, unwinding and reeling or spinning the filaments from the cocoon into yarn, cleaning and degumming the yarn and finishing.
Properties	
Strength	A garment made from silk will be durable, and long wearing because silk is a strong and resilient fiber.
Resiliency	Wrinkles tend to hang out of silk because of the high resilient properties it possesses.
Cleanliness of the fiber	Silk tends to shed dirt because silk fibers are smooth and lack the surface irregularities to which dirt can cling.

 TEXTILE TOPICS

BASIC CONCEPTS

Tenth Grade

Study of FibersWool

Source	Wool comes from the fleece of sheep.
Production	Processes included in the production of wool are: sorting, scouring, dyeing, carding, combing, drawing, and spinning the fibers into yarn.
Classification	Virgin wool is wool that has not been manipulated into yarn and cloth.
	Wool that has been woven into cloth and then reclaimed without having been used is called reprocessed wool.
	Wool that is salvaged from all kinds of "used" consumers' goods is called re-used wool.
Properties	
Strength	Since the wool fibers are weak the yarn construction should be tightly twisted or be two ply to increase the strength of a wool fabric.
Effect of bleaches	Chlorine bleaches should not be used on wool. Sodium perborate, is a more desirable bleach if one must be used.
Resiliency	Wool needs little pressing because wrinkles will hang out.
Resistance to sunlight	One should hang wool to dry in the shade because the fibers are damaged by sunlight.
Effect of alkalies	Using a strong soap for a shorter period of time may prove more effective in laundering wool, than using mild soap for a longer washing time. Less damage may be done to the fibers by the strong soap if the time is short than by mild soap if time is longer.
Moisture absorption	Wool fabrics are capable of absorbing much moisture without feeling wet or cold therefore they are comfortable fabrics for swim suits.
	Wool fabrics are desirable for winter clothing because they feel warm and they have an elasticity which permits a snug fit.

Study of Fibers - Wool

Woolen
fabrics

Woolen fabrics, in general, appear soft and thick and are made from shorter yarns, usually with a lower twist than that found in worsteds.

Worsted
fabrics

Worsted fabrics, in general, are made from the longer fibers, have more twist per inch, and the woven pattern can be seen more easily than in woolens.

Worsted fabrics are appropriate for tailored garments because they can be tailored to create the effect of crisp edges.

Woolen fabrics are soiled easier than worsteds because they ordinarily have napped surfaces.

Consideration
of fabric
characteristics
in relation to
their use

Cotton

Since cotton has very high wear resistance, it is very acceptable for heavy duty clothing.

As air passes through cotton fabric readily it is useful as a warm-weather fabric.

Cotton absorbs moisture quickly and dries quickly. As a fabric it is useful for undergarments and pajamas.

Since cotton launders well it is a good fabric for many household uses.

Linen

Linen is a cool smooth fabric, therefore it is a comfortable warm-weather fabric.

Linen launders satisfactorily, is smooth and clean, hence it is a desirable fabric for household use.

Silk

Silk fabrics are warm and soft and are fashionably acceptable for year-round wear.

Silk fibers are smooth, clean, and resilient, therefore silk is acceptable for under garments because it is easily cared for and shapes comfortably to the body.

Silk is more expensive than many other fibers and is considered a luxury fiber.

TEXTILE TOPICSBASIC CONCEPTS

Tenth Grade

Study of Fibers

Acetate	Acetate feels smooth and cool to the touch but it is a luxury fabric because it lacks abrasion resistance.
Rayon	Rayon is a cool, clean absorbent fabric that may be used in under garments at less expense than silk or nylon. Rayon fabric is extensively used in top clothing but its tendency to wrinkle sometimes makes it undesirable. Rayon is a very weak fabric when wet and if wrung or stretched while wet will easily lose its shape.
Nylon	Nylon fabrics vary with the method of fabrication. If loosely woven they may be comfortable for warm-weather wear. Nylon is a smooth, wiry, non-absorbent, clean fabric that has extensive use in top clothing, under garments and household fabrics.
Orlon	Orlon fabric can be made to be much like wool in appearance and has many uses similar to that of wool but it launders easily and sheds dirt well.
Dacron	Dacron fabric is easy to care for and resists wrinkles. Hence it is used both for clothing and household uses.

Fabrication

Review of common weaves from ninth grade

Less common weaves

Leno Weave The leno weave is produced by twisting two warp threads from right to left as the filling passes between them. The next time the filling thread crosses the warp, the warp threads are twisted in the reverse direction forming an open work as in marquisette.

Most gauze woven fabrics in clothing are used for formal dresses that do not require durability.

Fabrication - Less Common Weaves (cont.)

Swivel Weave In the swivel weave there is a needle attachment on the loom that embroiders threads on the surface of the cloth between the rows of filling threads.

Dotted swiss is an example of this kind of weave.

Fabrics made on the Jacquard loom Large patterned fabrics are woven on very elaborate looms known as Jacquard looms.

Knitting Knitting is the interlooping of one or more yarns to form a fabric.

Non-woven fabrics

Filling knitting Filling knitting is fabric construction with the use of only one yarn. All hosiery is made by the filling knit method.

The filling knit fabric has the greatest amount of elasticity but runs resulting from dropped stitches are likely to occur.

Warp knitting Since more than one strand of yarn is used in warp knitting more durability may be expected.

Felting If pressure, heat and moisture are applied to a fiber such as wool felting results.

Since felt is less securely fastened together than woven or knitted fabrics it has less durability.

Bonding Bonding is a method of combining fibers to make non-woven or webbed fabrics through the use of synthetic resins, chemicals, or by heat which melts them together.

Bonded fabrics are wrinkle resistant, ravel resistant and generally are less expensive than woven fabrics.

Most of the bonded fabrics have no right or wrong side.

The new bonded fabrics are one of the fastest growing items in the textile field and offer many possibilities for new and unusual fabrics in the future. For example the development of bias as well as non-bias bonded fabrics is a new idea that should be watched.

 TEXTILE TOPICS

BASIC CONCEPTS

Tenth Grade

FabricationWeaves

Pile weave

The pile weave is produced by introducing an extra yarn into either the filling or the warp. This extra yarn may then be cut to form the pile.

A pile weave may have a twill weave base and a twill weave is usually more durable than the plain weave back.

Velvet is an example of a pile weave but is not considered a durable fabric since the pile may mat.

Terry cloth is a pile weave fabric in which the loops have not been cut.

Fabrics
woven on
the dobby
loom

Fabric having small, geometric figures that are woven in as a regular pattern are developed by means of the dobby loom.

Finishes

Review study
of special
finishes from
the ninth
grade

Mothproofing

Wool fabrics are sometimes mothproofed, as one of the finishing operations, by impregnating the yarns with a chemical.

There are simple home methods of moth control and the most effective ones are commercial products that actually kill the moth, and larvae, provided the closet or container is tightly closed. One of the more effective is paradichlorobenzene.

Water repel-
lency and
waterproofing

Water proofing can only be accomplished by coating the fabric with rubber or synthetic resins which results in closing the pores of the fabric.

Water repellency may be added in finishing a cloth and will result in making the fabric resist water but the fabric will not be completely water proof.

The water resistant finishes tend to disappear with wear and cleaning but may be restored to a fabric with renewal treatment.

Finishes (cont.)

Fire-retardant
and flame-
proofing
finishes

Some fibers are flame proof inherently. The mineral fibers are examples because they cannot support combustion.

Protein fibers and some of the thermoplastic fibers are fire-retardant because they ignite slowly and burn for only a very short time.

Fire-retardant finishes may be added to a fabric, at an increased cost, in the finishing process but the more durable ones tend to stiffen the fabric somewhat.

The Flammability Fabrics Act of 1954 covers only clothing and fabrics intended for clothing. It sets up a limitation on the amount of time (2 seconds) that a fabric may flame after the ignition flame is withdrawn. If a fabric fails to meet this test a fire-retardant finish must be added.

Slip resist-
ance finishes

In finishing, a permanent firmness can be given to yarns that tend to slip by immersing them in synthetic resins. This may be an advantage in synthetic fibers to prevent slippage and fraying of the seams.

Antiseptic
finishes

Antiseptic finishes are available on fabrics to prevent decay and impart a self-sterilizing quality to the fabric. The finish is durable to dry cleaning.

Beetling

Beetling is commonly found in linen and cotton fabrics and is used to create a variety in thread heights so they reflect light and increase the luster of the cloth.

The lustrous effect may disappear somewhat in the laundering process.

Moiréing

A moiré finish is considered durable on acetate, and the other thermoplastic fibers, because the heat necessary to produce moiréing causes the fibers to melt.

Molds and
mildew

Clothes which have not been well rinsed when laundered and which have residues of soap, fatty acids, or oils left on them are susceptible to attack by mildew.

Nitrogen is vital to the growth of molds. It has been found experimentally that molds do not grow on clean fibers, except at 94% to 100% relative humidity.

Finishes - Molds and Mildew (cont.)

If fibers are kept clean and dry there is small chance for attacks by microorganisms.

Care of TextilesWool

Wool fibers are weak when wet and if a wool fabric is washed in hot water and wrung or twisted it will result in a shrinking and felting of the wool fibers.

Dirt and odors tend to adhere to wool fibers because of their structure and although soil is not as apparent on wool fabrics as it is on some other fabrics, wool should be washed frequently.

Wool should be pressed by an iron set at a low temperature (usually wool setting) on the iron and further protection by a pressing cloth is desirable in order to prevent scorching of the fibers.

Wool is susceptible to both moths and mildew and should be stored, correctly, in a dry place with moth proofing protection, in order to prevent damage to the fibers.

Rayon and acetate

Both rayon and acetate temporarily lose strength when wet and if wrung, twisted, or hung while wet it will result in a loss of shape.

Any starched or sized fabric is susceptible to silverfish--for example, a starched rayon net--and these fibers should be treated with a commercial preventive when stored to prevent damage.

Acetate must be ironed at a lower temperature than rayon in order to prevent the iron sticking or the fiber fusing.

Pressing temperatures and techniquesIn woven fabrics

Pile weaves, such as velvet and corduroy, may be steamed to remove wrinkles, or pressed on a needle board in order to avoid flattening the surface pile.

TEXTILE TOPICSBASIC CONCEPTSTenth Grade

Care of Textiles - Pressing temperatures and techniques (cont.)In non-woven
fabrics

Plastics

Plastics are of two major types, the thermoset plastics and the thermoplastic plastics. In general, both are affected by heat and must be ironed at a low temperature. Many of the plastics can be cleaned readily by wiping with a damp cloth.

Bonded
fabrics

Bonded fabrics lack the launderability and durability of woven fabrics but many non-wovens can be safely washed by hand or machine. Little agitation and no wringing or twisting is recommended.

Knitted
fabrics

The launderability of a knitted fabric depends to a great extent upon the fiber content and the amount of twist in the yarn. If, for example the fabric is wool, untreated to prevent shrinkage, it should be blocked to prevent loss of shape. If of 100% orlon, the blocking process is unnecessary because it will retain its original shape.

Lace

Heat-sensitive laces are sometimes found on fabrics that can be washed and pressed at high temperatures. For example, nylon lace trims on a cotton garment must be handled with care or the lace may be damaged beyond repair.

Textiles Content for Eleventh and Twelfth Grades

TEXTILE TOPICSBASIC CONCEPTS

FibersFabrics made of
synthetic fibers
or blended fibersIdentifica-
tion and use:

Fabrics made of synthetic fibers or blended fibers may be identified by reading the labels since the Textile Products Fiber Identification Act requires that each fiber be identified by its generic or group name.

Fibers - Fabrics made of synthetic fibers or blended fibers (cont.)

The amount of each fiber in the fabric may be found on the label since the Fiber Identification Act requires that the percentage of fiber, by weight, in the fabric must be listed on a hang tag.

The Federal Trade Commission assigned generic or group names to fibers with similar properties.

A knowledge of the generic names and the properties of each group are necessary for the label identification to be very meaningful.

Detailed study of the newer man-made fibers on the market, or to be released soon

A study of the generic classification of fibers reveals that many of the synthetics in the same family have similar characteristics and because of this should be cared for and used in much the same manner.

Study of their generic classification and the trade names under which they will be released

Thermoplastics

Polyesters

Polyesters are most apt to be found in blends and offer wrinkle resistance and wrinkle recovery to these blends.

Kodel,
fortel,
vycron

The new fibers in this group result in an attempt to offer fibers that are pill resistant because this has been one of the weaknesses of the polyesters.

Kodel has pill-resistant properties which make it very desirable as a fiber.

Vycron is a very strong fiber, has pill resistant properties and is also resistant to abrasion.

Acrylics

The acrylics and modacrylics are similar in many ways. They have a soft and warm hand and give greater bulk with less weight than most other synthetics. They are resistant to sunlight but subject to pilling. They give less wear than nylon but more than acetate and as a result may be considered a durable fiber.

Crelan,
Zefran

Fibers - Thermoplastics

Modacrylics Modacrylics differ from the acrylics in that they melt rather than blaze and melt at such low temperatures that they must be ironed with a press cloth.

Verel,
dynel

They are, also, soluble in acetone and this results in the need for special care in spot removal.

Nytril

Darvan Darvan is the only nytril on the market at the present time and is more expensive than the acrylics.

It should be considered a luxury fiber because the manufacturers have deliberately sacrificed durability to achieve a soft, luxurious hand.

Olefins
(not yet on
the market)

Olane,
prolane,
reevon Olefins are being used for industrial purposes but are not yet in clothing because a filament fine enough for fabric use cannot be obtained at this time.

They are strong fibers, will stretch and withstand a lot of rubbing.

Triacetates

Arnel 60 Arnel offers wrinkle resistance, shrinks and stretches less than acetates and, because of these properties, it may be considered a minimum-care fabric.

The cellulosic
fibersHigh tenacity
rayons

Source Similar method of production to other thermoplastics which involve the combination of cellulose with chemicals.
and pro-
duction

Properties

Strength More durable, should wear longer and be easier to care for than regular rayons.

Fibers - The Cellulosic Fibers (cont.)

Trade names Fortisan is used for curtain fabric. Fiber G is used for upholstery fabrics. Tyrex is used for tire cords. Cordura and avron are high tenacity rayons being used commercially only as yet because yarn is too large for apparel use.

Cross linked rayons

Properties Cross linked rayons shrink less, stretch less, and wrinkle less than ordinary rayons.

Trade names Topel resembles cotton in appearance and behavior and is easier to wash.

Corvel resembles wool in appearance and behavior, yet is easier to care for than wool or other regular rayons.

High wet modulus fibers

Zantrel, avril Zantrel is being test marketed now but the other fibers are still in the laboratory stage.

These fibers will, because of the processes used in manufacturing, produce stronger and more stretch-resistant rayons that can be sanforized.

Source and production

Cellulose based fibers which include a greater degree of polymerization to give the rayon greater strength.

Rayon is produced, basically, by the same method of forcing a liquid solution through a spinneret to form the filaments, as are other thermoplastics.

The elastic fibers

Spandex, lycra, vyrene

The new spandex fibers give control comparable to rubber but with less weight and are not weakened by body-oils and perspiration.

They may be machine washed at any temperature and tumble-dried at medium to low heat.

Because spandex fibers are affected by chlorine bleaches, perborate bleaches should be used.

Fibers - The elastic fibers (cont.)

White Spandex will also pick up dye from the wash water if washed with colored garments.

The metallic fibers

Fairtex, lame, Metallics are being widely used but in an individual lurex, malora, fabric they are usually of such small quantity that metlon, they offer few problems to the consumer except a reymet certain harshness which may scratch the skin. ultravat

Most metallic fibers are plastic coated and should be washed and ironed at low temperatures.

Metallic fibers tend to deteriorate if the protective covering is cracked or in any way removed.

The mineral fibers

Fiberglass Because fiberglass can be expected to wear except in areas subjected to rubbing and flexing, it is not suitable for clothing.

Federal Trade Commission rulings

Federal Trade Commission rulings on silk In 1938 the Federal Trade Commission passed rulings on the labeling of silk fabrics. The term "Pure-Dye Silk" refers to silk (other than black) which contains salts up to 10%. "Pure-Dye Silk" may be used on black silks which have been weighted up to 15%. These rulings refer to silk in the United States only and since World War II little weighted silk is on the market with the exception of imports.

Satin was made of silk for so long that Federal Trade Commission rulings state that if the fabric is made of other fibers it must be so labeled.

Federal Trade Commission rulings on linen

In 1941, the Federal Trade Commission ruled that an article to be labeled linen must consist of at least 50% by weight of pure linen and all other fibers must be listed in order of predominance by weight. It also outlawed misleading terms applied to other fibers which might give the impression that they are linen; as linn, lyn, butcher linen, etc.

TEXTILE TOPICSBASIC CONCEPTSEleventh and Twelfth GradesFibers - Federal Trade Commission Rulings (cont.)

Federal Trade Commission rulings on acetate	In 1952 the Federal Trade Commission defined acetate and ruled that it must be labeled as acetate in all labeling and advertising to distinguish it, particularly, from viscose rayon with which it had so long been classed.
Laws.	
Wool Products Labeling Act of 1939	This act was passed by Congress in 1939 but did not become a law until 1943. It requires that a label, or tag stating the fiber content in terms of percentages be attached to any product (except upholstery and floor covering) containing wool. It further requires the labeling of wool as to reused, re-processed, or virgin. The act offers some protection to the consumer but because it does not offer any information about the quality of the wool in a fabric the consumer must rely, to a great extent upon her own knowledge and experience.
Textile Labeling Act of March 3, 1960	<p>The Textile Products Fiber Identification Act requires that each fiber be identified by its generic name, as well as the trade name, on a label or hand tag attached to the article. The percentage by weight in the fiber must also be listed, unless this weight is less than 5% of the total weight.</p> <p>There are some exceptions to the rule. One is coat linings unless used for warmth. Upholstery fabric on manufactured furniture is exempt but upholstery fabric sold by the yard must be labeled.</p> <p>To be of the greatest benefit to consumers it is necessary to know the characteristics of the generic groupings and the individual differences within these groupings for the specific fiber.</p>
Economic and social aspects of man-made fibers	
Predictions for future production of synthetics	Two things are necessary to increase the production of synthetic fibers. They are: (1) the fibers must be improved until they are better all around, and not just in a few specialized properties, than the natural fibers. (2) the cost of the intermediate materials (as acrylonitrile for orlon, dynel, and acrilan) must be greatly reduced in order to reduce the synthetic

Fibers - Economic and social aspects of man-made fibers

fibers cost to the consumer.

Recognition of the high outlay of capital that is necessary to put a new fiber on the market

The price of a textile fiber is usually high to begin with but as production grows the cost is reduced.

Once a man-made fiber is on large-scale production its price is likely to be very steady. Natural fibers, which depend on the quality and quantity of the crop fluctuate in price.

Impact on older fibers

All the significant developments of man-made fibers have come within the last 60 years and as a result have flooded the market with choices which must be made by the consumer.

Generally, the advent of the new fibers have not reduced the quantity of natural fibers that have been used because the increased demand for textiles has been set by the expanding population.

The synthetics are not so competitive with as complementary to the natural fibers because they offer new qualities not found in the natural fibers.

Production of rayon

Rayon is now the world's second fiber in relation to production because of its low cost combined with its improved qualities.

Production of man-made protein fibers

So far, the reconstituted protein fibers have made no more than a small contribution to the man-made fiber market because the cost is high in producing them and their properties are somewhat limited in comparison to the synthetic fibers.

Production of synthetic fibers

Nylon is well ahead of the other synthetics due in part to its earlier discovery.

In spite of all the attention they have attracted the synthetic fibers have only just made a minor contribution to the bulk of all the fibers that we use partly because their cost is high compared to cotton and rayon. it might also be attributed to their lack of some of the desirable qualities found in natural fibers.

TEXTILE TOPICSBASIC CONCEPTS

Eleventh and Twelfth Grades

Fibers - Economic and social aspects of man-made fibers

Future trends
of man-made
fibers

Chemists will probably turn their attention to improvement of the existing fibers, particularly in imparting hydrophilic properties because this is, at present, the comfort factor that is lacking in most synthetics.

World's
need of
man-made
fibers

The world's population is increasing at the rate of about $1\frac{1}{2}\%$ a year. At this rate it will be near the 5000 million mark by the year 2000; as a result the supply of textiles must necessarily be increased.

Since the supply of natural fibers is limited the synthetic fibers can be used to supplement the expected demand for increased textiles.

Social reper-
cussions of
man-made
fibers

Improved working conditions in the mills resulted from the industrial impetus of the discovery and production of man-made fibers.

Lower costs possible in buying clothing and increased length of wear from these clothes are possible as the result of synthetic fibers.

Effect on creating new comfort and styling resulted with the advent of synthetics; for example, permanent and quick drying fabrics are now possible.

FabricationYarns

Yarn
construction

The size, weight and degree of twist in the yarn will affect the appearance, weight, durability and comfort of a fabric and will result in different requirements for handling the fabric in sewing or cleaning.

Simple yarns

Single,
ply, cord

Novelty
yarns

In general the smaller the novelty effect, the more durable the fabric, since simple yarns are less affected by abrasion and do not tend to catch and pull out so readily.

Spiral or
corkscrew
ratine,
knot, spot
nub, knop
spike or
snarl

Fabrication - Simple yarns

loop, curl or
boucle, slub
effects, chenille,
textured yarns,
lastex, metallic

Yarn Twist Increasing the twist in a yarn will increase the strength
of the yarn up to a certain point but too much twist
S or Z causes a shearing between the fibers and reduces the
strength of the yarn.

Yarn length High twist, as in crepes, produces much shortening of
the yarn and gives possibilities of much stretchiness.

Spun yarns,
Filament
yarns

Low twist, when used in a filament yarn, gives a lus-
trous fabric.

Weaves

Review of A study of the construction of cloth by weaving is
weaves from necessary in order to know the variety of appearance
other grade which can be obtained through different construction
levels methods.

Plain weaves The construction of the cloth will affect, not only its
appearance, but the method that must be used in caring
Basket, for the specific weave and the durability that can be
ribbedweave expected from the cloth.

Twill weaves

Filling-faced
twills, warp-
faced twills,
even-sided or
reversible
twills

Satin and
sateenweaves

Pile weaves

Warp pile,
filling pile

Momie weave

Fabrication - Weaves

Dobby weave

Gauze weave

Swivel weave

Lappet weave

Jacquard weave

Double weave

Balanced
construction

The more nearly equal the ratio of warp yarns to filling yarns the better the quality the fabric, other factors being equal, and this will result in longer wear.

The more nearly the size and weight of the yarns in the filling and warp are balanced, the more likely the fabric will offer durability

Cloth count

Cloth count is an indication of the closeness of the weave and should be considered in judging the quality, shrinkage, or raveling of a fabric because these factors will affect the durability of the cloth.

The higher the count the better the quality of any one fabric, if other factors such as fiber, yarn size, etc., are the same.

Terminology

Denier

Originally the term meant a coin and its weight is used as the unit in speaking of the weight and thickness of a silk or synthetic fiber.

Delayed
elasticity
or "creep"

If a yarn is stretched and then released from strain it does not return to its original length, although for some time afterwards it continues to shrink toward, but not completely to, its original length.

High bulk
yarns

Yarns which have been treated physically or chemically so as to have a notably greater "apparent" volume or bulk. Taslan is an example

Textured
yarns

Textured yarns are made by twisting continuous filament yarns to high twist levels, heat-setting, and then removing the twist. Helanca yarns are an example.

Fabrication - Terminology (cont.)

Degree of twist	The degree of twist is the number of twists per inch in a yarn.
Monofilament	A monofilament yarn is composed of only one fiber.
Multifilament	A multifilament yarn is composed of many fibers.
Staple fibers	Staple fibers are filaments which have been cut to the length of various natural fibers.

Blends and mixtures

Blends of yarn	<p>Blend is a term used to describe a yarn obtained when two or more fibers are combined in the spinning process.</p> <p>A blended fabric contains blended yarns in either the warp or the filling.</p>
Visual effects	<p>The actual process of blending may be varied according to the effects which are desired.</p> <p>Because different fibers vary in their affinity for dyes a fabric containing two different fibers may be piece-dyed to give a heathered effect.</p>
Qualities affecting wear	<p>It is possible to blend any or all fibers but some fiber combinations offer poor durability because the individual fibers lack properties that harmonize. For example, a nylon and cotton blend is weaker than either a 100% cotton or nylon fabric because the elongation or stretch in each fiber is so different.</p>
Mixtures	<p>A mixture fabric is one made with a warp yarn wholly of one fiber and a filling yarn wholly of another fiber.</p>
Qualities affecting wear	<p>It is possible to combine yarns of any fiber into cloth but caution should be used in buying some of these mixtures because they can give unsatisfactory durability or appearance. For example, a nylon warp combined with a cotton filling will require different temperatures to iron satisfactorily. The ironing temperature which best smooths cotton will fuse the nylon.</p>

FabricationMethods of
fabrication

Weaving

If two or more yarns are interlaced at right angles to each other the process is called weaving.

Terminology
in relation
to weavingWarp
threads

The yarns running lengthwise of the fabric are called warp yarns.

Filling
threads

The yarns running crosswise of the fabric are called filling yarns.

Plain
weave

A plain weave is one in which one crosswise thread passes over one and under one lengthwise thread alternately, with the next row passing under the threads that were passed over in the preceding row.

If the threads are firm and close together the plain weave is likely to be a strong one.

Basket
weave

The basket weave is a variation of the plain weave in which the threads are interlaced in groups of two or more threads.

The basket weave is not ordinarily as firm and strong as the plain weave.

Twill
weave

If filling threads pass over and under groups of warp threads at regular intervals so that a diagonal line is formed it is a twill weave.

If a twill weave is used, strength and durability of the fabric may be expected.

Satin
weave

In the satin weave, filling yarns pass over or under several warp yarns at different places in each row creating a smooth and lustrous fabric.

Floats

Floats are the surface threads giving the satin fabric its luster.

If a satin weave fabric is selected, beauty and softness rather than durability may be expected.

Fabrication - Weaving (cont.)

Sateen If the filling yarns are on the surface the fabric may be called sateen.

Most fabrics are either plain, twill, or satin weaves or some variation of one of these.

FinishesFinishes for special purposes

Finishing a fabric may take many forms but the important factor in choosing a finish is to consider for what purpose the cloth will be used.

Importance of special finishes

It is unnecessary to pay for special finishes unless you have a need for them. For example, one should consider the fiber content before paying for moth-proofing because some fibers, such as orlon, are unaffected by moths.

Kinds of special finishesShrinkage control

One of the most desired finishes in fabrics is the one that controls the amount of shrinkage because all fibers may suffer from relaxation shrinkage.

Unless the shrinkage control is guaranteed one percent or less, it may affect the fit of the garment after washing.

The shrinkage process will add to the cost per yard of the fabric and the consumer should give consideration to whether she prefers shrinking it at home rather than paying the additional cost.

Crease resistance

A finish that discourages creases is unnecessary on wool and silk because these fibers have an inherent elasticity.

Linen and cotton wrinkle easily and a crease-resistant finish is often desirable in order to sustain a wrinkle-free appearance after wearing.

The fabric that has been given a crease-resistant finish will not be as comfortable to wear on a hot day because the crease-resistant finish forms a film over the fibers and allows less air to flow through the fabric.

Finishes - Crease resistance (cont.)

Some crease-resistant fabrics are considered durable but the finish should not be considered permanent because with washing it can be removed over a period of time.

Embossed effects

Embossed effects on cloth are made by putting the fabric through a resin and then pressing in designs by means of an engraved roller in order to give a three-dimensional effect to the fabric.

An embossed effect is durable but may not be permanent because wear and ironing may flatten the raised design.

The embossed effect may be done with finely engraved diagonal lines to add luster only to the fabric rather than an obvious pattern. This is often found in cotton slips because the slightly roughened surface reduces the tendency to cling.

Napping

Napping is done by mechanical means and brushes the short fibers to the surface of the cloth which results in a soft fuzzy appearance and a warmer fabric than one that has not been napped.

Crinkled effects or plisse

Crinkled effects can be imparted to the fabric by either mechanical or chemical means and results in giving the cloth a puckered effect.

The permanency of the crinkled effect depends upon the fiber.

Cottons may be treated to give a crinkled effect, but the effect may be lost in washing and ironing.

Nylons, and other thermoplastics, may be given a permanent crinkle by heatsetting.

Printing methods

Machine printing

Machine printing of cloth can be done rapidly and is relatively inexpensive compared to hand printing methods and this results in a wide variety of patterns at less expense to the consumer.

Review
roller
printing in
eighth grade
level

Finishes - Printing methods (cont.)

Discharge printing	A print made by the discharge method is not recommended for durability as the chemical used for discharging the dye tends to weaken the fabric.
Resist printing	Durability of the fabric is not as apt to be affected by the resist method as that of the discharge method.
Duplex printing	The difference between a duplex printed fabric and a dyed fabric is best seen by unraveling a yarn to see if there is a difference in the consistency of the color in the yarn.
Overprinting	
Flock printing	Flocking may be tested for durability by scraping the flocked pattern with a fingernail.
Lacquer printing	To identify these fabrics examine the design--it is visible on the right side only and appears to have a glossy paint-like surface. The degree of serviceability of a lacquer print depends upon the basic fabric construction to which the design is applied and the formula of the lacquer, which differs with various manufacturers. Some lacquer designs are quite successfully washed or drycleaned but durability is not an outstanding feature.
Hand printing processes	
Block printing	A hand blocked print may be distinguished by examining the lack of uniformity of color in all parts of the design. The design is, also, usually lacking in fine details.
Screen printing	Screen printing is a more rapid process than block printing and has the advantage of permitting large designs and hazy color effects.
Batik	Batik printing is characterized by a crackled effect caused by cracks which develop in the wax, which was used to resist the dye. It is usually found on cottons.

Dyeing

Stages of
applying color

Finishes - Dyeing (cont.)

Review concepts at eighth grade level	
Solution dyeing	Solution dyeing of fabrics makes them chiefly resistant to fume-fading and sun-fading.
Stock or fiber dyeing	Dye is added to the fibers before being spun into yarns and results in good dye penetration which produces a high degree of color fastness.
Yarn or skein dyeing	Yarn dyed fabrics tend to be more colorfast than piece-dyed fabrics because of the increased dye penetration.
Piece-dyeing	Solid color fabrics are the usual result of piece-dyeing and a heavily dyed fabric may lose color through wear and crocking.
Cross dyeing	Cross dyeing may be done by dyeing fabrics made from different fibers with variety in their affinity for the dyestuffs.
Types of dyes used	
Soluble dyes	Dyes are substances that, in solution, can: penetrate the fibers themselves; be held to the fabric through the use of a mordant; or, can be developed in the fiber by chemical treatment.
Pigments	Pigments are insoluble particles of color that are held to the cloth by a binding agent. This results in a colored fabric that can be produced economically but that may present some problems in its degree of color-fastness to crocking, etc.
How dyes are applied to the fabric	One method of classifying dyes is by their method of application and this method of application affects to a great extent, the fastness of the color.
Classification of dyestuffs	
Natural	Natural dyes are no longer used commercially in this country but are of historical interest.

Finishes - Dyeing (cont.)

Synthetic

Acid dyes

The acid dyes are used chiefly on wool and silk but may be used for some synthetics and their use results in a fabric that is fairly fast to light but not to washing. Their cost is low and they produce brilliant colors.

Basic dyes

Basic dyes have been used to dye silks and wools directly and can dye cotton, linen, and some synthetics with the use of a mordant.

They produce low cost bright colors which are often not fast to crocking, light, or washing.

Direct Dyes

Direct dyes usually have poor wash fastness but fair color fastness to light.

The dyer must choose a dye that is suited to the fiber and the end use of the fabric and the consumer's only method of knowing what dye has been used is to consult the label for guarantees to fastness in washing, etc.

The consumer should evaluate the cloth and pay only for the color fastness that is needed in specific situations. For example, a bathing suit should be guaranteed against sun-fading, shrinkage, color fast in washing, etc., depending upon where it is to be worn.

Common finishes for most fabrics that are done by the mills

Some finishes are commonly used on almost all cloth during their processing at the mill. A knowledge of a few of these processes results in a broader understanding of how a fabric is achieved from the original raw product and the cost in production.

Cleaning

Desizing,
singeing,
washing, or
scouring

Cleaning the fabric after weaving consists of: a washing process that differs for the various fibers; a desizing process that removes the sizing used to protect the yarns during weaving; singeing the fabric to create a smooth surface by the removal of the shorter fibers.

Bleaching

Any white or paste color in cloth has probably been bleached and the bleach must be carefully controlled in order not to cause damage to the fibers. The same bleach is not suitable for all fibers.

Finishes - Common finishes done by the mills (cont)

Calendering	Calendering is comparable to home pressing and results in adding a smooth finishing touch to the fabric after weaving.
Shrinking	Shrinking of the fabric is given various names depending on the fibers involved but it is done, basically, to set the warp and filling threads and bring them into a more compact relationship.
Fulling, crabbing, etc.	

Care of Textiles

Stain removal

General
guides

In order to successfully remove stains much information on the finish and the fiber behavior of a fabric is necessary and it is important to, then, proceed cautiously.

It is well to identify the stain and to test the effect of the reagent upon the fabric by testing a facing, or an inside seam, in order to avoid damage to a garment.

Do not press stained fabrics. The heat of pressing causes many stains to become permanently set.

When there is a question about your ability to cope with a stain, it is advisable to consult your dry cleaner.

Do not put any faith in old remedies such as applying milk to ink stains because the milk can be more difficult to remove than the ink.

Some stains are invisible on a garment when fresh but turn brown during cleaning and pressing. This is usually the result of common substances that contain reducing sugars, such as soft drinks, because the heat required in cleaning and pressing carmelizes the sugar and causes a brown stain.

Use of
solvents

Solvents are of two kinds; wet and dry, and act on stains on fabrics by dissolving them.

Care of Textiles - Stain removal (cont.)

Water, hot or cold	<p>Water is the most commonly used wet solvent, and will remove most fresh stains if the fabric is washable.</p> <p>In most instances, cold water should be tried first and then warm water in order not to set the stain. Ordinarily this treatment is then followed by washing in a solution of soap and water.</p> <p>Ball point pen stains worked with water first set and cannot be removed by dry solvents.</p> <p>Do not use soap on any beverage or fruit stains. If heat is applied later, the alkali in soap may set them.</p>
Carbon tetra- chloride	<p>Dry solvents are ordinarily used on non-washable fabrics in order not to "wet" the fabric.</p> <p>Dry solvents are used in order to help in the removal of oils, grease, tar, gum, butter, etc.</p> <p>It is wise to use only noninflammable dry solvents, such as carbon tetrachloride or trichlorethylene in the home because these are not hazardous if not used near fire and if used in a well-ventilated room.</p>
Use of absorbents	<p>Absorbents are mild reagents and to be effective should be applied while the stain is fresh in order to take up all the stain not already absorbed by the fiber.</p>
Blotting paper, or face tissue, corn starch, or talcum powder, a clean cloth, chalk, starch	<p>Stains which may be removed, at least partially, by absorbents, include fats, oils, and other liquids.</p>
Methods of stain removal	<p>Different fibers and different constructions require different methods as well as different reagents.</p>
Dipping	<p>Immersing the entire fabric in the stain remover is a convenient method if the spot is large or if there are many spots.</p>
Steaming	<p>Steaming over a bowl partly filled with hot water into which a small amount of the appropriate removal agent often results in easier removal with less damage to the fabric.</p>

Care of Textiles - Stain removal (cont.)

Drop method Small drops of a removal agent can be applied with a medicine dropper or an orange stick if the spots are small.

Sponging Sponging requires the use of an absorbent cloth or blotter placed under the stain in order to absorb the removal agent as well as the stain as it is flushed from the fabric.

The edges of the stain should be feathered in order to prevent the formation of a ring.

Mild bleaches

Hydrogen peroxide 3% solution Hydrogen peroxide may be used on silk or wool if allowed to remain on the fabric only a short time before rinsing. The process may be repeated, but, if the fabric is not laundered, the last rinsing should be done with dilute ammonium hydroxide (in 10% solution) in order to neutralize the acid.

Oxalic acid (poison) Oxalic acid should be allowed to remain on a stain only a few minutes (2 to 5) at any one time and then rinsed with warm water in order to avoid damage.

The final rinse should be dilute ammonia or a 10% solution of ammonium hydroxide (a weak base) followed by water because a neutralizing agent frequently needs to be used after a bleach to stop the action of the bleach.

Problem areas in the care of textiles

Flattening, tufting, and matting of pile

In pile fabrics certain textile fibers that are heat-sensitive or do not possess a great deal of resilience are apt to become problems.

- (1) Acetate pile velvet may flatten on contact with moisture and pressure in wear.
- (2) Wear and drycleaning causes some of the orlon-dynel fur-type pile fabrics to tuft (fibers bunch together), or mat (fibers flatten) from pressure of the body during wear, or if brushed while moist and warm.

One method of preventing this is to treat the fabrics, particularly rayon and acetate velvets, with a crush-

Care of Textiles - Problem areas (cont.)

resistant finish because once the pile is flattened there is no way to restore it.

Objectionable odors from textile finishes

Many types of resin finishes are used to impart crease-resistance and shrinkage control to fabrics. Urea formaldehyde or melamine formaldehyde, when improperly cured in textile finishing, may break down and the objectionable odor may not become noticeable until after wear, storage, or cleaning. These improperly cured resins break down and produce compounds (aliphatic amines) which give off an odor. If the fabric lends itself to washing it is sometimes possible to remove the odor by laundering in an alkaline solution of water and detergent.

Stiffening of plastic-coated fabrics

If possible it is usually better to wash in lukewarm water and with a mild soap than to attempt drycleaning plastic-coated fabrics. In some cases, after stiffening, the fabric may be softened with a plasticizer.

Color loss from abrasion

Color loss may occur as a result of: rubbing a spot or stain in an attempt to remove it; natural abrasion in use and wear, such as the rubbing action of the elbows on a desk. The surface of a fabric should never be rubbed in an attempt to remove a spot or stain. There is no satisfactory remedy for the color changes that can be expected to occur in areas that are subjected to hard abrasion.

Color change that occurs in bonded wool

There is a type of shoulder pad and lining material made by binding wool fibers together with synthetic rubber containing chlorine. Under certain conditions, often during storage or drycleaning, the material breaks down and the synthetic rubber gives off hydrochloric acid. The acid is sufficient to change the color of some dyes in linings and outerwear fabrics.

Loss of color from the crocking of dye

Some dyes have very low resistance to crocking or rubbing. The loss of color may occur as localized streaks, where the fabric is folded and subjected to abrasion during wear, or in spots and blotches often due to mechanical action during cleaning.

TEXTILE TOPICSBASIC CONCEPTS

Eleventh and Twelfth Grades

Care of Textiles - Problem areas (cont.)

Loss of color
from fume-
fading

Some dyes when used to color certain fabrics (usually acetate) change color when exposed to the gases in the atmosphere. These gases come from the burning of coal, oil, and gas which release oxides of nitrogen. Anything which leaves the fabric in an acid condition will hasten this color change; such as, sulphur fumes in the air, the use of a sour in laundering, or contact with perspiration or an antiperspirant. In order to avoid changes in color protect the fabric from direct contact with deodorants and anti-perspirants and hang garments in a garment bag and in a clothes closet located as far as possible from a chimney.

Loss of
color from
perfume

The alcohol and essential oils in perfume if applied directly to a fabric may cause some dyes to bleed and the color change may be due to oxidation of the essential oils. In order to avoid this, perfume should not be applied directly to any garment.

Chlorine
retention

Manufacturers may use formaldehyde resins to improve the crease resistance of a fabric; to stabilize a fabric for shrinkage control; or to give a permanency to embossed designs. This type of resin will combine with chlorine and when the fabric is bleached in a chlorine-type bleach, will form a new compound of resin-chlorine. When the fabric is pressed the resin-chlorine breaks down causing a yellow discoloration and releasing hydrochloric acid. The acid causes the fabric to become weakened and may cause it to disintegrate.

Fabric treated with a formaldehyde resin should not be bleached in chlorine but if it is so bleached, it should be treated immediately with a neutralizing agent like sodium bisulfite.

Silks
turning
yellow

Sunlight damages the fiber so silks should be hung in the shade and ironed at a low temperature to avoid turning the fiber yellow.

Silks spot-
ting and
loosing luster

When shopping, look for water resistant finishes as they aid in the easier care of the fiber because silk may be spotted by water in some cases.

Mild soaps should be used on silk because its luster is diminished by the use of strong soaps.

Suggestions on Use of These Materials

With no available precedents for allocating textile topics by grades, a consensus of the opinions of those teachers enrolled in the 1960 Clothing Workshop appeared to offer at least one step forward in determining sequence. Of course, every reader is free to shift topics as seems best to her.

Necessary reduction to fundamentals

Have you ever wondered what one of your students would report to her mother if she were asked "What have you learned about orlon for a winter coat? A clerk showed me a coat that looked like a wool crepe but was, supposedly, washable. Is this possible?" Are you confident that, after your teaching, your student would recall and understand such basic concepts as:

Orlon fabrics can be made to be much like woolens in appearance and use but they shed dirt well and launder easily. (page 20)

The more highly twisted the yarn, the more possibility of shrinking or stretching in laundering. (page 5)

One of the most desired finishes in fabrics is one that controls the amount of shrinkage because all fibers may suffer from relaxation shrinkage. (page 37)

Unless the shrinkage control is guaranteed one per cent or less, it may affect the fit of the garment after washing. (page 37)

No matter how real her need, if your student had been subjected to a mass of details in a "once-over-lightly" treatment, such recall of fundamentals would be rather unlikely. Out of this realization has come a conviction that perhaps the major contribution of any teacher is a careful formulation of concepts chosen with a high degree of selectivity.

Criteria for selecting basic concepts

In the last analysis YOU are the crucial element in deciding what are essential facts and principles to be learned by a particular class in your particular school. What guides can you follow in making such decisions? Many authorities recommend giving consideration to most, if not all, of the following criteria.

- * Is it possible that this concept will and can as easily be learned outside your classroom?
- * How often will a student actually encounter a need for this information in the foreseeable future?
- * Can this concept be adequately stated in language that students will understand?
- * Will the measure of permanent truth in this concept enable the student to apply it in most situations?
- * Does the statement embody a cause-and-effect relationship, either directly or implied, that will facilitate retention?
- * Is the concept actually significant enough--psychologically, sociologically, economically--that it will influence behavior?

Terminology must be deliberately taught

How many times have you been asked by a student, "What fiber is Ban-lon?" Or perhaps, "When the label says it's a worsted fabric, does that mean it's no good?" Again, you may have overheard a student explaining a new dress, "It's a bee-oo-tiful rayon taffeta made out of acetate."

These may be extreme examples but they do offer some indication of students' confusion and their need for clearly defined and thoroughly understood terms. Recently it has become difficult for consumers to distinguish whether a term indicates a fiber, a finish, or a yarn. Class drill and review are essential if students are to acquire a working knowledge of the current terms and their relationships. These take time! But why teach them to read labels that lack meaning because they first of all lack a precise terminology?

For example, in the first example above, the student should understand that Ban-lon is a trade name for a textured yarn and that, although the sweater may be one of many fibers, it is probably a synthetic, such as nylon or dacron. Because it is a synthetic and has been heat-set to introduce a permanent crimp, a Ban-lon sweater should require no blocking and is often as much as 40% lighter than a comparable wool one.

Facts for understanding

In order not only to understand but to remember a basic concept, students will often need many supplemental facts that support the statement. For example, in order to understand bulk or textured yarns, the students may need to know how the crimp and stretch in the yarns are obtained through certain processes of manufacture. These processes are unlikely to be retained-- indeed, retention appears unnecessary after they have served their purpose of clarification. But the general realization of how yarns are produced will reinforce the concept that bulk or textured yarns have been treated so as to have greater apparent bulk than the usual filament or spun yarns.

As students realize the advantages of organizing information, distinguishing supplemental facts from carefully formulated basic concepts that merit retention, even slow learners perceive the essential memorization as not only necessary but possible. A feeling that a given body of subject matter is manageable greatly facilitates interest, hence learning.

A budget for teaching textiles

"What!" you exclaim. "I'm only allowed funds for teaching food preparation." Have you really tried to help your administrator see that supplies for teaching textiles are of equal importance?

Observing and handling are two essential learning processes in the study of textiles. Students may read with varying amounts of comprehension information in an older standard text or in a September, 1960, periodical; they may listen more or less successfully to a talk by a teacher or a salesperson. But not until they can see and feel the fabric can they integrate all their learnings into a meaningful whole.

Moreover, samples used should be large enough for individuals to test the "give" of the cloth and for the group to observe the natural drape of the cloth when held against the body. Generalizations that certain fibers always provide a specific effect are becoming of doubtful validity. For example, nylon fabrics are now on the market that simulate silk in hand and appearance.

The following economy tips may help you and your students to keep up-to-date on technological advances, both in terms of information and swatches for study.

- * Talk to your local retailers about new fibers and fabrics; many, like managers of Penney stores, are able to provide dependable printed materials, swatch books, filmstrips, well-trained consultants, etc.
- * Secure teaching materials from producers advertising in magazines.
- * Collect from students and friends left-over pieces from new garments and pieces from discards in their "skeleton closets." Some information on use enjoyed from worn garments would be valuable.
- * Ask city retailers to send small samples of specific lacks in your collection; buy 1/8 - 1/4 yard of most needed examples.
- * Investigate feasibility of offers made by fabric stores to send swatches of latest materials if you promise to purchase an agreed-upon amount each year.
- * Borrow foreign or historic fabrics and garments for a special showing.

References

Selected teacher's references

Birrell, Verla, The Textile Arts, Harper and Brothers, New York, 1959. \$9.25
 Consideration of textiles from the standpoint of design, history and the fabric structure is the essential theme of this book. Excellent illustrations of historical fabrics and a discussion of the various methods of weaving give an insight into the significance of textiles in various cultures.

Hollen, Norma and Saddler, Jane, Textiles, The Macmillan Company, New York, 1955. \$5.00
 Although out-dated in many aspects, this basic college book still offers one of the better over-all views of the various fibers, construction methods, and finishes. High in the quality of the illustrations, the organization and the conciseness of statements.

Stout, Evelyn E., Introduction to Textiles, John Wiley & Sons, Inc., New York, 1960. \$6.50
 Some ninety important natural fibers and thermoplastic or non-thermoplastic fibers are described within the definitions and generic classifications of the new Textile Fiber Products Identification Act. Particular attention is paid to discussion of wash-and-wear developments and mixtures and blended fabrics. Modern texturizing processes for thermoplastic filament fibers are explained as carefully as possible so that the student or layman with little knowledge of the field will completely understand. Considerable discussion of the world economic situation and its importance for the textile situation in this country is included.

Selected students' references

Lewis, Dora S., Banks, Anna K., Banks, Marie, and Columbia, Adele G. Tomorrow's Homemaker, The Macmillan Co., New York, 1960. \$3.30

Chapter twelve on "Quality Signs in the Clothes You Buy" covers basic information about the natural fibers and rayon, acetate, and nylon. The weaving process is described and attractively illustrated. Buying guides for fabrics in ready-made garments are given. Junior high school level.

Lewis, Dora S., Bowers, Mabel and Kittunen, Marietta, Clothing Construction and Wardrobe Planning, Macmillan Co., New York, 1960. \$3.30

The content includes principles and generalizations for the consumer-buyer and the girl who constructs her own wardrobe. Chapter fourteen on "Textiles Used for Clothing" covers fiber classification, yarn construction, finishes, and a glossary of familiar fabrics. Excellent illustrations and charts, some of which might be adapted for bulletin board use, are included. Senior-high school level.

Oerke, Bess V., Dress, Charles A. Bennett Co., Peoria, Illinois, 1960. \$4.96

Chapter six deals with "Textile Fabrics." The topics covered are: production and manufacture of fibers, textile fiber characteristics, twist in yarn, effect of weave on construction and value of fabrics, fiber identification tests, structure of fabrics, and textile finishes. Chapter seven, "Design and Finish of Fabrics," discusses fabric design and finishes. The questions and activities at the end of each chapter should prove helpful to the teacher. High school level. Teacher's guide free.

A magazine for teachers and students

American Fabric's Magazine, Doric Publishing Co., New York, published quarterly. \$12.00 per year (less if more than one year's subscription can be paid for at one time)

A magazine which includes actual swatches of new fabrics. It is written in easily understood language for the beginning textile student. The format is attractive and appealing to high school students and to adults. Although the price seems high, the educational value of the descriptions of the swatches is far greater than the same amount spent on a shopping trip.

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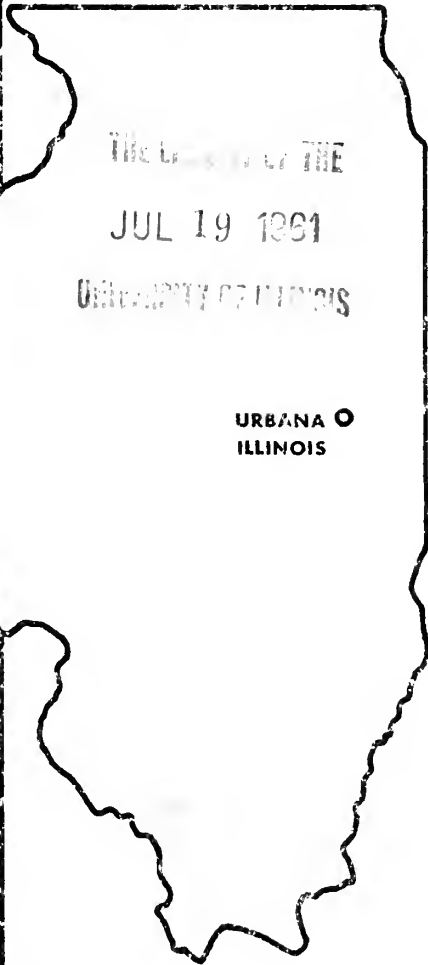
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Star Feature

AN ORGANIZATION OF CONTENT FOR THE FIRST
LEVEL OF INSTRUCTION IN
FOODS AND NUTRITION



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AN ORGANIZATION OF CONTENT FOR THE FIRST LEVEL
OF INSTRUCTION IN FOODS AND NUTRITION

Dorothy Keenan, University of Illinois
Frances Webb, MacMurray College

What Should Be Taught--and In What Order Should It Be Presented?

Today many homemaking teachers are asking themselves these questions. In fact teachers in all subject areas are coming to recognize the need for an orderly graded sequence of subject matter on which to base their daily work. During the past two summers, graduate students enrolled in the University of Illinois workshops on the Teaching of Foods and Nutrition have been working on such a sequence of learnings for the foods area.

In this and the following issue of the Illinois Teacher, the first results of this undertaking are being presented. The material is in tentative form, and comments or suggestions from our readers will be welcomed. We are appreciative of the efforts of the experienced teachers, who, as 1959 and 1960 workshop students, have helped to organize this material.

Some beliefs we hold

We believe that:

food preparation and service should be presented as a creative activity, through which individuality can be expressed, and as a socially significant activity through which one can show love and concern for other people.

an exploratory and experimental approach to cooking should be begun in the earliest lessons.

there should be emphasis on mastery of the principles underlying preparation techniques; on "learning to cook" rather than merely "cooking."

the study of nutrition should be integrated into the units taught in the earlier years--and, where the ability of the students permits, considered separately in somewhat greater detail in the later ones.

there should be definite plans for gradations of difficulty and changes in emphasis in units taught at successive levels.

daily lessons should be planned on the basis of principles to be taught and skills to be practiced, and the foods to be prepared chosen accordingly.

while community practices should be considered in choosing foods for study, the teacher should also introduce students to new foods--particularly to foods which can make up for deficiencies which are especially common in local dietaries.

there should be computation and analysis of the costs of foods prepared--and continual study of the factors other than money which might influence food choices.

students should have as much responsibility for the purchase of the food and equipment used in the laboratory as is possible within the limitations of a particular situation.

the teacher should keep up to date on new food products, equipment, and preparation methods, and should encourage students to try these out and evaluate their worth.

simplified methods which give results of satisfactory quality should be used in preference to more complicated and time-consuming techniques, particularly in beginning classes.

the importance of planning before doing should be recognized by teachers and consciously taught.

high standards of safety and sanitation should be set, and laboratory equipment should be selected and arranged so as to facilitate safe and healthful procedures of work.

once principles and processes have been taught in school, students should be encouraged to develop skill through home practice.

the principles of management should be taught, and students should be urged to try out their own ideas for improving methods of work and the arrangement of the laboratory

content and appreciations from science, economics, music, art, literature, history, geography, and mathematics should be used where appropriate, to enrich the study of foods and nutrition.

students should learn where to go for accurate information about food and nutrition and urged to be cautious in interpreting statements made by persons who have no special competence in this area.

The approach used in developing scope and sequence

There are, of course, many different ways in which a foods course could be organized. In our planning, we have started with a five-year sequence which covers the basic types of food products which might be prepared. Then we have tried to relate concepts in meal planning, nutrition, management, sanitation, table service, and manners to the various foods. It is felt that retention will be greater if related concepts are taught along with food preparation. It is also hoped that students who are introduced to a range of subject matter from the very beginning will learn to look on their foods class as more than just "cooking."

The material presented in these issues is being suggested as suitable for use with seventh and eighth graders--or as a first level for students who begin the study of foods in high school. Content introduced in the eighth grade is planned to build on that taught previously. The nutrition material, for example, has been arranged to include, in the seventh grade, the information considered most essential if one is to know how to choose a good diet. At the eighth grade level, concepts are expanded, more explanation of the reasons for the recommended types of foods is given, etc.

Some teachers may feel that some of the content included here is too difficult, particularly for the less able student. Of course, it can be simplified, if necessary. But we know that the chances are that the better students will be enrolled in junior high homemaking classes and not in classes at the high school level. It seems advisable, then, to make the first homemaking class a real challenge to the better student. One way to do this is to present content that is a definite step up from what these girls have already learned in their grade school science and health classes.

Using a scope and sequence chart

It is unlikely that any class would be able to follow exactly an order of work suggested by someone else. Each teacher must adapt the original chart for her own use. In planning, a number of factors should be considered:

1. The background, needs, and interests of the students.
2. Community attitudes and conditions, particularly those which relate to food practices and nutritional needs.
3. The size and organization of the homemaking department, the pattern of course offerings, section of student body enrolled, etc.
4. The amount of time and money available for the foods work at each level.

Some suggestions for laboratory sequences

Pre-preparation needed or possible for those starred.*

- A. Seventh Grade--meeting daily for 9 weeks or twice a week for one semester
 1. Fruit juice combinations
 2. Toast-and-egg cookery demonstration--student help
 - *3. Salad and a fancy toast
 - *4. Casserole--using frozen or canned vegetables
 - *5. Muffins
 6. Cocoa and chocolate--comparison of milks
 - *7. Cold or hot sandwiches and raw relishes
 - *8. Gelatin dessert variations

- *9. Cookies and a cold milk drink
- 10. Uncooked candies

A simple luncheon might be prepared as a final project if the students are capable.

- B. Eighth Grade--meeting daily for 9 weeks or twice a week for one semester
 - 1. Fruit cup
 - *2. Rice main dish
 - 3. Vegetables
 - *4. Broiled hamburgers, tossed salad with homemade French dressing
 - *5. Plain gelatin for salads
 - *6. Baking powder biscuits
 - *7. Creamed food on toast or biscuits
 - 8. Milk puddings
 - 9. Crumb crust pies with simple fillings
 - 10. Fudge

A simple luncheon and/or a class tea might serve as a final project.

- C. Ninth or Tenth Grade--a first course at the high school level meeting daily. Nine weeks foods unit.
 - 1. Fruit juices
 - 2. Fruit cup
 - 3. Raw vegetables--relishes, tossed salads
 - 4. Cooked vegetables--vegetable plates
 - 5. Egg cookery
 - 6. Biscuits
 - 7. Muffins
 - 8. Creamed foods
 - 9. Casseroles--including meat (ground beef, etc.)
 - 10. Soup and sandwiches
 - 11. Cocoa, chocolate, and cold milk drinks
 - 12. Milk puddings
 - 13. "Jello" and gelatin
 - 14. Crumb crust desserts
 - 15. Candies and cookies

The work of the unit might conclude with two student-planned luncheons, using variations of the basic foods studied, and emphasizing management and service. A class tea might also be encouraged.

Possible behavioral goals

If the content proposed on the following pages is covered, we may expect students who complete the foods work of the seventh and eighth grades or of the first level of high school to grow in their ability to:

1. Select appropriate attire for working in the kitchen.
2. Observe the rules of personal cleanliness when working with food.
3. Make a simple time schedule and follow it so as to complete a given amount of work in a given amount of time.
4. Recognize common abbreviations used in recipes.
5. Follow directions of simple recipes.
6. Recognize the components of a good diet.
7. Use good judgment in choosing snacks.
8. Recognize basic pots and pans and their uses.
9. Practice pleasing table manners.
10. Work without close adult supervision.
11. Cooperate by doing his share of work at home and at school.
12. Define the more commonly used preparation terms.
13. Understand and use some nutritional guide such as the nutrition yardstick, basic four, or basic seven.
14. Recognize the six major food nutrient groups and understand their functions.
15. Work cooperatively with a group.
16. Look critically at his own work and evaluate his progress in terms of class goals.
17. Apply things he has learned in carrying out home projects and/or home practices.
18. Recognize common meal patterns.
19. Set a table which is neat and attractive.
20. Judge food products in terms of acceptable standards.
21. Hold and use eating utensils correctly.
22. Try new foods and new methods without excessive resistance.
23. Care for laboratory equipment.
24. Care for minor cuts and burns.
25. Shop for groceries under supervision.
26. Entertain a small group of his peers successfully.

Suggested Scope and Sequence

<u>Content Area</u>	<u>Seventh Grade</u>	<u>Eighth Grade</u>
1. Appetizer or First Course	Fruit and vegetable juices canned, frozen, fresh or powdered juices	Fruit cup fresh, canned or frozen fruits
2. Protein Foods or Main Dishes	a. Eggs hard and soft cooked, scrambled, poached b. Casseroles using canned meat or fish, Italian pastes, condensed soups c. Wieners kabobs--broiled with barbecue sauce	a. Creamed protein foods eggs, dried beef, canned meat or fish b. Hamburgers broiled, pan-broiled c. Rice main dishes
3. Vegetables	a. Raw relishes b. Frozen and canned vegetables	a. Common cooking methods boiling, steaming, baking, broiling, scalloping, panning b. Vegetable plates
4. Salads	Fresh or canned fruits and/or vegetables on greens	a. Tossed b. Gelatin (using plain gelatin)
5. Salad Dressing	Diluted commercial	French
6. Breads	a. Toast and toast variations b. Muffins c. Pancakes	a. Baking powder biscuits b. Variations of biscuit dough
7. Beverages	a. Cocoa and chocolate b. Cold milk drinks egg nog, milk shakes	Tea, hot and iced

For a Course of Study in FoodsNinth Grade

- Fruit compote
fresh or dried
fruits
- a. Cheese dishes
rarebits or
fondues
- b. Bacon
- c. French toast
- d. Omelet
- e. Meat extenders
chili or stew

Tenth Grade

- Sea food cocktail
fresh, frozen or
canned seafood
- a. Meats
dry and moist
heat methods
- b. Poultry
- c. Fish
- a. Less usual vege-
tables (depending on
locality)
artichokes, egg-
plant, parsnips,
kohlrabi, etc.
- b. Less common cooking
methods
deep fat frying,
souffles, timbales
- a. Frozen
- Mayonnaise
- Yeast rolls and bread
batter and straight
dough methods
- omit (or use coffee
here instead of in 9th
grade

Eleventh and Twelfth Grades

- Hor d'oeuvres
Canapes
- a. Regional and foreign
protein dishes
- b. Variety meats
- Regional and foreign
methods of preparing vege-
tables
- Original salads
- Variations of French,
cooked and mayonnaise
dressings
- Variations of yeast breads
twists, coffee cakes,
fancy rolls, foreign
type breads
- a. Beverage variations
tea base punch,
Mexican chocolate,
demi tasse, etc.
- b. Quantity preparation of
beverages

<u>Content Area</u>	<u>Seventh Grade</u>	<u>Eighth Grade</u>
8. Sandwiches	a. Cold--simple spreads b. Hot--broiled open face	Grilled
9. Soups	a. Dried b. Canned c. Frozen	Cream soups
10. Sauces	Made from soups	a. White sauce b. Barbecue sauces
11. Desserts	a. Plain jello set in serving dishes, layered, whipped or cut in cubes b. Prepared puddings c. Drop cookies d. Baked fruit	a. Milk puddings cornstarch, tapioca, rice, junket b. Graham cracker and cereal crusts with cream, chiffon or parfait fillings
12. Confections	Uncooked candies fondant, stuffed dried fruit, dried milk and cereal candies	Fudge marshmallow cream type
13. Meal Planning	a. Recognizing a balanced diet b. Selecting nutritious snacks c. Selecting a good lunch at school	a. Planning meals for a day--emphasis on nutrition b. Planning a good lunch to carry to school

<u>Ninth Grade</u>	<u>Tenth Grade</u>	<u>Eleventh and Twelfth Grades</u>
French toasted	Party types rolled, checkerboard, shaped by cutters, etc.	a. Sandwich loaves b. Whole meal type sand- wiches (submarines, etc.)
a. Stock soups b. Chowder	Omit	a. National soups fruit, borsch, minestrone, etc.
a. Fruit b. Custard	a. Gravy b. Sauces for use with meats, fish, and vegetables	a. Sour cream sauce b. Wine sauces c. Hard sauce
a. Baked and soft custard b. Simple gelatin desserts snows, whips, creams (Spanish or Bavarian) c. Bar cookies d. One bowl cakes	a. Sponge type cakes b. Pastry c. More elaborate . refrigerator desserts--such as cheese cake or charlotte russe d. Simple frozen desserts ices, ice creams, sherbets	a. Butter cake comparison of methods and variations in form and ingredients b. Cake decorating c. Rolled, pressed, and foreign type cookies d. Meringues e. Pastry comparison of methods and desserts made with pastry-- dumplings, turnovers, etc. f. Steamed puddings g. More elaborate frozen desserts--frappes, mousses, bombes, etc. h. Cream puffs
a. Regular fudge and variations b. Uncooked icings c. Broiled cake toppings	a. Cooked fondant b. Caramels c. Taffy	a. Divinity b. Pralines c. Chocolate dipping
Planning meals for a day, considering dif- ferent income levels	a. Planning meals for a week b. Marketing based on pre-planning	a. Planning special diets low calorie, low sodium, high iron, etc. b. Planning food for children and older people c. Planning and preparing quick meals

<u>Content Area</u>	<u>Seventh Grade</u>	<u>Eighth Grade</u>
14. Entertaining and Eating Out	a. Selecting and serving simple snacks to friends b. Choosing food in the school cafeteria	a. Preparing simple refreshments to serve to a small group b. Using good manners when eating in public
15. Food Preservation	Omit	Omit

Suggested Scope For a

Content Area: 1. Appetizer--Fruit and Vegetable Juices--Canned, Frozen,

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Proper grooming for work in the kitchen	1. There are six basic food nutrients: protein, carbohydrates, fats, vitamins, minerals, water.	1. Choosing suitable protective clothing
2. Characteristics of good aprons		2. Chilling glasses in which to serve juice
3. Juices available on the market	2. All foods are made up of various combinations of these nutrients.	3. Handling glasses in a sanitary way
4. Possible tasty combinations		4. Wiping off can tops before opening
5. Information to be found on labels	3. The correct proportions of food nutrients are needed in the diet for proper growth and optimum health.	5. Shaking cans before opening to mix contents well
a. amount in can		6. Using both punch and wheel type can openers
b. additions, such as color, vitamins or sugar		7. Caring for can openers
c. kind of juice and whether a single kind or a combination	4. Oranges, lemons, limes, and grapefruit are classified as citrus fruits.	8. Rinsing can before discarding
d. condition of juice--concentrated, diluted or undiluted		9. Mixing or diluting frozen juice
e. method for reconstituting, if necessary	5. Citrus fruits are our best source of Vitamin C.	10. Using a knife safely

Ninth Grade

- a. Entertaining at a simple lunch or supper--with some adult help
- b. Acting as hostess when a group of friends eats in a restaurant or tea room

Omit

Tenth Grade

- a. Entertaining a few friends at a simple lunch or dinner--or at a tea or a brunch--with very little help
- b. Being at ease in various types of eating places

- a. Canning
water bath,
pressure cooker
- b. Freezing
- c. Jelly and jam making

Eleventh and Twelfth Grades

- a. Entertaining at a buffet-type dinner
- b. Eating out in a more elaborate restaurant or one which specializes in foreign foods

Omit

Course of Study in Foods--Seventh GradeFresh, or PowderedTime, Energy, and Money Management

1. Comparison of the time involved in preparing the various types of juices
2. Practice of time-saving techniques in laboratory clean-up
 - a. pre-planning
 - b. convenient arrangement of supplies
 - c. use of trays
3. Evaluation of different kinds of aprons considering the relationship of cost to the service given
4. Comparison of cost of various kinds and forms of juice, considering:
 - a. nutritive value
 - b. type of commercial preparation needed
 - c. amount of home preparation needed
 - d. cost per serving

Safety and Sanitation

1. Apron construction in relation to safety and ease of keeping clean
2. Safe equipment for opening cans
3. Choice of a can opener which makes a smooth edge on a can
4. Safe operation of punch and wheel type can openers
5. Method of cleaning top of can before opening
6. Proper disposal of empty cans
7. Safe procedures in cleaning up broken glass
8. Need for washing hands before preparing food

Table Setting and Service; Table Manners

1. Types of glasses in which to serve juice
2. The use of a small plate and liner under a juice glass
3. Place mats as a table covering
4. Placement of juice glasses on the table
5. The use of a tray when clearing the table
6. Meaning of term "cover"
7. Positions for a napkin
8. Ways of folding napkins
9. Sitting down together as a family
10. Placing napkin in lap
11. Drinking quietly from a small glass

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
5. Types of oranges	6. We need Vitamin C to help us resist infections and to keep connective tissues and blood vessel walls in good condition.	11. Cutting an orange and using a hand reamer to extract juice
7. Method of cutting oranges which are to be used for juice		12. Filling glasses
8. Effect of fruit juice on steel knives	7. We need a serving of a food rich in Vitamin C each day, since this vitamin cannot be stored by the body.	13. Using a tray to carry glasses
9. Way to store citrus fruit		14. Washing and drying glassware

Content Area: 2. Protein Foods. a. Eggs--Hard and Soft Cooked, Scrambled.

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. The care of fresh eggs	1. Foods are classified according to the predominant nutrient which they contain, thus eggs are considered a protein food.	1. Lighting a top burner and regulating the heat
2. Reasons for using low temperature when preparing protein foods		2. Identifying the stages in boiling water
3. Reason for washing eggs before cooking, rather than before storing	2. The function of protein is to build body tissue and make growth possible.	3. Timing a cooking process
		4. Using a pot holder when removing a sauce pan from the stove

Time, Energy, and Money
Management

5. Economical use of soap or detergent by measuring amount to be used
6. Methods of storing citrus fruit which will keep it in good condition and avoid waste

Safety and Sanitation

9. Methods of handling glasses without touching the rim
10. Dishwashing procedures which will ensure sanitary glassware
11. Proper care of dish-towels
12. Storage of knives so as to keep them sharp and prevent injuries
13. Safe position for fingers when using a knife to cut an orange
14. Requirement of reporting all injuries to the teacher at once
15. Procedure for leaving room in case of fire drill

Table Setting and Service;
Table Manners

12. Wiping the mouth with the napkin
13. Leaving the table only when all have finished

Poached

Time, Energy, and Money
Management

1. Increasing ease of cleaning by putting cooking dishes to soak
2. The use of cool water in soaking utensils which have held protein foods to prevent "cooking on" of the food

Safety and Sanitation

1. Precautions in working near a lighted burner and in lighting a burner with a match
2. The need for checking to see that the pilot light works properly each time it is used
3. Characteristics of safe pot holders

Table Setting and Service;
Table Manners

1. Selection of only those pieces of silver needed for service
2. Position for a plate at a cover
3. Position for a water glass at a cover
4. Position for a fork at a cover
5. Holding a fork correctly

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
4. Method of using top burners on gas and/or electric stoves	3. Egg yolk is a good source of the mineral iron, which is essential for building good red blood.	5. Cooling a hard-cooked egg and removing the shell
5. Stages in boiling water		6. Removing a soft-cooked egg from the shell
6. Difference in techniques needed to obtain a hard or a soft cooked egg	4. The desirable number of eggs to include in the diet is one a day or a minimum of 3 - 4 a week	7. Breaking an egg
7. Way to reduce possibility of cracking by starting cold eggs in cold water	5. It is important for our nutrition that we learn to eat the basic foods which are good sources of the various nutrients	8. Using an egg beater or a fork to prepare eggs for scrambling
8. Need for quick cooling of hard-cooked eggs to prevent over-cooking and the formation of a greenish color (iron-sulfur compound) around the yolk	6. We can learn to like a new food by a. deciding that we really <u>want to learn</u> to eat the food b. learning to prepare the food in an appetizing way c. eating very small amounts of the food at one time d. eating a little of the food at frequent intervals.	9. Measuring liquid with a tablespoon
9. Various methods of scrambling eggs		10. Stirring scrambled eggs as they cook
10. Signs that scrambled eggs are done		11. Cleaning an egg beater
11. Ways to serve hard cooked and scrambled eggs		12. Cleaning egg tarnished silver
12. Effect of egg on silver		13. Using a pancake turner or slotted spoon to remove a poached egg from the pan
13. Definition of poaching		

Time, Energy, and Money Management

Safety and Sanitation

Table Setting and Service; Table Manners

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| <p>3. Dishwashing practices which save time and energy</p> <ol style="list-style-type: none"> a. scraping b. stacking in order of washing c. washing promptly d. scalding and leaving to dry in the air, if possible | <p>4. Tipping a pan cover away from the face when removing the cover</p> | <p>6. Using a fork correctly</p> |
| <p>4. The importance of assembling all equipment and ingredients before beginning to prepare food</p> | <p>5. Importance of wiping up immediately anything spilled on the floor</p> | <p>7. Keeping mouth closed while eating</p> |
| <p>5. Possibility of saving time and fuel by preparing a larger quantity of food at once. (Example--an egg for a lunch box can be hard cooked by leaving it in the water longer after taking out soft-cooked ones for a meal)</p> | <p>6. Use of proper materials for wiping up floor spills</p> | <p>8. Leaving fork on plate when not eating</p> |
| <p>6. Comparison of cost of eggs of different grades</p> | <p>7. Care in keeping fat off the outside of a skillet</p> | <p>9. Talking only when mouth is empty</p> |
| <p>7. Possibility of saving money by buying the grade of egg suited to the use one wishes to make of it</p> | <p>8. Use of low temperature in melting fat to avoid smoking and danger of fire</p> | <p>10. Leaving fork on plate when finished</p> |
| <p>8. Importance of learning to prepare foods well so that the family will enjoy eating them and be less apt to waste part of a serving</p> | <p>9. First aid procedure for minor burns</p> | |
| | <p>10. Familiarity with location and contents of first-aid kit</p> | |
| | <p>11. Procedure in case fat should catch on fire</p> | |

General ContentNutrition PrinciplesSkillsContent Area: 2. Protein Food. b. Casseroles, Using Canned Meat or Fish,

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Definition of a casserole	1. Italian pastes are largely carbohydrates (starch).	1. Reading and interpreting recipe directions
2. Suitable types of containers	2. Carbohydrates provide energy to keep the body in operation.	2. Making a work plan for a laboratory activity
3. Principles of food combinations, such as using small amounts of a sharp flavored food with larger amounts of a bland one	3. The energy a food will produce in the body is measured in calories.	3. Lighting a gas and/or electric oven
4. Suitable food combinations for casseroles	4. A calorie is a standardized amount of heat (the amount which will raise 1 kilogram of water 1 degree Centigrade).	4. Setting an oven thermostat
5. Dilution of condensed soups		5. Items 1 - 4 under 2a, eggs section
6. Techniques in cooking Italian pastes		6. Measuring water by using markings on saucepan
7. Reasons for pre-heating an oven		7. Measuring salt in a teaspoon
8. The function of an oven thermostat		8. Measuring a food, using a measuring cup (glass or metal)
		9. Cooking a starchy food without boiling it over

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

9. Variation in egg prices depending on seasonal supply and the desirability of using more eggs when the cost is relatively low
10. Comparison of cost, ease of cleaning and desirability of product turned out, of a regular skillet and a purchased "egg poacher"

Italian Pastes, and Condensed Soups

Time, Energy, and Money
Management

Safely and Sanitation

Table Setting and Service;
Table Manners

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| <ol style="list-style-type: none"> 1. Possibility of mixing casserole ingredients earlier in the day and leaving the dish in the refrigerator until time to bake 2. Saving in time when one has clearly in mind the necessary steps in preparing any food 3. Use of techniques which prevent boiling over, thus saving the time it would take to clean a soiled stove top or oven 4. Cooking and serving in the same dish, as a time saver | <ol style="list-style-type: none"> 1. Care in adding pastes to boiling water 2. Importance of keeping pan handles turned in away from the edge of the stove 3. Placing pan handles so that they will not be heated by the pilot light 4. Appreciation of individual strength, e.g., not trying to lift a large pan of hot water with one hand 5. Need for careful watching of some foods while they are cooking | <ol style="list-style-type: none"> 1. Various ways of protecting table tops from hot dishes <ol style="list-style-type: none"> a. casserole racks b. table mats c. table pad--when cloth is used 2. Method of serving oneself from a casserole dish 3. Method of serving others from a casserole 4. Simple centerpieces arranged from materials available in the department 5. Taking a moderate amount of food when serving oneself 5. Passing a hot casserole or a filled plate around the table |
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General Content

9. Treatment of an oven after use

Nutrition PrinciplesSkills

10. Testing an Italian paste for doneness
11. Using a sieve or colander to drain noodles
12. Items 4, 6, 7, and 8 under la, Juices
13. Diluting canned soup
14. Greasing a casserole dish
15. Placing a casserole in a preheated oven and removing it at the end of the cooking time

<u>Time, Energy, and Money Management</u>	<u>Safety and Sanitation</u>	<u>Table Setting and Service; Table Manners</u>
5. Mixing a casserole in the dish in which it will be baked, to avoid the use of mixing bowls, etc.	6. Safe technique when placing baking dishes in the oven and when removing them	7. Waiting until all are served before starting to eat
6. Heating soup before adding it to a casserole in order to shorten cooking time	7. Care in choice of a place to sit a hot dish--not in a draft or on a cold surface	8. Testing a hot food by taking a small bite first
7. Comparison of ease of using a slotted spoon to remove cooked pastes, rather than draining them through a sieve	8. Importance of refrigerating casseroles and not allowing them to stand for long periods at room temperature	9. Talking about pleasant things while eating
8. Greasing a casserole dish as a means of saving washing time later	9. Need for opening door of a gas oven before lighting the oven or the broiler	
9. Use of noodles and other Italian pastes as extenders for the more expensive meat or fish		
10. Relative costs of the various types of pastes available in the market		
11. Figuring the cost per serving of a dish made up of several different ingredients		
12. Comparison of cost of ready-to-eat casserole type foods with that of those prepared at home		
13. Proper care of equipment as a means for making it last longer		

General ContentNutrition PrinciplesSkillsContent Area: 2. Protein Food c. Wieners, Broiled or as Kabobs

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Composition of wieners	1. Wieners contain good protein, but are also quite high in fat.	1. Items 1 - 4 under 2a, Eggs
2. Need for thorough cooking to destroy bacteria which may be present	2. It is desirable to serve some protein at every meal, since it has been found that the body can make better use of this nutrient if the amount eaten is distributed throughout the day.	2. Cutting cheese in long strips
3. Methods of preparing under broiler (after initial boiling) a. kabobs b. split with cheese c. barbecue (using a commercial sauce)	3. We should have at least one serving of meat or a meat substitute (fish, eggs or cheese) every day.	3. Splitting wieners and inserting cheese
4. Definition of broiling		4. Placing foods on a skewer
5. Method of using a broiler		5. Lighting a stove broiler
6. Importance of the inspection seal of the U.S. Dept. of Agriculture on all meat products		6. Cleaning a broiler pan
		7. Removing food from a skewer to the inside of a bun

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

14. Desirability of selecting pans with handles of a type which will remain cool, and without crevices which tend to collect food
15. The importance of preventing "boil-overs" when cooking, since removing burned-on food tends to damage the stove finish

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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| <ol style="list-style-type: none"> 1. Reasons why one might use a more complicated method of fixing a food, even though it requires more time 2. Possibility of heating buns in the oven while weiners are broiling 3. The use of aluminum foil under a broiler rack to make cleaning easier 4. Advantage of a written work plan, especially to a beginner 5. Relative costs of various items that might be added to kabobs, i.e., pineapple chunks, mushrooms, canned onions, etc. | <ol style="list-style-type: none"> 1. The meat inspection service provided by our government and paid for by our tax money 2. The need for refrigerating meat 3. The need to be sure that matches are cold before discarding them 4. Care in placing food on skewers so as to avoid injury 5. Precautions to take to avoid getting nail polish in food | <ol style="list-style-type: none"> 1. The use of paper plates when serving simple refreshments to friends 2. The possibility of adjusting the type of service depending on the degree of formality desired 3. The use of trays on which to serve food informally 4. Eating food served on a skewer either <ol style="list-style-type: none"> a. with a fork or b. in a bun when no fork is provided |
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General ContentNutrition PrinciplesSkills

7. Weiners as a simple food to prepare when entertaining friends

Content Area: 3. Vegetables a. Raw Relishes--Carrot, Celery, Beet and Turnip Cauliflowerlets

General ContentNutrition PrinciplesSkills

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| <ol style="list-style-type: none"> 1. Characteristics of good quality in fresh vegetables 2. Ways to store fresh vegetables before they are used 3. Ways of preparing raw vegetables for relishes 4. Methods to follow to produce crispness in raw vegetables 5. Principles of art to consider in arranging relish plates <ol style="list-style-type: none"> a. color combinations b. rhythm c. balance d. center of interest | <ol style="list-style-type: none"> 1. Raw foods usually contain more nutrients because cooking processes tend to destroy certain nutrients. 2. It is important to include raw fruits and vegetables in the diet for various reasons: <ol style="list-style-type: none"> a. nutritive content, especially of vitamins and minerals b. cellulose content to stimulate intestinal activity c. structure, which makes chewing necessary and results in exercise of the jaws and cleaning of the teeth. | <ol style="list-style-type: none"> 1. Recognizing good quality in vegetables 2. Cleaning various types of vegetables 3. Holding and using a paring knife to scrape or pare vegetables thinly 4. Using a vegetable peeler 5. Making uniformly shaped vegetable strips. 6. Scoring and slicing vegetables 7. Chilling vegetables so that they retain crispness and shape 8. Making attractive arrangements of raw vegetables |
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Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

6. Relative cost of weiners and barbecue sauce purchased separately and those canned with the sauce in a sack in the can
7. Reason why a "hot dog" purchased commercially costs much more than the actual cost of the food itself

Strips, Green Pepper Rings, Radish Roses or Fans, Scored Cucumber Slices,

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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| <ol style="list-style-type: none"> 1. Washing and cleaning vegetables before storage as a means of saving time later 2. Relative ease of paring vegetables with a knife and with a commercial "peeler" 3. Planning to prepare raw vegetable relishes long enough ahead to allow for proper chilling 4. Good quality vegetables (fresh, firm, etc.) as requiring less time for preparation 5. Simple preparation techniques in contrast to those which take more time and often do not produce a more appealing product | <ol style="list-style-type: none"> 1. Sharp knives as being more safe than dull ones 2. Safe positions for hands and fingers when using knives and peelers 3. Leaving knives and peelers in a safe place until they can be washed 4. Avoiding cuts by washing knives one at a time and not putting them in the dishpan with other utensils 5. First aid procedures for minor cuts 6. Need for careful cleaning of all foods to be eaten raw, to remove dirt, harmful bacteria, and insecticide residue | <ol style="list-style-type: none"> 1. Attractive arrangement of a relish tray considering aesthetic and practical (ease of picking up food) factors 2. Possible use of a relish tray as a centerpiece--or of an individual dish of relishes to take the place of a salad 3. Making a selection from a relish tray without long hesitation 4. Eating finger foods 5. Eating raw vegetables without making excessive noise |
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General Content

6. The necessity for making choices in food preparation methods, considering that a desired quality can often be obtained only with some loss in another desired quality

Nutrition Principles

3. Some vitamins are destroyed by exposure to air and light

Skills

Table Setting and Service;
Table Manners

Time, Energy, and Money
Management

Safety and Sanitation

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| <p>6. Value of shopping around to find a store with the best fresh vegetables (usually one with a rather large volume of business)</p> <p>7. Study to find the best time of the week to choose vegetables, depending on time when delivery is made to the store</p> <p>8. Importance of personal selection of fresh vegetables in order to get best quality</p> <p>9. An attitude of flexibility--refusal to buy a poor quality vegetable and willingness to make substitutions when necessary</p> <p>10. Thin paring of vegetables as a way of eliminating waste</p> <p>11. Correct storage of vegetables to be served raw, to prevent deterioration of quality</p> <p>12. The number of services offered by a store as adding to the cost of food</p> <p>13. Courteous shopping practices which preserve the quality of food</p> | <p>7. Use of a brush or a plastic sponge to clean vegetables more thoroughly</p> <p>8. Selection of knives and other utensils which do not have pointed handles, or construction details where food could easily be caught and held</p> |
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Content Area: 3. Vegetables b. Frozen Vegetables

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Modern methods of preservation which make a greater variety of fruits and vegetables available throughout the year	1. Vegetables are good sources of vitamins and minerals in the diet.	1. Reading package labels and following directions
2. Different varieties of vegetables which are available in frozen form	2. Green, yellow, and orange vegetables can be used by the body in producing Vitamin A.	2. Items 1 - 4 under 2a, Eggs
3. Quick freezing as differing from slow freezing, and as shortening cooking time	3. Vitamin A is needed for good eyesight and to keep the nose and throat linings healthy.	3. Judging the amount of salt to use when the information is not given on the label
4. Method of cooking frozen vegetables	4. We should have three or four servings of green or yellow vegetables each week.	4. Testing vegetables for doneness
5. Importance of keeping vegetables frozen until use, of cooking without thawing, and of never refreezing vegetables that have become thawed	5. Greater intensity of green or yellow-orange color in a vegetable is a sign of greater nutritive value.	
	6. Since some vitamins and minerals are soluble in water, nutrients are lost if cooking water is thrown away	
	7. Cooking in a small amount of water is also a way of preserving nutrients.	

 Time, Energy, and Money Management

1. Foods which can be purchased ready-to-cook as a time and energy saver for the homemaker
2. Saving time by reading directions before beginning a process, rather than going ahead and possibly making a mistake
3. Value of keeping a supply of frozen foods on hand for quick use
4. The use of a home freezer to freeze prepared foods and save time in preparation later
5. Reasons why cost per serving must be used when comparing cost of various kinds of frozen vegetables or the cost of vegetables in different forms
6. Overcooking of vegetables as requiring more fuel, and also destroying nutrients, flavor and appearance
7. Advantages of home freezing, if one has access to fresh foods
8. The use of a home freezer for preserving some foods which would otherwise be wasted

 Safety and Sanitation

1. Freezing as a means of stopping spoilage, but not destroying all microorganisms, hence the importance of cleanliness when food is prepared for freezing
2. Frozen foods as spoiling more rapidly after thawing, and thus the precaution of not attempting to refreeze them
3. Provision of insulated bags or other containers for carrying home frozen foods, if one lives a distance from the store
4. Need for making sure that one's refrigerator or freezer will keep foods solidly frozen until use

 Table Setting and Service; Table Manners

1. Using a spoon correctly for eating liquid served with a vegetable
2. Keeping one hand in lap and elbows off the table when eating
3. Eating vegetables with either a spoon or a fork

General ContentNutrition PrinciplesSkillsContent Area: 3. Vegetables c. Canned Vegetables

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Commercially canned vegetables as thoroughly cooked, needing only reheating	1. Commercially canned vegetables are processed without being exposed to the air and still contain many nutrients.	1. Items 4, 6, 7 and 8 under 1a, Juices
2. Necessity of boiling home canned non-acid vegetables for 10 minutes before using, to eliminate any possibility of poisoning by botulinus toxin	2. We should have at least two servings of vegetables each day, in addition to potatoes.	2. Items 1 and 4 under 2a, Eggs
3. The acceptability of a can as a container for storing left-over vegetables in the refrigerator, if it can be properly covered	3. Some of the vegetable nutrients are contained in the liquid.	*3. Draining liquid from can into saucepan and boiling down to about half the original volume
4. Vegetables as a way of getting variety in color, texture, flavor and shape into our meals	4. Using vegetable liquid in soups, gravies, stews, etc., <u>or</u> serving it with the vegetable, <u>or</u> combining it with tomato juice for a breakfast drink, will help us get the value of all the nutrients it contains.	4. Adding vegetable and cooking only until heated through
5. The need for accurate descriptions of canned foods as a guide on a shopping list		5. Selecting a vegetable which will be suitable in relation to the rest of the meal
		*Alternate method-- Item 3: Draining off most of the liquid (to be used in other ways) and heating the vegetable in the remainder

Time, Energy, and Money
Management

9. A thermostatic burner as a way of conserving fuel

Safety and Sanitation

Table Setting and Service;
Table Manners

Time, Energy, and Money
Management

1. Canned foods as requiring even less preparation time than frozen foods
2. Saving time by preparing a shopping list before going to the market
3. Avoiding mistakes by reading labels to be sure one has the desired product-- example: whole kernel or cream style corn; asparagus cuts or spears; green or yellow beans, etc.
4. Arranging a shopping list to follow the layout arrangement of the store
5. Possibility of heating a canned vegetable (using skill 3 - alternate method) with "stored heat" of an electric unit, after the unit has been used for something else
6. The fact that there are different grades of canned foods, and some of the most obvious differences among grades

Safety and Sanitation

1. Canned foods as having been thoroughly cooked and then packed in airtight container, so that they will keep indefinitely without spoilage
2. Discoloration of the inside of a can as not harming the food
3. An opened can as a safe container for refrigerated foods, though acid foods may acquire a metallic flavor if left in the can
4. Dents in a can as not harmful as long as the seal remains intact
5. Meaning of the U.S. Department of Agriculture's "continuous inspection" of canned goods
6. The danger of using home-canned, non-acid vegetables without the proper preparation methods

Table Setting and Service;
Table Manners

1. Methods of serving vegetables
 - a. on the plate
 - b. in one large dish which is passed
 - c. in individual vegetable dishes at each place
2. Trying at least a little of each food served, unless one is physically harmed by a certain food
3. Avoiding unpleasant comments about foods while eating, especially about unfamiliar foods
4. Setting a good example for younger brothers and sisters by learning to eat without comment the foods served in the home

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
6. Information found on canned food labels <ol style="list-style-type: none"> a. form and style of pack b. additions to food c. amount and pos- sibly number of servings d. manufacturer's or distributor's name e. brand name and sometimes grade letter f. possibly recipes or serving sug- gestions 		

Content Area: 4. Salads a. Fresh Tomatoes or Canned Fruit or Other

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Characteristics of good quality lettuce <ol style="list-style-type: none"> a. leaf b. head 	1. The darker green leaves of lettuce have the most nutri- tive value.	1. Selecting good quality lettuce
2. Parts of a salad <ol style="list-style-type: none"> a. base b. body c. dressing d. garnish 	2. The lettuce used as a salad base should be eaten, as it pro- vides valuable nutrients.	2. Washing lettuce care- fully and packaging it properly for chilling
3. Ways to prepare salad greens so that they will be <ol style="list-style-type: none"> a. clean b. colorful c. chilled d. crisp 	3. Tomatoes are a good source of Vitamin C.	3. Separating lettuce leaves and making cups <ol style="list-style-type: none"> a. from loose head b. from tight head
		4. Blanching or heating tomatoes and removing skin

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

7. Identification of the brand names used to indicate grades by those distributors whose products are commonly used in the community
8. Preparing the exact amount of vegetables which will be eaten at one meal as a means of avoiding waste
9. Making it a practice to use vegetable liquid so as to get full value for money spent on canned vegetables
10. The advantage of buying canned vegetables by the case if storage space is available

Vegetables on Lettuce

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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| <ol style="list-style-type: none"> 1. Pre-preparation of salad greens as a way of cutting down on the time it takes to prepare individual salads 2. Simple garnishes which save time and still are attractive 3. A lettuce basket as a way to save time when washing lettuce | <ol style="list-style-type: none"> 1. Care needed when boiling water or steam is used for blanching 2. Selection of styles of graters which can be used without too much danger of injury to the fingers 3. Protection of small children by keeping them in a safe place when someone is cooking | <ol style="list-style-type: none"> 1. Position for salad fork and salad plate when salad is served <ol style="list-style-type: none"> a. alone or as the main dish b. as an accompaniment to a meal 2. Way of serving salad dressing separately 3. Adding salad dressing to a salad at the table |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
4. Methods of removing tomato skins, blanching, or holding over heat	4. A small amount of lettuce under a salad is not enough to count as one of the servings of vegetables required every day.	5. Items 4, 6, 7, and 8 under 1a, Juices
5. Desirability of simple salads, rather than those requiring much handling	5. Using the sirup from canned fruits as a juice for breakfast or to dissolve jello, or in a fruit sauce, etc., will enable one to get all the nutritive value available in the fruit.	6. Draining sirup from canned fruit 7. Arranging an individual salad a. chilling all parts first (fruit may be chilled in the can). b. keeping salad materials inside the plate edges c. piling up ingredients rather than spreading them out d. using a suitable amount of food per serving e. Selecting, preparing as necessary, and adding a simple garnish
6. Simple garnishes for salads a. paprika b. salad dressing c. grated cheese d. parsley e. green pepper f. nuts g. small fruits, such as grapes or cherries h. hard-cooked eggs, sliced or sieved	5. Two servings of fruit should be included in the diet each day and one of these should be a good source of Vitamin C.	3. Grating cheese 9. Sieving hard-cooked egg yolk 10. Cleaning a sieve and a grater

Time, Energy, and Money
Management

4. The condition of the food as a factor influencing the amount of time it takes to prepare it--example:
unless tomatoes are fully ripe, removing the skin is very difficult
5. Factors which influence one's decision to remove or not to remove tomato skins
6. Brushes are suitable pieces of equipment to clean graters and sieves quickly
7. The highest grade of canned fruit, where pieces are whole and evenly shaped, as the grade to choose for salads
8. Buying high quality salad greens in small quantities and storing them properly in order to prevent waste
9. Creative use of common foods as garnishes as a way of cutting down the expense of a salad
10. Preserving equipment by cleaning it carefully, as in the case of sieves

Safety and Sanitation

4. The importance of cleanliness in the grocery store where one purchases food

Table Setting and Service;
Table Manners

4. Using a fork to cut fruit and lettuce into pieces of suitable size for eating
5. Eating all edible portions of a salad

Content Area. 5. Salad Dressing a. Commercial Dressing, Diluted or

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Types of dressings suited to the salads made in class	1. Most salad dressings add only calories to the diet and may be omitted if one does not need the extra calories to maintain his body properly.	1. Diluting salad dressing with milk or other liquid
2. General ingredients in salad dressing	2. Salad dressings are high in fat.	
3. Dressings which can be diluted and the method and proportions to use in diluting	3. Some fat is needed in the diet to keep the skin in good condition and to act as a protective cushion in various parts of the body.	
	4. American diets generally are too high in fat, so it is desirable to learn to be satisfied with smaller amounts of fatty foods.	
	5. Many salads will taste good without dressing or perhaps with a little salt, lemon juice or vinegar used instead.	

UndilutedTime, Energy, and Money Management

1. Planning ahead as a way of making sure that a suitable dressing for a salad is on hand
2. Wiping off the outside of a dressing bottle before returning it to the refrigerator to avoid extra cleaning
3. Evaluation of various practices in the use of dressing in terms of ease of service, aesthetic standards, etc.-- example: putting dressing bottle on the table; putting dressing in separate dish for service; putting dressing on salad before serving, etc.
4. Comparison of costs of the various dressings found on the market
5. Dressing as something which adds to the cost, rather than the nutritive value of a salad
6. Diluting dressing as making a given amount stretch a little further

Safety and Sanitation

1. The practice of shaking dressing bottles away from counter tops and other obstructions
2. Choice of salad bowls, dressing cruets, etc., which are easy to clean
3. Refrigeration of salad dressings, relishes, etc., as a way of keeping them in good condition longer
4. Need for keeping flies and pets away from food

Table Setting and Service; Table Manners

1. Arrangements to give guests a choice of dressings to use on a salad
2. Placement of individual salads
3. Dipping pieces of salad or lettuce into dressing by using a light touch
4. Refusing a dressing or any food--with a quiet "No, thank you."
5. Accepting a guest's "no" without urging

Content Area. 6. Breads a. Toast and Toast Variations

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Varieties of bread from which toast can be made	1. Bread is a good source of carbohydrates.	1. Using a large knife and a board to cut bread into various shapes
2. Method of making toast in a broiler	2. Enriched bread has added nutrients and is nutritionally superior to non-enriched white bread.	2. Creaming a spread
3. Various shapes for toast: a. strips b. triangles c. croutons, etc.	3. Whole wheat bread is made from flour containing all the parts of the wheat grain, and is nutritionally superior to enriched bread.	3. Mixing simple toppings
4. Advantages of creaming the spread to be used on toast	4. If one regularly uses whole wheat bread, he will soon come to prefer it.	4. Choosing correct amount of topping and spreading it evenly
5. Simple toppings to be added to plain toast a. cinnamon and sugar b. orange juice, orange rind and sugar c. peanut butter d. grated cheese e. vanilla creamed with butter	5. For good nutrition one should have two servings a day of whole grain or enriched bread or cereals.	5. Toasting bread under a broiler

Time, Energy, and Money Management

1. Broiler toasting as a way of making more slices of toast in a given time
2. The possibility of keeping a shaker full of a cinnamon sugar mixture or a jar of some other topping so that one can have a fancy toast very quickly
3. Careful watching of toast to prevent burning and waste
4. Toast as a good way to use up bread that is no longer fresh
5. Turning off ovens and/or burners immediately after using them as a means of reducing the fuel bill
6. Relative costs of different varieties of bread, and some possible reasons for differences
7. Making only as much toast as will be eaten, to avoid waste
8. Method of storing bread to keep it in good condition longer
9. Buying bread (or any food) in amounts which can be eaten up before the quality declines

Safety and Sanitation

1. Careful turning of toast to avoid burns and prevent it from falling on the floor
2. Avoiding the use of food which has been on the floor, unless it is a food which can be properly cleaned
3. The possible advantages of bread made without chemical preservatives
4. Storage of flour and cereals to avoid infestation with weevils, etc.
5. Checking and cleaning cupboards regularly as a preventative for deterioration of stored food

Table Setting and Service; Table Manners

1. Methods of keeping foods, such as toast, warm for service
2. Keeping fingers cleaner when eating buttered toast by grasping the edges of the slice only
3. Breaking a slice of toast rather than biting into a whole slice

Content Area a. Breads b. Muffins

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Definition of a quick bread	1. When hot breads are made with enriched flour, they contain added amounts of iron and certain B vitamins.	1. Items 1 - 4 under 2b, Casseroles
2. Basic ingredients in muffins		2. Greasing a muffin tin
3. Possible additions to make muffin variations	2. B vitamins are necessary for the proper functioning of the nervous system and the digestive system, and for a healthy skin.	3. Sifting flour directly into a measuring cup and leveling
4. Steps in the "muffin method" of mixing		4. Measuring other dry ingredients and sifting them with the flour into a mixing bowl
5. Importance of limiting the amount of mixing of muffin batter	3. Muffins made with whole wheat flour or with bran are more nutritious than those made with white flour.	5. Measuring oil or melting and measuring fat
6. Preparation of pans for baking muffins		6. Dividing an egg in half, if necessary, by measuring one which has been beaten, and using half of it
7. General rules to follow when baking in an oven	4. The egg in muffins adds to their nutritive value.	7. Mixing wet and dry ingredients
a. Pre-heating to correct temperature before putting in food	5. The addition of nuts, cheese, dried fruit, peanut butter, etc., can add to the nutritive value of muffins.	8. Filling muffin tins
b. Placing grates and pans so as to get free circulation of heat		9. Wiping any spilled batter off muffin tins
c. Leaving door closed for minimum baking time stated in the recipe--unless oven thermostat is inaccurate		10. Item 15 under 2b, Casseroles
d. Cooling oven by leaving door ajar after food is removed		11. Judging when muffins are done
		12. Loosening muffins and removing them from the tin

 Time, Energy, and Money
 Management

 Safety and Sanitation

 Table Setting and Service;
 Table Manners

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| <ol style="list-style-type: none"> 1. Organization of equipment and supplies so that a product can be mixed quickly without interruptions 2. Ways to cut down on the number of utensils used in mixing muffins--example: measuring milk first in a cup then adding egg and fat and mixing in cup rather than using an extra bowl 3. Using liquid fat to save time and reduce number of utensils required if fat must be melted 4. Seamless baking tins as being easier to wash 5. Paper baking cups as saving time in washing muffin tins 6. Wiping spilled batter from tins to prevent burned-on material which is harder to remove 7. Provision in planning to make sure that muffins can be served hot 8. Comparison of cost of muffin tins of different quality levels | <ol style="list-style-type: none"> 1. The need for using a pot holder when steadying the pan to loosen muffins 2. Being sure hot breads are not too hot to be eaten when they are served | <ol style="list-style-type: none"> 1. Placement of bread and butter plate and of a knife 2. Use of a butter spreader and/or butter knife 3. The use of a bread basket and napkin when serving hot breads 4. Breaking a muffin before eating it 5. Placing suitable amounts of butter and jelly on a piece broken from a muffin 6. Eating hot breads slowly 7. Avoiding the use of water to "wash down" quantities of starchy food 8. Leaving knife on butter plate when not in use |
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General ContentNutrition PrinciplesSkillsContent Area 6. Breads c. Pancakes

General Content

1. The process of making pancakes as a variation of the muffin method
2. Characteristics of a "pour" batter

Nutrition Principles

1. Pancakes are nutritionally equivalent to muffins except that they usually contain a little more milk

Skills

1. Items 1 and 2 under 2b, Casseroles
2. Items 3 - 7 under 6b, Muffins
3. Mixing dry and wet ingredients with a rotary beater or hand mixer or a shaker

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

9. Factors to consider in deciding how much to spend for a utensil (the cheapest may be harder to wash, may not stand up as well, etc.)
10. Placing water in unused muffin cups to prevent warping and make the utensil stay in good condition longer
11. Comparison of cost of a serving of bread and one of plain muffins
12. The amount added to the cost of muffins by the ingredients used to make variations
13. Being careful not to scratch pans with knives when removing muffins (greasing well so force isn't needed, not over-baking, using blunt knife, letting steam in pan a minute before removing)

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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| <ol style="list-style-type: none"> 1. Planning to make pancakes "installment fashion" if necessary, so that they can be served hot | <ol style="list-style-type: none"> 1. The Underwriter Laboratories' seal as an indication of safe construction in electrical equipment 2. The importance of having dry hands before plugging in electrical equipment | <ol style="list-style-type: none"> 1. Suitable containers for sirup, and provision for something under them to prevent soiling the table |
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<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
3. Time when pancakes may be served	2. Refined white sirup contains only calories, but naturally dark sirup also has a little mineral content and is to be preferred for use on pancakes, waffles, French toast, etc.	4. Cleaning beater and mixer
4. Variations for pancakes	3. Pancakes are a substitute for bread in a meal, and it is not good planning to serve them in addition to bread.	5. Preparing and heating griddle
		6. Testing griddle for correct baking temperature
		7. Pouring batter on to a griddle
		8. Turning a pancake, using turner or broad spatula
		9. Cleaning and caring for a griddle when it is not in use

Content Area: 7. Beverages a. Cocoa and Chocolate

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Types of milk available on the market-- characteristics, relative costs, food value, and uses a. fresh whole b. skim c. 2 percent or low fat d. homogenized e. evaporated f. condensed	1. Milk is an excellent source of many nutrients, including protein and the mineral calcium which is needed for bone and teeth formation. 2. Milk is not a completely perfect food, since it is low in iron and in Vitamin C.	1. Items 1 and 2 under 2b, Casseroles 2. Items 1 - 4 under 2a, Eggs 3. Stirring a food so as to cover all the bottom of the pan and prevent scorching 4. Pouring from a measuring cup into a pan of hot liquid

Time, Energy, and Money
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Table Setting and Service;
Table Manners

2. Advantage in pouring pancake batter from pitcher or shaker directly on griddle, rather than using a spoon or cup
3. Techniques for making pancakes uniform in size
4. Comparison (cost, quality and time needed for preparation) of homemade pancakes with those made from a purchased mix
5. Evaluation of the need for a griddle (Could a skillet serve satisfactorily?)
6. Factors to consider in choosing sirup pitchers--ease of cleaning, shape which facilitates pouring, artistry of design, etc.

3. The habit of handling only the plug when connecting or disconnecting electrical equipment
4. Prevention of possible injury by keeping one's fingers away from moving beaters
5. Storage of electric cords with as little coiling as possible

2. Passing a pitcher of sirup so that it is easy for the next person to grasp the handle
3. Using judgment as to the appropriate amount of sirup to use on pancakes

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

1. The use of a minimum of equipment through the practice of measuring sugar before cocoa, water before milk, etc.
2. The use of cool water to soak pans which have contained milk mixtures (protein substances)

1. Care in beating hot liquids to avoid splashing
2. Saucers as a help in carrying a cup of hot liquid safely
3. The amount of a hot liquid in a cup as a determiner of the difficulty of handling the cup without spilling the liquid

1. Placement of cup and saucer
2. Serving cocoa from a pot brought to the table
3. Testing the temperature of a hot liquid by tasting with a spoon
4. Stirring beverage gently to cool it, if necessary

General ContentNutrition PrinciplesSkills

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| <p>2. Importance of pasteurization in giving us milk safe to drink--definition of pasteurization</p> <p>3. Changes in milk when boiled</p> <p style="padding-left: 20px;">a. differences in flavor</p> <p style="padding-left: 20px;">b. formation of scum</p> <p style="padding-left: 20px;">c. loss of nutrients</p> <p>4. Proper storage of milk</p> <p>5. Difference between cocoa and the various kinds of cocoa mixes on the market</p> <p>6. Purpose of boiling cocoa with water before adding milk--to cook the starch it contains, thus developing a better flavor</p> <p>7. Methods of stirring which reach all parts of the bottom of a pan</p> <p>8. Advantages of using a wooden spoon for stirring food in a sauce pan</p> <p>9. The difference between cocoa and chocolate--and the difference in techniques for preparation of these two beverages</p> | <p>3. Heating milk destroys some nutrients. Therefore we should use it fresh most of the time.</p> <p>4. Pasteurization is essential to protect our health, even though it results in a slight loss of nutrients.</p> <p>5. Non-fat dry milk is a concentrated form of milk which can be used to "step up" the nutritive value of a food without adding fat to it.</p> <p>6. Vitamins A and D are often added to milk, and we should read the label to find out what additions have been made.</p> <p>7. Chocolate contains more fat than powdered cocoa, though both are made from the same source.</p> <p>8. Adolescents should have 3 - 4 cups of milk each day--adults 1 or 2.</p> | <p>5. Using a beater to prevent scum formation or to break it up if it has already formed</p> <p>6. Filling a serving cup with hot liquid</p> |
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Time, Energy, and Money Management

3. Careful watching of boiling cocoa mixture to prevent a scorched pan
4. Proper storage of milk in order to prevent waste
5. Comparison of the cost of the various forms of milk found on the market
6. Procedures in caring for the porcelain enamel of a stove top
 - a. wiping up spilled food with dry paper or cloths when the stove is hot--rather than with cold wet cloths
 - b. avoiding banging things against it
 - c. washing off with soapy water, rinsing with clear water, and polishing with a dry cloth or with paper
7. Comparison of the cost and quality of cocoa prepared from scratch with that made from a cocoa mix
8. Comparison of cocoa made with whole milk, low-fat milk, reconstituted non-fat dry milk and diluted evaporated milk

Safety and Sanitation

4. Care in testing the temperature of a hot liquid before drinking so as to avoid burns of the tongue or mouth
5. Importance of always using pasteurized milk
6. Need for checking the source of the milk one uses when away from home

Table Setting and Service; Table Manners

5. Avoiding blowing on a spoonful of liquid
6. Removing spoon from a cup before drinking
7. Taking small sips from a cup of hot liquid
8. Using one hand to hold a cup when drinking
9. Placing teaspoon on saucer when finished drinking

Content Area: 7. Beverages b. Cold Milk Drinks, Egg Nog, Milk Shakes, Etc.

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Comparison of the cost and quality of milk drinks made with homemade and commercial chocolate sirups	1. Milk drinks are relatively high in caloric value, but since they are also rich in nutrients, they are good between meal drinks for adolescents and those who do not need to make a special effort to limit their caloric intake.	1. Preparing a chocolate sirup as a base for milk drinks a. Items 1 - 4 under 2a, Eggs b. Measuring sugar, cocoa or chocolate and salt
2. Place of milk drinks in the daily diet		
3. Method of reconstituting non-fat dry milk		2. Combining a milk shake or egg nog with the use of a beater or blender
4. Definition of "malted" milk	2. Reconstituted non-fat dry milk can be used to cut down on the cost and caloric value of milk drinks.	
5. Various types of milk drinks which can be made at home	3. Sometimes persons who have not learned to like plain milk find it more pleasant to take in a flavored form.	
	4. People who are unable to use certain basic foods either because of health or limited money to spend must plan to get the needed nutrients from other foods.	
	5. Chocolate contains a stimulating substance and may encourage eruptions on the skins of susceptible persons. Foods containing chocolate should be used in limited amounts, especially by children.	

 Time, Energy, and Money
 Management

1. Evaluation of the time saved by using a blender
2. Advantage of preparing a supply of chocolate sirup which can then be used as a basis for both hot and cold milk drinks
3. Evaluation of the desirability of an appliance in terms of the frequency with which it will be used
4. Economy of preparing milk drinks at home, rather than purchasing them at soda fountains

 Safety and Sanitation

1. Following manufacturers directions to insure safe operation of an appliance
2. Checking the source of the milk one buys to be sure that it is protected from contamination at all stages of production and distribution
3. Proper storage of milk in order to keep it safe to drink
4. Checking on the storage arrangements for the straws one uses in restaurants, etc. (Paper covered ones are most sanitary.)
5. Handling straws for guests to avoid touching the parts which will go in the drink or in the mouth

 Table Setting and Service;
 Table Manners

1. The use of a tray to serve beverages when guests are not seated at a table
2. Drinking from a tall glass
3. Using a straw quietly

Content Area: 8. Sandwiches a. Cold, Simple Spreads

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Characteristics of good sandwiches	1. The filling of a sandwich can add to its nutritive value, as can the use of whole grain breads.	1. Using a food grinder
2. Types of wrapping materials and containers for sandwiches	2. Foods eaten at lunch should supplement each other in food value and also contrast with one another.	2. Mixing a simple sandwich spread
3. Variations in sandwiches a. kinds of breads b. types of fillings	3. High protein sandwich fillings (meat, fish, eggs, or cheese) are especially nutritious. The addition of a lettuce leaf will improve both the nutritive value and the flavor of most any sandwich.	3. Creaming butter or margarine for use in sandwiches
	4. Illness due to food is usually a result of overeating or of eating contaminated or spoiled food. Only occasionally does a specific food or food combination cause trouble to a sensitive individual.	4. Choosing a suitable amount of filling and spreading it evenly
		5. Cutting sandwiches, using a large knife
		6. Wrapping sandwiches for a lunch box or for storage

Content Area: 8. Sandwiches b. Broiled Open-Face

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Foods which are suitable for using on broiled sandwiches	Omit	1. Items 1 - 5 under 6a, Toast
		2. Grating cheese or slicing tomatoes to use as a topping on an open-face sandwich

<u>Time, Energy, and Money Management</u>	<u>Safety and Sanitation</u>	<u>Table Setting and Service; Table Manners</u>
<ol style="list-style-type: none"> 1. "Assembly line" procedures as a help in making a number of sandwiches 2. The use of a broad spatula as an aid in spreading creamed butter 3. Possibility of making sandwiches ahead and freezing them 4. Sandwich fillings as a good way to make use of left overs 5. Sandwiches as a means of extending a more expensive food so that one can serve a greater number of people 6. Evaluation of the relative cost and quality of the various types of wrapping materials on the market 	<ol style="list-style-type: none"> 1. Precautions to take to prevent food poisoning from sandwich fillings <ol style="list-style-type: none"> a. cleanliness of worker and equipment b. prevention of contamination with bacteria c. choice of filling to suit holding conditions d. proper storage 2. Types of food which are safest to eat when one is away from home and not sure of the cleanliness of a restaurant or other eating place 	<ol style="list-style-type: none"> 1. Sandwiches cut in small sections so that they can be easily eaten 2. Attractive arrangement of sandwiches on a serving plate 3. Breaking a sandwich in half before trying to eat it

<u>Time, Energy, and Money Management</u>	<u>Safety and Sanitation</u>	<u>Table Setting and Service; Table Manners</u>
<ol style="list-style-type: none"> 1. Broiling as a relatively quick method of preparing food 2. The need to watch food being broiled to prevent over-cooking 	<ol style="list-style-type: none"> 1. Arrangement of foods at correct distance from broiler to avoid danger of fire 	<ol style="list-style-type: none"> 1. Methods of heating plates on which hot food is to be served 2. Eating hot open-faced sandwiches with a fork

WE REJOICE.

In "Let's Talk It Over," Illinois Teacher, Volume III, No. 8 there was mention of a promotional brochure prepared and used with outstanding success by Miss Elsie Buchanan in the schools of Lawrenceville, Illinois. Immediately both Miss Buchanan in Springfield and the office of the Illinois Teacher began to receive requests for a copy of this brochure.

We are happy to announce that reprints of this bulletin are now available to the number of several hundred for anyone who desires a copy. Miss Buchanan has graciously offered permission for free duplication of anything in the brochure. To secure a copy, send 25¢ in coin to:

Illinois Teacher
334 Gregory Hall
University of Illinois
Urbana, Illinois

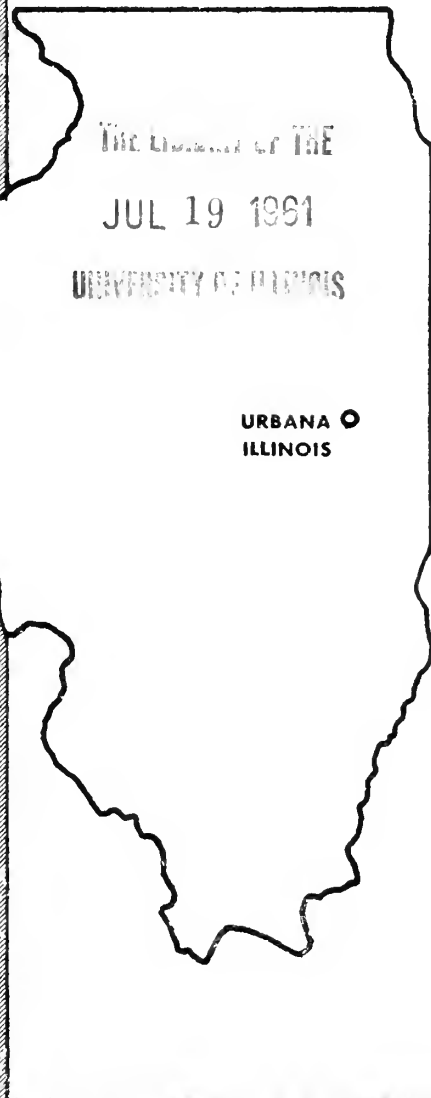
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Star Feature

AN ORGANIZATION OF CONTENT FOR THE FIRST
LEVEL OF INSTRUCTION IN FOODS
AND NUTRITION
(continued from Vol. IV, No. 2)



Suggested Scope for a Course of Study in Foods--Seventh Grade

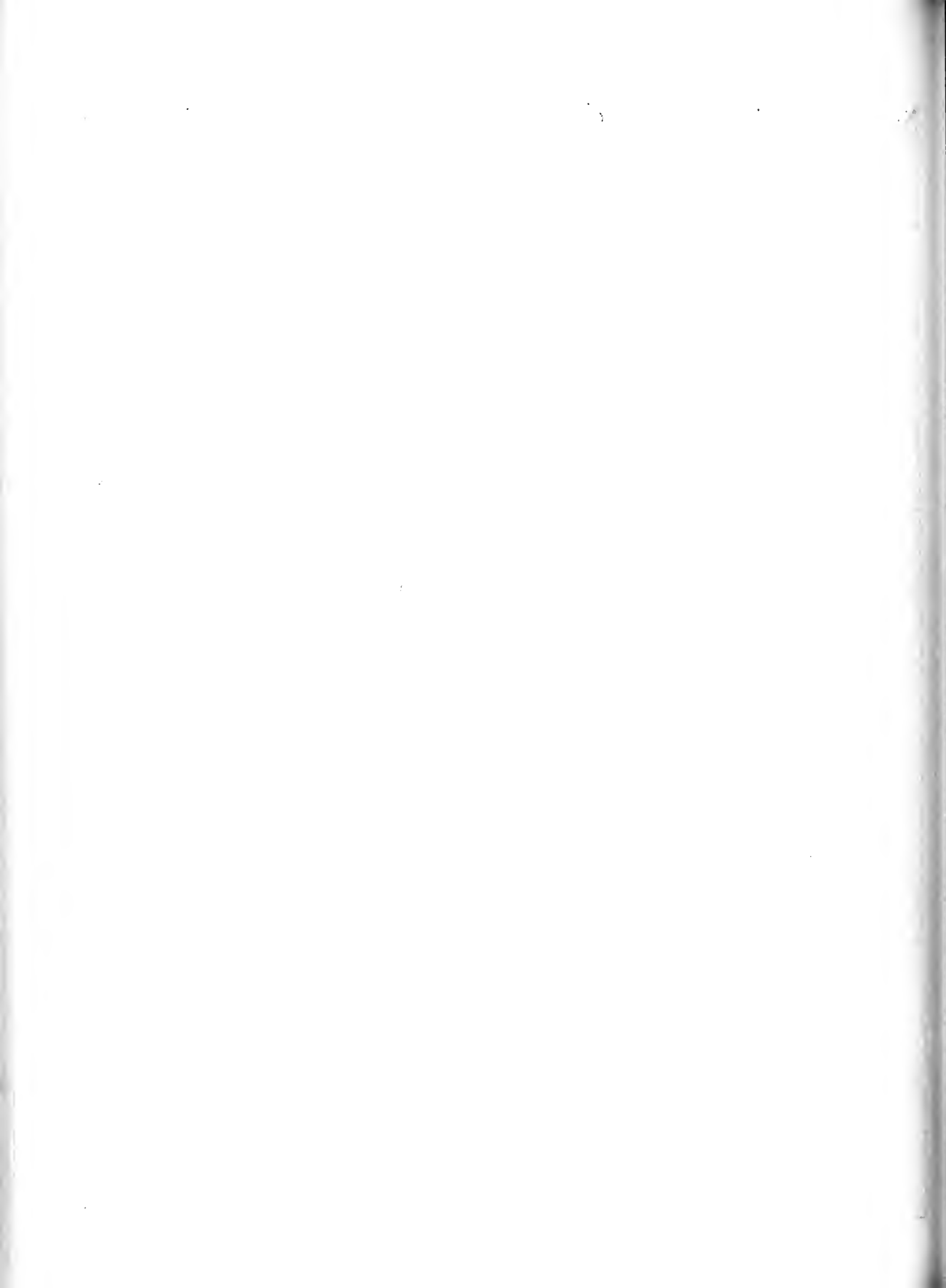
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Suggested Scope for a Course of Study in Foods--Eighth Grade

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AN ORGANIZATION OF CONTENT FOR THE FIRST LEVEL
OF INSTRUCTION IN FOODS AND NUTRITION
(Continued from Vol. IV, No. 2)

Dorothy Keenan, University of Illinois
Frances Webb, MacMurray College

In this issue of the Illinois Teacher, we plan to continue and complete the organization of content in foods and nutrition which was begun last month. Although this material is "labeled" for seventh and eighth grade, we would like to emphasize again that this leveling is meant to serve only as a convenient method of classification. It should be possible to use this subject matter also for beginning foods classes in high school. Certain basic principles must be taught, regardless of the age of the student who is studying foods for the first time.

The use of resource materials

Perhaps by now you have had time to go through the first issue in this series and are therefore familiar with the general plan of organization. You probably have noticed that this material has some resemblance to a resource unit. For use, the teacher must adapt it to the requirements of her daily teaching situation. This will involve:

setting up class objectives, preferably with student help
selecting the content to be covered
devising activities to help students understand the content
and work toward the objectives.

The possibilities for variety in any given lesson are almost endless, and the imaginative teacher will want to try different approaches.

By way of illustration

For example, we might consider a first lesson on fruit juices. Students are new to the laboratory situation, and, of course, they want to cook. Undoubtedly, they also have a most limited notion of what there is to learn about food. A class period during which they made various combinations of canned juices and served these could begin to acquaint them with the laboratory, and teach them some facts and routines. But suppose that the teacher has been studying resource materials, such as those presented in the last issue of the Illinois Teacher. She has decided that she would like to introduce these same students to an experimental approach to food study; to start them thinking about the necessity of choice making; and to make them aware of the kinds of information one requires before one can make intelligent choices. So this teacher plans to carry out her lessons in a different way.

(Continued on page 146)

Suggested Scope for a Course of Study in Foods--Content Area: 9. Soups a. Canned or Dried or Frozen

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Types of soups available a. condensed b. "straight" c. frozen d. dried	1. The nutritive value of a soup depends on its composition and on the liquid added.	1. Items 4 - 8 under 1a, Juices (Vol. IV, No. 2)
2. The contrast which can be provided by one warm food in an otherwise cold meal	2. Each day one should check to be sure that he has eaten the foods which will meet the body requirements for the various nutrients.	2. Items 1, 2, and 4 under 2a, Eggs (Vol. IV, No. 2)
3. Method of preparing canned soups which require only heating	a. <u>fruit</u> , 2 servings--one citrus or tomato	3. Mixing liquid into a canned soup
4. Combinations of canned soups which are interesting variations	b. <u>vegetables</u> , 2 servings besides potatoes; leafy, green and yellow 3 - 4 times a week	4. Adding dried soup to boiling liquid
5. Different purposes which soup may serve in a meal a. appetizer b. main course c. ingredient in sauces, salad dressings, and desserts	c. <u>protein food</u> , 1 serving of meat or a substitute	5. Thawing and heating frozen soup
6. Simple garnishes for soup--crackers, popcorn, parsley, etc.	d. <u>bread and cereals</u> , 2 servings whole grain or enriched	6. Garnishing soup
7. Foods which combine well with soups	e. <u>milk</u> , 3 or 4 cups	
	f. <u>eggs</u> , one a day, or 3 - 4 during a week	
	3. If we eat these foods every day, we will not be so hungry for less nutritious foods.	

Seventh Grade--Continued from Vol. IV, No. 2

<u>Time, Energy, and Money Management</u>	<u>Safety and Sanitation</u>	<u>Table Setting and Service; Table Manners</u>
1. Soup as an especially fast dish to fix when a quick meal is desired	1. Care in testing the temperature of soup before eating, to avoid burns	1. Various types of serving dishes for soup
2. Comparison of the amount of time needed to prepare canned, dried, and frozen soups	2. Care in filling serving dishes with a hot liquid	2. Advantages of special soup spoons rather than regular soup spoons
3. Careful reading of preparation instructions		3. Eating soup, using acceptable procedures a. dipping spoon away from you b. tilting bowl away from you to get the last portion of the soup c. sipping noiselessly from the side of the spoon
4. Relative costs of the various forms of soups and of the wide variety of soup accompaniments which are on the market		4. Judging where to leave spoon, depending on the type of dish in which soup is served
5. Study of information to be found on soup labels and evaluation of the help this information can be to the person who is trying to spend money wisely		5. Eating crackers with soup

Content Area: 10. Sauces a. Made From Soups

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Condensed soups as good sauces, heated "as is," or thinned with a little milk	1. Sauces are added mostly for flavor, and unless made with milk, usually add mainly calories to the diet.	1. Varying the amount of liquid added to canned soups 2. Items 4 - 8 under 1a, Juices (Vol. IV, No. 2) 3. Items 1, 2, and 4 under 2a, Eggs (Vol. IV, No. 2)

Content Area: 11. Desserts a. Flavored Gelatin--Set in Serving Dishes, or

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Flavors available in gelatin desserts	1. Using fruit juice to dissolve gelatin adds to its nutritive value, which is very slight otherwise.	1. Heating liquid for dissolving gelatin
2. Method of dissolving to insure proper setting		2. Dissolving in hot water
3. Methods of whipping, of making cubes, and of preparing layers	2. A gelatin dessert is composed of plain gelatin (a compound which has the property of taking up large quantities of liquid) with added sugar, and with artificial coloring and flavoring.	3. Using ice cubes to speed up the setting
4. Precautions to take when chilling a food which is in serving dishes a. placement in refrigerator b. prevention of tipping c. protecting top	3. Foods which add only calories to the diet should be eaten only after the daily nutrient requirements have been met.	4. Chilling to proper consistency and then whipping, using an egg beater 5. Making layers with gelatin dessert, letting one set before adding the next 6. Preparing stiffer gelatin dessert with a smaller amount of liquid, and cutting it into cubes for service 7. Chilling a food which is in serving dishes

Time, Energy, and Money
Management

1. Using condensed soup for sauces as a way of saving much time
2. Sauces as a way to make simple food look more elaborate
3. Sauces as a way of extending amounts of food to serve more people

Safety and Sanitation

Omit

Table Setting and Service;
Table Manners

1. The use of a separate dish for serving sauce
2. Serving oneself when sauce is passed in a separate dish

Layered, or Whipped, or Cut into Cubes

Time, Energy, and Money
Management

1. Ways to speed up the preparation time of gelatin dessert: using part cold liquid, adding ice cubes, setting in shallow pans, etc.
2. Gelatin as one of the many foods that can and must be prepared ahead
3. The cost of a food not the only item to be considered in selection. Gelatin dessert may have a small cost per serving and still not be a wise choice because of its slight nutritive value
4. Imagination in combining or preparing simple foods as an aid in providing interesting desserts at low cost

Safety and Sanitation

1. The need for caution in using artificially colored and flavored products. It is best to limit the amounts of these commercial products used in the home.
2. Placing dishes of food to be chilled in a refrigerator in such a way that dirt or other food will not fall into them

Table Setting and Service;
Table Manners

1. Various types of dessert dishes, and factors to consider in choosing one to use for a given dessert
2. Eating from a tall dessert glass (as a parfait glass filled with clear gelatin dessert cubes)

Content Area: 11. Desserts b. Prepared Puddings

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Procedures in preparing commercial puddings	1. Puddings made with milk are one way of getting more milk into the diet.	1. Following directions in preparing commercial puddings
2. Ways to vary and dress up prepared puddings: sauces, combinations, garnishes, etc.	2. Milk is also a good source of the B vitamins.	2. Chilling a food which is in serving dishes

Content Area: 11. Desserts c. Drop Cookies

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Definition of a drop cookie--its advantages	1. A cookie is more nutritious if it contains such ingredients as cereal, molasses, nuts, raisins and peanut butter. We should use this type, rather than plain sugar cookies.	1. Items 1 - 4 under 2b, Casseroles. (Vol. IV, No. 2)
2. Varieties of drop cookies		2. Preparing a cookie sheet for use
3. Methods of dropping cookies a. using two spoons b. using one spoon, dipping it in water before picking up dough	2. A certain amount of energy is required by the body to maintain life processes (breathing, circulation, etc.) and a constant temperature. We may call this the basic requirement. The (continued pg. 108)	3. Creaming fat with hands or with a wooden spoon
		4. Adding egg directly to fat-sugar mixture
		5. Sifting flour directly into a measuring cup and leveling

Time, Energy, and Money Management

1. Comparative costs, quality, and time and energy saving value of various types of prepared puddings
2. The speed with which the so-called "instant" puddings can be prepared for service
3. Evaluation of relative costs of various pudding garnishes
4. Following directions for even simple procedures as a way of insuring a good product

Safety and Sanitation

1. Care in pouring very hot liquid into glass serving dishes

Table Setting and Service; Table Manners

1. Placement of individual dessert dishes
2. Taking a small amount of pudding on a spoon, so that it can all be removed in one bite

Time, Energy, and Money Management

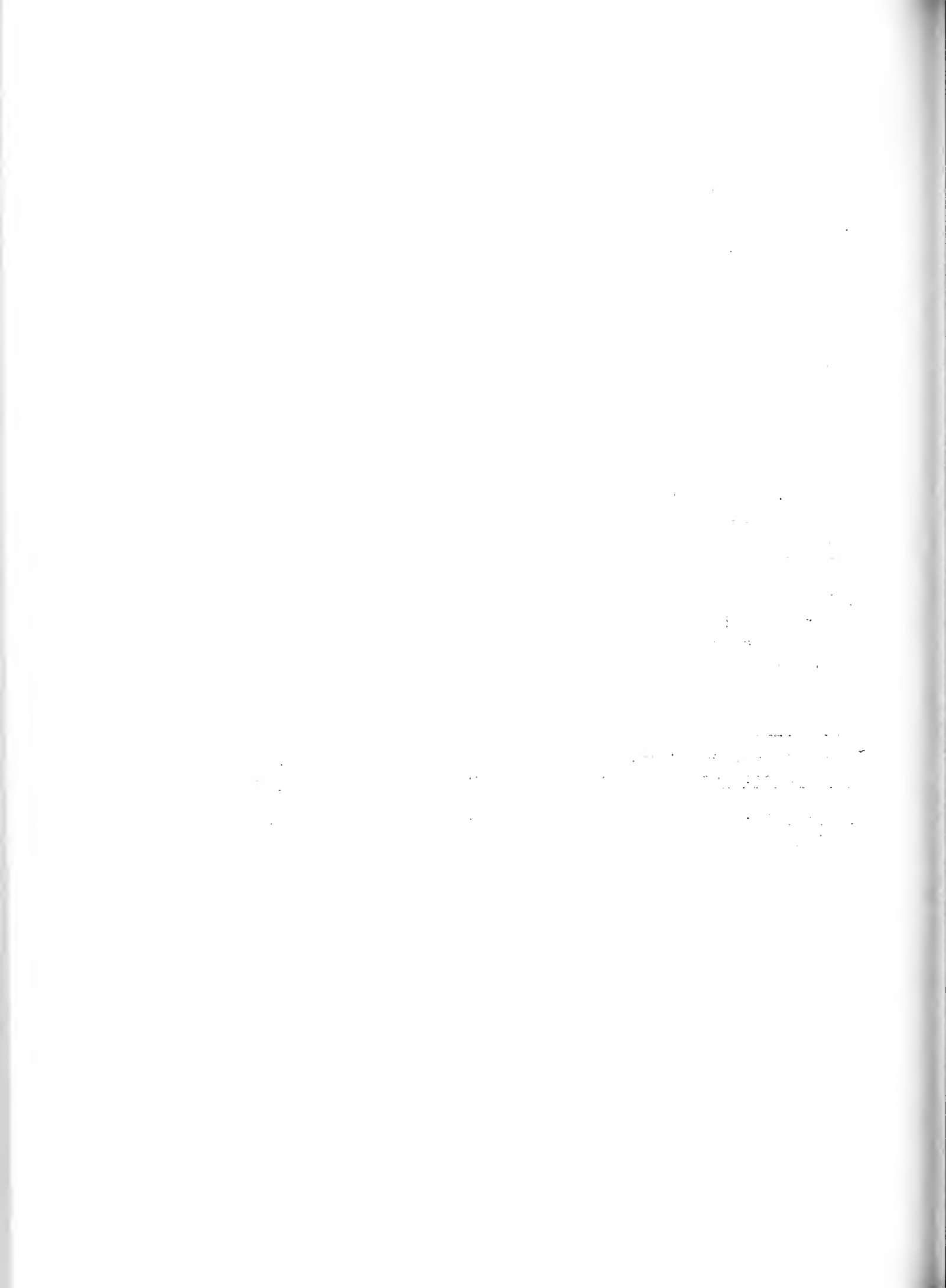
1. Measuring ingredients in the correct order to cut down on the number of utensils used
2. Importance of having all equipment and ingredients assembled before starting work
3. Consideration of the value of a "baking center" arranged in a kitchen, where all supplies needed are in one area, easy to reach as needed

Safety and Sanitation

1. Removing cookie sheets carefully, and placing them on a surface which will not be injured by heat

Table Setting and Service; Table Manners

1. Serving cookies with a beverage or as an accompaniment to cooked fruit for a dessert
2. Breaking a cookie in half before eating-- unless it is very small



Time, Energy, and Money
ManagementSafety and SanitationTable Setting and Service;
Table Manners

4. Greasing a cookie sheet as increasing ease of removal of most types of cookies and making the sheet easier to wash
5. Use of proper equipment as a broad spatula or turner to remove cookies easily
6. Greater ease of cleaning a cookie sheet while it is warm
7. Addition of nuts, raisins, etc., as raising the cost of a cookie
8. Scraping a bowl clean to eliminate waste of cookie batter
9. Proper storage of cookies to keep them in good condition longer
10. Comparison of the cost and quality of home baked and purchased cookies (Figure on basis of cost per cookie of equivalent size-- and on cost per ounce. Which way would give the most useful comparison?)
11. Possibility of using substitutes for a cookie sheet, at less cost

General ContentNutrition PrinciplesSkillsContent Area: 11. Desserts d. Baked Fruit

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Fruit which can be baked	1. Fruit desserts can be used to add nutritive value to the diet.	1. Using a corer
2. Substances which can be used in the center cavity of a baked apple	2. The most desirable desserts are those containing foods rich in nutrients, such as milk, eggs, fruit, or whole grain cereals.	2. Items 1 - 4 under 2b, Casseroles (Vol. IV, No. 2)
3. Value of considering the rest of the meal when selecting a dessert--a light dessert after a heavy meal and vice versa	3. Desserts are eaten at the end of a meal because a food which is sweet tends to destroy the taste for other foods.	
4. Desirability of making full use of an oven--for example, baking fruit for dessert along with a casserole for a main dish	4. Each person must eat sufficient food each day to supply him with enough calories to meet his total energy requirement (plus his growth requirement, if he is still growing).	

Time, Energy, and Money
Management

12. Advantages in buying a higher quality cookie sheet-- which will resist warping, be easier to clean, and give longer satisfactory service, even though the initial cost is higher

Safety and Sanitation

Table Setting and Service;
Table Manners

Time, Energy, and Money
Management

1. Baking food in dishes in which it can be served, to save serving and clean-up time
2. Using a food hot or cold depending on the time when it can best be prepared
3. Using an oven for several foods at once to save fuel and time
4. Selection of the proper variety of apple for baking, and of bananas and pears of the right degree of ripeness for baking

Safety and Sanitation

1. Safe use of an apple corer

Table Setting and Service;
Table Manners

1. The use of home grown plants or vines to make attractive centerpieces
2. Choosing the best utensil to use in eating a baked apple, depending on whether it is served with or without cream or a sauce

General ContentNutrition PrinciplesSkills

5. If a person's diet consistently provides more calories than he needs, he will gain weight and become too fat. If his diet is too low in caloric value, he will lose weight and become too thin. In America, overweight due to over eating is more common, but this is not true in most parts of the world.

Content Area: 12. Confections a. Uncooked Candies, Such as Powdered SugarGeneral ContentNutrition PrinciplesSkills

1. Definitions of fondant, powdered sugar, and steaming
2. Procedure to follow in steaming dried fruit
3. The greater appeal of soft shades whenever food is to be colored

1. The teeth should be carefully cleaned after eating, particularly after eating sweet and/or sticky foods.
2. If it is impossible to brush the teeth after eating, one should finish a meal by eating a piece of raw fruit or vegetable, or should rinse the mouth thoroughly.
3. Concentrated sugar solutions irritate the lining of the mouth and stomach when left in contact with it. Thus it is better to eat sweet foods when the stomach is full, or along with other foods. Sweet snacks should not be eaten between meals.

1. Kneading and shaping fondant type candies
2. Adding color to candies
3. Items 1 - 4 under 2a, Eggs (Vol. IV, No. 2)
4. Improvising a steamer with a sieve placed in a saucepan
5. Steaming dried fruit
6. Pitting and stuffing dried fruit

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

Fondant, Stuffed Dried Fruit, and Dried Milk Candies

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

- | | | |
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| <p>1. Most candies as being rather time-consuming to prepare</p> <p>2. The preparation of nutritious candies may be carried out as a social activity by a group of friends, thus giving the time spent a social value</p> <p>3. Confections as being relatively expensive to prepare</p> <p>4. The idea that it is wasteful to spend money on confections which add nothing but calories to the diet, except in certain special circumstances</p> | <p>1. Steam as being much hotter even than boiling water, and the need for extra precautions when working with it</p> <p>2. Selecting dried fruit in sanitary packages, and cleaning it before use</p> <p>3. Storing dried fruit so as to keep it from becoming moldy or infested with vermin</p> | <p>1. Procedure to follow in serving candy as a dessert</p> <p>2. Restraining one's desire for sweets and eating only a moderate amount at the end of a meal</p> <p>3. Eating candy slowly</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

General ContentNutrition PrinciplesSkills

4. Adding to candy such foods as dried milk, molasses, nuts, or chopped or ground, dried fruit will improve its nutritive value. We should avoid the use of candies which are simply colored sugar solutions--example: lemon drops, suckers, jelly beans, etc.

Suggested Scope For a Course ofContent Area: 1. Appetizers a. Fruit Cup

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Fruit available on the market	1. Whole fruit is more desirable nutritionally than the juice alone.	1. Handling fruit gently to avoid bruising
2. Desirable combinations which will show variety in color, flavor, texture, size, and shape	2. Vitamin C is easily destroyed in the presence of the oxygen in the air. Therefore fresh fruit should be prepared as close to serving time as possible.	2. Paring fruit
3. Place of fruit cup in meal--as an appetizer or as a dessert		3. Peeling fruit
4. Ways to vary fruit cup <ol style="list-style-type: none"> a. adding nuts, raisins, dates, coconut, etc. b. serving with sherbet 	3. Some loss of vitamins can't be avoided--especially when, as in fruit cup, we need to allow time for chilling and blending of flavors	4. Making melon balls
5. Difference between peeling and paring		5. Preparing fruit in different shapes: sections, circles, wedges, etc.
6. Conditions which determine whether fruit is peeled or pared		6. Treating fruit so as to prevent discoloration
		7. Quartering and coring apples

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

Study in Foods--Eighth Grade

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

1. Use of canned or frozen fruit for fruit cup to reduce preparation time
2. The purchase of fruit in season as a way of cutting costs
3. Fruit cup as a way of making good use of small amounts of leftover fruit .
4. Additions to fruit cup (nuts, raisins, etc.) as also adding to the cost
5. Paring or peeling fruit thinly to prevent waste
6. Careful selection of fruit to avoid waste due to over ripeness, bruises, etc.

1. Yeasts and molds as being most likely to spoil fruit
2. Control of mice and insects in the home

1. Ways of serving fruit cup
 - a. sauce dishes
 - b. sherbet glasses
 - c. fruit container such as an orange basket or a melon bowl

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
7. Preventing discoloration of fruit: exposed to air by dipping them in a citrus fruit juice		
<u>Content Area: 2. Protein Dishes a. Creamed: Eggs or Dried Beef or Canned</u>		

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Definition of white sauce	1. Creamed dishes are a good way to get more milk into a diet.	1. Lighting a top burner and regulating the heat
2. Principles of thickening with starch	2. For good health, we need not only the proper amount of single nutrients but the proper amount of each nutrient in relation to others. For example, to build strong bones and teeth, we must have calcium, <u>and</u> phosphorus <u>and</u> Vitamin D.	2. Choosing the correct size of pan to use on a burner
3. Ways to prevent lumping a. proper technique for combining ingredients b. constant stirring c. moderate cooking temperature		3. Measuring flour, fat, and milk
4. Ways to vary thickness		4. Mixing flour with milk so that there are no lumps
5. Uses for white sauce and proportions for various uses	3. Milk is naturally rich in calcium and phosphorus, but not in Vitamin D.	5. Stirring so that all parts of the pan are reached
6. Garnishes for creamed dishes	4. Vitamin D is found in very few foods. Fish liver oil is a rich source. A concentrate can be made from the oil and added to other foods, such as milk.	6. Combining an already cooked food with white sauce and stirring carefully to avoid crushing
		7. Correcting a sauce which has become lumpy by using an egg beater
		For hard-cooked eggs, see 2a, 7th grade
		For opening cans, see 2b, 7th grade (Vol. IV, No. 2)

Time, Energy, and Money
Management

7. Fancy packs and higher grades of canned fruit as being more desirable for fruit cup, but also more expensive

Meat or Fish

Time, Energy, and Money
Management

1. A white sauce mix to be made ahead and used as needed
2. Comparison of different methods of mixing white sauce to find which is most efficient
3. White sauce as a way of making the more expensive foods go further
4. Proper technique in preparing white sauce to eliminate failure and subsequent waste

Safety and Sanitation

1. Placement of pan handles for safety
2. Creamed dishes as especially susceptible to spoilage and therefore the need for special care in handling and particularly prompt refrigeration

Table Setting and Service;
Table Manners

Table Setting and Service;
Table Manners

1. The value of family "togetherness" at meals
2. Eating a dish which consists of sauce and a solid food

Content Area: 2. Protein Dishes b. Broiled Hamburgers

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Composition of hamburger	1. There are two types of proteins: a. <u>complete</u> , which contain all of the elements which the body must have from food in order to build new tissues. b. <u>incomplete</u> , which do not contain all the needed elements.	1. Reading recipe directions
2. The use of meat extenders--cereal, bread crumbs, etc.	2. All persons need some complete protein each day, because a small amount of new tissue is always being made to replace that worn out or injured.	2. Making a plan of work
3. Amount of hamburger to buy per serving	3. Growing children and adults who have been ill or are underweight need relatively more complete protein.	3. Lighting the broiler and placing the broiler rack
4. Importance of low heat in protein cookery	4. Complete proteins are found in meats, eggs, fish, milk and cheese.	4. Seasoning a ground beef mixture.
5. Distinction between broiling and pan-broiling	5. Incomplete proteins, which will support life, but not the growth of new tissue, are found in beans, peas, gelatin, and cereals.	5. Shaping hamburgers to give variations in product
6. Additions to completed hamburgers	6. We need at least one serving a day of a complete protein food.	6. Heating or toasting buns

Time, Energy, and Money
Management

1. Use of a separate broiling pan of aluminum foil, in order to save oven cleaning
2. Using an oven when toasting large numbers of hamburger buns
3. Shaping patties ahead of time and freezing them, to save time in preparation later
4. Bread crumbs, egg, cereals, etc., as extenders to increase the number of servings one can get from a pound of hamburger
5. Using judgment and buying amounts of ground meat suited to the purpose one has in mind
6. The variation in composition of the ground beef available on the market as affecting the quality of the finished product
7. Proper methods of cooking as making possible tasty dishes from less desirable cuts of meat

Safety and Sanitation

1. Ground meat as highly perishable because of the large exposure of surface where bacteria can grow. It should be refrigerated and used promptly (within 24 hours) or frozen for longer holding

Table Setting and Service;
Table Manners

1. Arrangements for giving people their choice of relishes, sauces, pickles, etc., to be used with hamburgers (perhaps a lazy Susan type of service)
2. Cutting a hamburger in a bun in two before trying to eat it
3. Using good judgment as to the amount of catsup, relish, or other additions used when eating hamburgers

Content Area: 2. Protein Dishes c. Main Dishes, Using Rice

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
<ol style="list-style-type: none"> 1. Types of rice available on the market 2. Methods of cooking rice 3. Uses of rice <ol style="list-style-type: none"> a. starchy food substitute b. in salads, deserts, candies, casserole combinations c. as an extender 4. Characteristic increase in volume of cooked rice 	<ol style="list-style-type: none"> 1. Most of the vitamins and minerals in rice are removed by the polishing process. 2. Refining cereal grains removes nutritive value which enriching does not completely restore. 3. Bread and cereals are composed largely of starch--one form of carbohydrates. The other two forms are sugar and cellulose. 4. When food is digested, heat is produced in the body. Digestion may be compared to a slowed down burning which does not result in flame. 5. The heat energy produced in the body when food is digested is measured in calories. 6. To determine how much heat energy a food will produce, a sample of the food is dried and then burned in a special type of instrument. The heat given off is then expressed in terms of calories. 	<ol style="list-style-type: none"> 1. Items 1 and 2 under 2a, Creamed Dishes 2. Identifying the stages in boiling water 3. Timing a cooking process 4. Using the correct amount of rice to get the finished amount desired 5. Cooking rice so as to obtain fluffy, separate grains

Time, Energy, and Money Management

1. Precooked rice on the market as a time saver
2. Possibility of cooking rice ahead and refrigerating it until needed
3. Comparison of prices of precooked (Minute) and various other types of packaged rice
4. Rice as an extender for other more expensive foods
5. Comparison of the cost per ounce of rice when purchased in different quantities
6. Comparison of the cost per ounce of cooked rice with that of the various kinds of ready-to-eat rice cereals on the market. What is the explanation? What factors are involved in deciding whether to use prepared cereals or not

Safety and Sanitation

1. Care in draining rice, if that method of cooking is used

Table Setting and Service; Table Manners

1. Arrangement of the table with serving dishes and silver in front of the hostess
2. Arrangement of individual covers when plates are to be passed after being filled by the hostess
3. Serving food to be passed to others
4. Passing filled plates
5. Placing silverware correctly and passing a plate for a second helping

General ContentNutrition PrinciplesSkills

7. Some foods are very concentrated; that is, a small amount of the food gives off much heat or, as we sometimes say, "contains many calories." Actually a calorie is a unit of measure, just as an inch or a pound, and not something which is in the food.
8. Starchy foods, such as rice, do not produce as many calories per unit of weight as do foods high in sugar and fat.

Content Area: 3. Vegetables a. Common Cooking Methods--Boiling, Baking,

General ContentNutrition PrinciplesSkills

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| <ol style="list-style-type: none"> 1. Classification of vegetables for cooking purposes <ol style="list-style-type: none"> a. leafy - starchy b. mild - strong 2. Methods of cooking vegetables--boiling, steaming, baking, broiling, scalloping, panning 3. Difference between a vegetable and a fruit <ol style="list-style-type: none"> a. botanically b. use in meal 4. Storage of fresh and left-over vegetables | <ol style="list-style-type: none"> 1. Certain cooking practices retain larger amounts of vitamins and minerals in vegetables and preserve flavor and appearance as well. <ol style="list-style-type: none"> a. starting cooking in boiling water b. using small amounts of water, and using the cooking liquid, too c. preparing just before cooking d. cooking quickly e. cooking just until done f. cooking whole and unpared g. cutting in large, rather than small pieces | <ol style="list-style-type: none"> 1. Items 1 and 2 under 2a, Creamed Dishes 2. Items 2 and 3 under 2c, Rice 3. Lighting a gas and/or electric oven 4. Setting oven thermostat 5. Preheating oven or broiler 6. Cleaning various types of vegetables 7. Holding and using a paring knife and/or a "peeler" 8. Shredding leafy vegetables, as cabbage |
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Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

Steaming, Broiling, Scalloping, Panning--Vegetable Plates

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Heating cooking water in saucepan while the vegetable is being prepared as a way of saving time and avoiding the use of an extra utensil 2. Starting vegetables in boiling water as a method of shortening cooking time, as well as preserving nutrients 3. Study of different pieces of equipment for paring and shredding to see which is most efficient and easiest to use | <ol style="list-style-type: none"> 1. Keeping fingers out of the way when using a knife or shredder 2. Care when working with boiling water | <ol style="list-style-type: none"> 1. Arrangement of vegetable plates for service 2. Trying food prepared in new ways without complaining or expressing distaste |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
5. Methods of handling, preparing and cooking vegetables which will retain their flavor, appearance and food value	1. h. baking or steaming rather than broiling or frying	9. Using a steamer or improvised steamer
6. Principles to follow in planning vegetable plates and in selecting vegetables for a given meal	2. Green, yellow, and orange vegetables contain the pigment known as <u>carotene</u> from which the body can manufacture Vitamin A.	10. Panning a vegetable such as cabbage or turnips
	3. Unlike Vitamin C, Vitamin A can be stored in the body. It is stored in the liver.	11. Selecting a cooking method suited to a given vegetable
	4. Animals also manufacture Vitamin A and store it in the liver and in egg yolk. Vitamin A is also excreted in milk.	12. Telling when vegetables are done
	5. Thus, when we use milk, eggs, or liver, we are getting the finished vitamins. When we use green or yellow vegetables or fruit we are getting carotene which our body will turn into Vitamin A. We can meet our requirement in either way.	13. Selecting combinations for vegetable plates, and arranging them attractively

Content Area: 4. Salads a. Tossed

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Suitable ingredients and dressings for tossed salads	1. The darker the green color in salad greens, the higher is their carotene content and the greater the amount (continued pg. 126)	1. Selecting good quality salad greens
2. Variations of lettuce available		2. Cleaning salad greens and chilling

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

4. Certain cooking practices as wasteful of food values (The opposite of those listed previously, plus long soaking)
5. Vegetables in season as usually being most economical
6. Advantages and disadvantages of having a home garden and raising one's own vegetables

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

1. Cleaning salad ingredients and storing them immediately after purchase to keep them in the best condition and save time later

1. The importance of careful washing of all foods to be eaten raw

1. Preparing foods at the table--for example, tossing a salad

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
3. Other greens which are usable in tossed salads	1. (continued from 204) of Vitamin A which the body can make from them.	3. Shredding or tearing leafy vegetables for use in salad
4. Ingredients other than vegetables which can be added to tossed salad	2. Leafy, raw vegetables are <u>bulky</u> foods. They supply the body with few calories per unit of weight. At the same time they take up more space in the stomach than concentrated foods, and satisfy hunger without greatly increasing one's caloric intake.	4. Removing skins from other types of vegetables, using a knife or a "peeler"
	3. The caloric value of a tossed salad can be cut further by omitting dressing and using salt, lemon juice or vinegar instead.	5. Making strips or slices or circles, etc., of other vegetables, and chilling them
	4. Each person needs a certain amount of energy to carry on life processes, to engage in physical activity and to build new tissue. But if one eats more food than is necessary to provide this energy, the excess will be changed into fat and stored. If this happens regularly, the person will gain weight.	6. Combining prepared vegetables into a salad
		7. Adding dressing and "tossing" a salad

Time, Energy, and Money
Management

2. Combining ingredients ahead and refrigerating them ready for tossing at serving time
3. Study of greens available in the market to see if some are perhaps not cheaper than lettuce
4. A small garden plot as a way of providing inexpensive salad fixings
5. Ice water and rechilling as a way to avoid waste by reviving slightly wilted salad greens
6. The importance of buying good quality greens in small amounts and using them promptly

Safety and Sanitation

2. Need for care in using sprays and insect poisons of various kinds on food crops

Table Setting and Service;
Table Manners

2. Using a large fork and spoon to serve oneself from a large salad bowl

Content Area: 4. Salads b. Gelatin Salads

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Difference between plain and fruit-flavored gelatin	1. Plain gelatin is obtained from the bones and ligaments of animals. It is all protein, but it is an incomplete protein and could not be used as one's only source of protein.	1. Preparing gelatin by soaking
2. Differences in ways of setting the two		2. Dissolving gelatin (including new method of dissolving with hot water if recipe contains more than one tablespoon of sugar)
3. Advantages of using plain gelatin for salad		
4. Foods that sink and those that float in gelatin mixtures	2. Gelatin, plain or in the form of gelatin dessert, can be used as a vehicle for getting fruit and vegetables into the diet.	3. Using ice cubes to speed up the setting of gelatin mixtures
5. Ways of distributing chopped foods evenly in gelatin		4. Selecting combinations of food for use in gelatin salads (Fresh pineapple cannot be used, because it contains an enzyme which interferes with the setting of gelatin.)
6. Need to use molds which conduct heat well	3. Knowing the facts about the composition of foods can help us to select a good diet and make it easier for us to substitute one food for another, when necessary.	5. Placing food in gelatin mixtures so that it is evenly distributed, or making layered molds
7. Method for unloading gelatin		6. Chilling a food which is in serving dishes
a. preparing base, if a salad		
b. loosening edges of mold with tip of knife		
c. dipping mold in hot water for a few seconds (if mold has not been oiled)		
d. holding mold upside down close to plate and introducing air by inserting tip of the knife between mold and gelatin		

**Time, Energy, and Money
Management**

1. Choosing combinations of foods which will "layer" themselves--rather than taking time to let one layer of a salad set and then adding another
2. Comparison of cost of a salad made with plain gelatin and the same salad made with a gelatin dessert
3. Unmolding gelatin properly so as to avoid the waste of melting it

Safety and Sanitation

1. Practice of safe methods of removing ice cube trays from refrigerator and of removing ice cubes from trays
2. Importance of using pure water--and of getting ice from a safe place
3. The availability of state water testing services for those who live where there is no city water supply
4. State and local efforts to make pure water available to all
5. The habit of being sure of the water one is drinking when camping out, etc.

**Table Setting and Service;
Table Manners**

Omit

Content Area: 5. Salad Dressing a. French

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Ingredients of French dressing	1. There are two types of fat--one from animal sources and one from vegetable sources.	1. Measuring oil, vinegar, and seasonings
2. Method of combining ingredients for French dressing	2. Animal fats are usually solid at room temperature; vegetable fats are liquid unless hydrogenated.	2. Shaking to mix French dressing
3. Possible variations of French dressing.	3. It is desirable to include small amounts of both types of fats in the diet.	3. Marinating salad ingredients
4. Time to add dressing to a salad	4. Salad oil is a vegetable fat, usually made from corn or from cotton seed. Peanut oil and olive oil are sometimes used.	
	5. Mineral oil is not a food fat, but is a by-product of the refining of petroleum. It should not be used in the preparation of food because it dissolves carotene and Vitamin A and carries them out of the body	

Content Area: 6. Breads a. Baking Powder Biscuits

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. The texture of a baked product as affected by the consistency of the fat used and the method of combining ingredients	1. What was at first thought to be a single substance-- Vitamin B--upon further study turned out to be a number of distinct but related substances, now known as the B-complex.	1. Reading recipe directions
		2. Making a plan of work
		3. Lighting a gas and/or electric oven
		4. Setting oven thermostat

 Time, Energy, and Money
 Management

 Safety and Sanitation

 Table Setting and Service;
 Table Manners

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| <ol style="list-style-type: none"> 1. French dressing as the simplest of all salad dressings 2. Adding measured ingredients to jar in which the dressing is to be stored and shaking before using, as a way to save both time and dishes 3. A comparison of the cost and flavor of homemade French dressing with a commercial product using the same ingredients 4. Comparison of the cost of the different kinds of oils which can be used in homemade dressings | <ol style="list-style-type: none"> 1. Precautions to keep fatty foods from becoming rancid | <p>Omit</p> |
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 Time, Energy, and Money
 Management

 Safety and Sanitation

 Table Setting and Service;
 Table Manners

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| <ol style="list-style-type: none"> 1. The advantages of basic recipes and of being thoroughly familiar with ingredients and procedures in a basic recipe | <p>Omit</p> | <p>Omit</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
2. The many uses for biscuit dough <ol style="list-style-type: none"> rolled with various fillings, cinnamon, brown sugar, etc. filled with raisins, currants, nuts, etc. flavored with cheese, spices, peanut butter made with orange or tomato juice instead of milk used as a topping for casseroles or as a base for creamed dishes sweetened and used as a topping for cobblers and a base for short-cakes rolled around weiners, sausages or meat or fish mixtures 	2. Three of the B-complex vitamins are added to enriched flour. They are thiamin, niacin, and riboflavin. 3. B vitamins are found in the outside layers of grains, and also in milk, nuts, leafy vegetables, and meats, especially pork and organ meats, such as liver and kidney.	5. Preheating the oven 6. Sifting flour directly into a measuring cup and leveling 7. Measuring other dry ingredients and sifting them with the flour into a mixing bowl 8. Measuring solid fat in a spoon or cup 9. "Cutting in" fat, using two knives or a pastry blender 10. Adding liquid in installments, to moisten only part of the flour mixture at one time 11. Kneading a stiff dough 12. Shaping biscuits by various methods 13. Placing biscuits on tin, timing the baking process and judging when biscuits are done. 14. Making a variation of the basic recipe without additional help
3. Various ways to place biscuits on pans, depending on result desired		
4. Characteristics of good biscuits		

Content Area: 7. Beverages a. Tea, Hot and Iced

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Definitions <ol style="list-style-type: none"> steep tea pot tea ball tea bag 	1. In itself, tea has no caloric or nutritive value, but acts rather as a mild stimulant.	1. Items 1 and 2 under 2a, Creamed Dishes 2. Items 2 and 3 under 2c, Rice

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

2. Mixing and storing a homemade biscuit mix, to make possible the preparation of hot biscuits in a very short time
3. Biscuit dough patted out with hands to eliminate the use of a rolling pin
4. Square biscuits, cut from a sheet of dough, to save the time involved in using a cutter and re-rolling scraps
5. Comparison of preparation time for rolled and dropped biscuits
6. Biscuits as a relatively inexpensive variation for daily meals
7. Biscuit dough as a way to make small amounts of more expensive foods serve more people-- example: strawberry shortcake
8. Ingredients added to basic biscuit dough as increasing the cost

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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| <ol style="list-style-type: none"> 1. Sugar sirup as a more efficient way to sweeten cold drinks, since sugar will not dissolve as readily in cold water | <ol style="list-style-type: none"> 1. Care with boiling water | <ol style="list-style-type: none"> 1. Equipment for serving tea 2. Decorative arrangements for tea tables |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
2. Procedures for making good tea <ol style="list-style-type: none"> correct proportions freshly boiling water lengths of time to "steep" warming the tea pot 	2. Growing young people have no need for the stimulants found in tea, coffee, and the so-called "soft" drinks. Fruit juices, milk drinks and drinks made with fruit juice, such as lemonade, are to be preferred from the nutritional standpoint.	3. Steeping tea
3. Ways to ice tea without diluting <ol style="list-style-type: none"> double strength tea cubes 	3. If a teen-ager is careful to get the daily quota of milk, the occasional use of tea should have no harmful effect on the body, but it is probably wise to avoid regular use.	4. Icing tea
4. Way to prevent clouding in iced tea		5. Preparing a sirup to use in sweetening cold drinks
5. Foods to serve with tea		
6. A tea as a way of entertaining		
7. Other beverages suitable for teas		

Content Area: 8. Sandwiches a. Grilled

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Types of sandwiches suitable for grilling	1. Grilling a sandwich adds extra fat and thus increases its caloric value.	1. Mixing simple sandwich spreads
2. Ways of grilling sandwiches <ol style="list-style-type: none"> skillet grill broiler 	2. Many people in America are overweight. Overweight is undesirable from the standpoint of health and appearance.	2. Choosing suitable amount of filling and spreading it evenly
		3. Preparing sandwiches for grilling by different methods
		4. Grilling sandwiches <ol style="list-style-type: none"> in a skillet on a grill in a broiler

Time, Energy, and Money
Management

2. Left-over tea frozen for tea cubes used to cool iced tea
3. Methods for preparing cloudless iced tea as requiring more time
4. Use of tea carts to aid in setting a table
5. Comparison of the cost of a cup of tea made with tea bags and with tea purchased in bulk
6. Sources of accurate information about the selection, use, and care of equipment

Safety and Sanitation

Table Setting and Service;
Table Manners

3. Arrangement of the table for a class tea
4. Serving as a hostess at a tea
5. Pouring tea at a tea table
6. Serving oneself from a tea table
7. Drinking tea and eating small cookies or sandwiches while holding a plate on one's lap

Time, Energy, and Money
Management

1. Use of a pastry brush to apply soft or melted fat on sandwiches as a method of spreading fat evenly and eliminating waste
2. Preparing sandwiches ahead of time and refrigerating or freezing until time for grilling
3. Comparison of the time required to grill sandwiches by various methods

Safety and Sanitation

1. Importance of having dry hands before connecting electrical appliances
2. Turning off appliances before connecting or disconnecting from electric current

Table Setting and Service;
Table Manners

1. Eating sandwiches with knife and fork, if necessary

General ContentNutrition PrinciplesSkills

3. The most desirable thing is to maintain a suitable weight by following the good eating habits which you are learning in this class.
4. Persons who need to lose weight should do so under medical supervision. They must still get the nutrients needed for health, but must cut down their caloric intake. If one takes in less food than is needed to supply his bodily needs, fat stored in the body will be used as a source of energy, and weight will be lost.

Content Area: 9. Soups a. Cream

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. White sauce information as given under 2a, Creamed Dishes	1. Vitamin A and Vitamin D are two vitamins which can be made by the body, if it is supplied with the proper materials.	1. Items 1 - 7 under 2a, Creamed Dishes
2. Vegetables and vegetable combinations suitable for cream soups	2. Vitamins A and D are soluble in and held by fat. Thus, they are more easily kept in foods than those vitamins which are easily dissolved in water. The body can also store them, so an extra amount taken in on one day may be used later.	2. Making a puree
3. Characteristics of good cream soups		3. Using a food mill
4. Accompaniments for cream soups		
5. Types of serving dishes		

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

4. Grilled sandwiches as a way to make use of slightly stale bread

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

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| <p>1. Comparison of time required to serve homemade and commercially prepared soups</p> <p>2. Use of strained baby food as a quick puree for creamed soup</p> <p>3. Comparison of time and effort required to prepare puree with blender, food mill, or sieve</p> <p>4. Soups as an excellent way to use up left-over vegetables</p> | <p>1. Judgment in deciding whether food that is not in the best condition is usable and/or safe to eat</p> | <p>Omit</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------|

General ContentNutrition PrinciplesSkills

3. An excess of Vitamins A and D is harmful to the body. We are not likely to get an excessive supply of these from natural foods, but we should be careful about using vitamin supplements.

Content Area: 10. Sauces a. White Sauce and Barbecue SaucesGeneral ContentNutrition PrinciplesSkills

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| <ol style="list-style-type: none"> 1. Uses for sauces 2. Some less usual ingredients which may be used to flavor barbecue sauces | <ol style="list-style-type: none"> 1. Vitamin supplements should not be used except on the advice of a doctor. It is better for us, and cheaper, too, to get food nutrients from natural foods. |
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Content Area: 11. Desserts a. Milk Puddings--Cornstarch, Tapioca, Rice,General ContentNutrition PrinciplesSkills

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| <ol style="list-style-type: none"> 1. Substances which can be used to thicken milk 2. Difference of thickening power of various starches 3. Comparison of flour and cornstarch thickened puddings 4. Ways to vary a milk pudding | <ol style="list-style-type: none"> 1. There is a great deal of information about nutrition printed in magazines and books, or presented on radio and TV programs. Much of this information is not accurate. We should learn to judge whether the person writing or talking has studied enough about nutrition to be a safe guide. | <ol style="list-style-type: none"> 1. Items 1 - 5 under 2a, Creamed Dishes, using sugar instead of fat 2. Adding an egg to a milk pudding 3. Telling when pudding is thick 4. Separating eggs 5. Beating egg whites with sugar (to be folded into tapioca pudding) |
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Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

5. Comparison of cost of homemade and commercially prepared cream soups
6. Lower grades of canned vegetables as usable for cream soups
7. Meaning of the statement, "Below U.S. Standard-- Good food, but not high grade," as seen on canned foods

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

1. Comparison of cost of homemade and commercially prepared barbecue sauces

1. White sauce as a highly perishable product

1. Using attractive amounts of sauce on food

Junket

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

1. Time required for various thickening agents to act
2. Use of a double boiler to prevent scorching of a food without the need for constant watching
3. Comparison of costs of different types of puddings

1. The speed with which bacteria multiply in a lukewarm non-acid medium, as implying the danger of allowing food to remain at this temperature
2. The importance of refrigerating egg and milk mixtures while they are still hot

Omit

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
5. Precautions to take in adding an egg to milk puddings	2. We can get accurate information about nutrition from the home economics departments of colleges and universities, from the extension service in our county, and from books written by recognized authorities in this field.	6. Heating milk to luke-warm for junket
6. Composition of junket		7. Cooking a rice pudding in a double boiler
7. Precautions to take in setting junket		
8. Use of a double boiler		

Content Area: 11. Desserts b. Graham Cracker and Cereal Crusts with Cream,

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Materials suitable for crumb crust	Omit	1. Crushing graham crackers or cereal flakes
2. Variations of crumb crusts		2. Measuring fat and melting it in a cup or small saucepan
3. Definitions as applied to pie fillings <ul style="list-style-type: none"> a. cream b. chiffon c. parfait d. meringue 		3. Combining crumbs with melted fat
4. What happens when cream "whips."		4. Forming a shell with a crumb mixture
		5. Whipping cream or chilled evaporated milk
		6. Folding an egg white-sugar mixture into a base mixture
		7. Removing sections of a pie which has a crumb crust

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

Chiffon, or Parfait Fillings

Time, Energy, and Money
Management

Safety and Sanitation

Table Setting and Service;
Table Manners

1. The type of pies studied here as those which can be made ahead and refrigerated until serving time
2. Evaporated milk as a less expensive substitute for whipped cream
3. Study of the composition of commercial "ready whips," and their cost as compared to homemade cream or evaporated milk whips

Content Area: 12. Confections a. Marshmallow Cream Type Fudge

<u>General Content</u>	<u>Nutrition Principles</u>	<u>Skills</u>
1. Definition of fudge	1. Fudge made with fresh or evaporated milk is a more nutritious confection than a plain sugar mixture.	1. Items 1 and 2 under 2a, Creamed Dishes
2. Characteristics of good fudge		2. Using a candy thermometer or testing for doneness in cold water
3. Techniques of measuring, combining, cooking, and beating which make good quality homemade candy	2. The carbohydrate sugar requires little or no digestion, and can therefore be absorbed directly into the blood stream and used to provide energy for the body	3. Adjusting for an inaccurate thermometer
4. Characteristics of good equipment for checking temperature		4. Preparing a pan for fudge
5. Meaning of "soft ball" stage		5. Cooling and storing fudge
		6. Packing candy to use as a gift

Content Area: Meal Planning--Seventh and Eighth Grades

Seventh Grade

- a. Recognizing a balanced diet
- b. Selecting nutritious snacks
- c. Selecting a good lunch at school

<u>Knowledge</u>	<u>Skills</u>
1. The nutritional adequacy of meals can be tested by checking them against the daily requirements which have been studied.	1. Checking already planned meals against the daily nutritive requirements
2. In planning meals, one must also consider <ol style="list-style-type: none"> a. time, skill, and equipment needed to prepare the food b. cost of the food c. the characteristics of the people for whom one is cooking d. the appearance and appetite appeal of the food. 	2. Considering the different factors in meal planning when the class is permitted to choose food combinations to prepare in the laboratory
	3. Recognizing the difference between nutritious and non-nutritious snacks

Time, Energy, and Money
Management

1. Preparing pans before the actual cooking process is begun
2. Candy thermometer as being more accurate and eliminating the time needed for the "soft ball" test
3. Comparison of the cost per ounce or pound of this type of fudge with that of various commercial types of candy on the market
4. Comparison of the cost of candy bars and candy bought in larger quantities

Safety and Sanitation

1. Controlling heat so as to prevent spattering of fudge as it cooks
2. Boiling sugar solutions as being hotter than boiling water and therefore the need for special caution

Table Setting and Service;
Table Manners

1. Eating fudge in small bites

 Eighth Grade

- a. Planning menus for a day
- b. Planning a good lunch to carry to school

Knowledge

1. When planning meals for a day, one should check them against the list of daily requirements.
2. There are certain meal patterns which are commonly used in this country.
3. There are also certain conventional ways of writing menus. In general, the foods are listed in the order in which they are to be eaten.

Skills

1. Planning a daily dietary which meets nutritional and other requirements
2. Writing menus in conventional form
3. Planning good school lunches

Seventh Grade

Knowledge

3. A well-planned meal provides for variety in
 - a. color
 - b. flavor
 - c. texture
 - d. size and shape
 - e. temperature.

Skills

4. Choosing a good lunch from the selection of foods available in the school cafeteria

Content Area: Entertaining and Eating Away From Home--Seventh and Eighth

Seventh Grade

- a. Selecting and serving simple snacks
- b. Using good manners in the school cafeteria

Knowledge

1. Patterns in entertaining vary depending on the community.
2. A good hostess plans ahead so that she has things ready for guests.
3. Snacks can be nutritious as well as appealing to the taste, if they are chosen carefully.
4. Fruits, raw vegetables, dried fruits, nuts, cereal foods, and those made with milk products are suitable snack foods.
5. Foods sold especially for snack purposes are relatively very expensive.

Skills

1. Selecting and serving simple and nutritious snacks
2. Using good manners when eating in the school cafeteria

Eighth Grade

KnowledgeSkills

4. The place where lunch will be eaten has an effect on the types of foods and preparation methods which can be used.

Grades

Eighth Grade

- a. Preparing and serving simple refreshments
b. Using good manners when eating in public

KnowledgeSkills

1. A "snack shelf" makes it easier to serve simple refreshments when guests drop in.

1. Selecting foods for a "snack shelf"

2. Snacks can be chosen to meet special needs of an occasion or person, for example:

2. Choosing snacks which will fit the needs of a particular person or occasion

a cool drink on a warm day or when one is very thirsty

3. Ordering food when eating in a restaurant

crisp raw vegetables or fruit for the person who is overweight or has a poor appetite

snacks containing high quality protein for those who are growing rapidly.

3. Snacks should be chosen to supplement a person's regular meals, not to replace them.

Before class begins, she prepares five pitchers of orange juice, using juice-type oranges, eating-type oranges, a frozen concentrate, a canned juice, and a juice powder. Or, if time and the ability of the students permit, she arranges for groups of students to carry out the various preparations. In either case, simple score cards are then made by the students, and they are asked to taste the different juices and to judge such qualities as flavor and color. With the class, the teacher then works through the process of figuring the cost per four-ounce serving and of determining the Vitamin C content by consulting food composition tables. The time required for preparation and the space needed for storing the fruit or the containers are also considered. The labels on the cans or jars are studied, and the information they contain is noted.

Broadening our instructional base

By putting the laboratory in order at the end of the hour, this class also becomes more familiar with the room arrangement and with housekeeping routines. They have had the experience of tasting and actually working with food, too. But as compared to the students who merely prepared and served a juice combination, they have acquired many more learnings. To give only a partial list, they may now know that:

1. orange juice is available on the market in a variety of forms.
2. the cost per serving varies in different forms.
3. preparation time depends on the form used.
4. the initial cost of a jar or package tells us little, but that the cost per serving must be computed if comparisons are to be made.
5. the type of processing to which a food is subjected affects flavor, appearance, and nutritive value.
6. the information on labels can help us in finding out the character of the product.
7. making an intelligent selection of a food product in the market requires not only the acquisition of information but also the evaluation of that information.
8. the type of product one chooses may vary as the importance which one attaches to a given quality or characteristic varies.

This class has had practice in judging, analyzing, interpreting, and generalizing as well as in manipulating, arranging, and following directions. Certainly theirs has been an enriched learning experience!

It is our hope that teachers will be able to use suggestions in these two issues of the Illinois Teacher in planning many such challenging activities for their classes.

TEXTILE FINISHES

Ruth Legg Galbraith
University of Illinois

Finishes are applied to fabrics in order to obtain performance characteristics which are not inherent in the fiber and fabric properties. These finishes may be purely mechanical (such as napping, beetling, or the compressive shrinkage processes for cotton, linen, and the modified rayons) or they may entail the application of a chemical finish, e.g., the wrinkle resistant resins. These chemical finishes can be subdivided into two classes: (1) those that protect fabrics against such things as water, fire, moths, mildew, and bacteria and (2) those which give better physical properties (e.g., dimensional stability, wrinkle resistance, or permanent crispness) to the fabric. Since most of you are probably more familiar with the mechanical finishes than the chemical, this article will discuss some of the chemical finishes now available.

Protective Finishes

Water resistant

Finishes which protect against water may be either waterproof or water repellent. A waterproof finish is one which coats the fabric with rubber or a vinyl plastic so that both the fibers and the fabric interstices are completely covered. Such a fabric lacks air permeability and is, therefore, very uncomfortable to wear for protracted periods of time. A water repellent finish is one in which the fibers are made water resistant but the air holes in the fabric are left open. These fabrics are more comfortable to wear but will not give protection from a very hard rain. Most of the water repellent finishes now in use are based on the application of silicone resins to the fabric. These also add dirt and water-borne stain resistance to the fabric but do not give resistance to oil-borne stains. They lose much of their water repellence if the fabric is allowed to get dirty but regain it when the fabric is washed or cleaned. They are only semi-durable to dry cleaning but can be reapplied by the cleaner if necessary.

Resistance to oil-borne stains as well as to water and water-borne stains can be obtained by treating the fabric with a fluorocarbon finish (Scotchgard) which is bonded to the fabric with a wrinkle resistant resin. This finish is now being used on table linens and dress fabrics. These fabrics tend to lose some of their oil resistance when they are washed unless they are either tumble dried or pressed after washing.

Fire resistant

Although all fibers except the mineral fibers and the modacrylics (Dynel and Verel) will burn, most flame resistant finishes have been developed for use on the cellulosic fibers. These finishes usually contain either phosphorus or chlorine or both in their chemical structure. Trade names

in present use are Ban Flame and THPC. The latter finish was developed at the Southern Regional Laboratory of the U.S.D.A. as was a more recent finish (APO) which is not yet in commercial production. All three finishes are durable for the life of the fabric when properly applied. The first two are bonded to the fabric by a wrinkle resistant resin, while the APO finish gives a certain amount of wrinkle resistance as well as flame resistance. Flame resistant finishes should be used on any fabric which has large amounts of fiber surface exposed to the air. This would include sheer fabrics such as glass curtains or fabrics with a brushed nap and a loosely woven backing. Heavier fabrics, regardless of fiber content, are not usually dangerously flammable. Although there is a federal Flammable Fabrics Act which requires all fabrics sold in interstate commerce to have a certain level of flame resistance, the law is virtually non-enforceable.

Moth resistant

Moth resistant finishes are applied to wool and the hair fibers. The best permanent protection against both moths and carpet beetles is given by the Mitin or Eulan finishes which are applied when the fabric is dyed. More recently, Dieldrin has been used as a moth resistant finish on wool, especially on carpets. Moth resistant finishes are also available on blankets and sweaters at the present. Their use gives much surer protection than does dependence on moth crystals without any additional work or odor being involved. Fabric sprays containing DDT are available in aerosol cans for home use. The DDT finish is not durable and must be replaced after every cleaning.

Germicidal

These are among the newest of our finishes. They are designed to give protection against some bacteria and fungi. They are being applied to shoe linings, socks, and underclothing as well as to hospital clothing and dressings in order to control bacterial growth and consequent body odors. These finishes are only semi-durable since they will normally last through 10-20 washes. If more durable finishes can be developed they will probably be applied to diapers in order to prevent diaper rash. Some trade names for such finishes are Sanitized, Cyana Pure, and Perma Chem.

Enhancing Finishes

Two of the most important of this type of finish are those which give dimensional stability and wrinkle resistance and recovery.

Dimensional stability

A finish which imparts dimensional stability sets the fabric so that it neither shrinks nor stretches during washing or dry cleaning. This objective can be accomplished by strictly mechanical compressive shrinkage on cotton, linen, and the cross-linked (Topel or Corval) or the high wet modulus (Zantrel or Avril) rayons. However, chemical finishes are necessary

to stabilize the unmodified rayons or wool. Stabilizing finishes for the rayons are available under the trademarks of Avcoset, Sanforset, or X-2. Dimensional stability can also be imparted to the rayons by the proper use of wrinkle resistant resins.

The most common method for making wool shrink resistant is by chlorination, for which Dylanize (replaced Sanforlan last year) is the most common trademark in this country. This treatment weakens the wool enough to lower its durability and also reduces its elastic properties (shape retention and wrinkle recovery). In order to increase the strength and abrasion resistance of chlorinated wool fabrics, 10-15 per cent of nylon is usually blended into the yarns. This is not enough nylon to add dimensional stability in itself since at least 40 per cent of a synthetic fiber must be blended with wool in order to obtain shrink resistance.

Wrinkle resistance

Most of the cellulosic fabrics now manufactured for apparel use are chemically treated in order to improve both their wrinkle resistance and their recovery from wrinkling. Properly applied, these finishes are durable to home laundering or dry cleaning on cotton or linen. However, they usually lack durability to laundering on the unmodified rayons. The newer types of these finishes, such as Belfast or the new Ban Care, impart wrinkle recovery while the fabric is wet as well as dry wrinkle resistance. These are the finishes especially designed for clothing to be sold as "wash and wear" since the wrinkles which are formed in the fabric during wear are removed by wetting the fabric during laundering. These, as well as other types of wash and wear fabrics, can be dried in a dryer at medium heat with less wrinkling than occurs in drip drying.

These finishes make care of cottons and linens much easier than it was in the days before resin finishing was developed because treated fabrics need no starching and can usually be pressed with a steam iron. However, they also have some very decided faults. Among these are:

1. Chlorine retention
2. Lowering of breaking and tear strengths
3. Drastic reduction of abrasion resistance
4. Increased stiffness making easing of fullness difficult and causing rounded seams
5. Fabrics finished off grain cannot be straightened
6. Disagreeable odors are sometimes formed in the fabric

Some finishes have now been developed which retain absolutely no chlorine when treated with a chlorine bleach. However, these are expensive and do not give as good wrinkle recovery ratings as do those which do retain chlorine. Many finishes, especially those used on white clothes, are chlorine resistant. This means that chlorine bleaches can be used occasionally for stain removal without fabric yellowing but that the fabrics cannot be chlorine bleached every time they are washed without either yellowing or loss of wrinkle resistance occurring before the end of the garment's normal service

life. These fabrics sometimes carry a confusing label which states that they will not yellow in chlorine bleaches but then says not to use a chlorine bleach. Many stains can be removed from these fabrics with a hot, saturated sodium perborate solution providing the stain is treated promptly. Pure sodium perborate can be bought at the drug store and will give slightly better stain removal than the commercial formulations such as Snowy or Dexol.

The wrinkle resistant resins are also used to obtain a variety of novelty effects on cotton fabrics. Among these are the glazed chintzes and polished cottons in which some of the resin is bonded to the top of the fabric as well as deposited inside the fiber. The embossed cottons and durably pleated cottons are also held in their preformed shapes by wrinkle resistant resins. Care of these fabrics is similar to that for the regular wrinkle resistant cottons.

IMPORTANT ANNOUNCEMENT!

We at the University of Illinois are delighted to announce a change in the Illinois Teacher. Your next issue, No. 4, will not reach you until in January--and you might not recognize it without this announcement. The name will have become The Illinois Teacher of Home Economics, the format of the front page will be different, and the issue will be printed with the offset process. However, the contents will be exactly those that you have been promised.

During this year, at least, the subscription price will remain \$2.00 for the nine issues. Printing will permit us to lift our former restrictions on subscriptions, leaving each of you free to suggest subscriptions to your professional co-workers, as well as to ask for multiple subscriptions for your school system or institution.

Watch for the six remaining issues to arrive in 1961. And we sincerely hope you'll like them.

Editorial Board:

Emily Howald
Dorothy Keenan
Letitia Walsh

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Home Ec.

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DEVELOPING CREATIVITY THROUGH HOME ECONOMICS TEACHING

Patti Bolin, State College, Morehead, Kentucky
Hilma Davis, State College, Pittsburg, Kansas

"Heavens, dear, he just about brainwashed you, didn't he?"

A lively discussion was going on at a table where several teachers of Aden Public schools were eating lunch. It had been precipitated by, of all people, the usually shy beginning teacher of home economics! Last week end she had finally gotten around to studying the notes she had so carefully taken at the fall city-wide teachers' conference. Now, with a background of a semester's experience in teaching, she had found these notes exciting reading. Fired with enthusiasm, she could hardly wait until the lunch period to ask how her colleagues had been meeting the general speaker's challenge, "Develop the Creativity Potential of EVERY Student."

She was surprised to discover that others, like herself, had ignored this featured talk. And when she attempted to explore possibilities, she encountered massive resistance! The conversation went something like this.

Mrs. Baylor (Social Studies) said comfortably, "Oh, Marge, the powers that be always have to dig up some wild new idea as an excuse for that general meeting! Don't let such things throw you."

Mrs. Hill (Science), proud and positive, suggested, "Stick to the Science principles you are supposed to have learned in your college Home Economics. Science is accurate and has nothing whatever to do with creativity. Leave that to Woody here!"

Miss Wood (Art) replied, "I suppose you're implying that creativity is Art's business. When I can't even get the little rascals to follow directions! Imagine, wanting to put brown shoes on the Pilgrims!"

Miss Kort (Music) said hesitatingly, "Well, I do seem to remember Professor Taylor using that word a lot last year. But I wouldn't dare to turn those kids loose! They're up to all kinds of devilment if I even close my eyes for a minute during Music Appreciation."

Mrs. Gray (English) added sarcastically, "Talking about challenges, I'd just like to challenge that theorist to show me the immortal poems he'd get out of my illiterate morons!"

Mrs. Miel (Mathematics), who is presently trying to use a new type of Mathematics Curriculum which she studied at an invitation workshop last summer, advised, "Take my word for it, stay as far away from all these harebrained ideas as you can if you want to enjoy life!"

When the home economics teacher, with frequent reference to her notes on the address, repeatedly tried to refute such statements with quotations, Mrs. Baylor commented tolerantly, "Heavens, dear, he just about brainwashed you, didn't he?" and the group broke up with good-natured laughter at the enthusiastic neophyte. But who was right?

Why Be Concerned with Creativity?

Apparently the speaker who addressed the Aden teachers had blithely assumed that they accepted the vital importance of creativity to the individual, to community life, even to national survival. Apparently, too, nothing could have been farther from the truth! Let's see what we can do to untangle this confusion of ideas and values.

What is creativity?

Jerome Bruner of Harvard University declares that for far too long we have "relegated creativity to the use of the poet and the mystic." Students are constantly saying, "Who, me be creative? Why, I can't even draw a straight line!" Teachers, too, complain, "Let's be realistic!"

As an antidote to all these misconceptions, we in home economics might well take pride in the example of creativity in ordinary adult life given us by Dr. Abraham A. Maslow of Brandeis University. He describes a woman he knew as uneducated, poor, a full-time housewife and mother who was certainly no artist, poet or mystic. But she had the talent of living creatively. She was, Dr. Maslow declares, "a marvelous cook, wife, and homemaker. With only a little money her home was somehow always beautiful."

Samuel Caplan has defined creativity as the use of the imagination to find the best solutions to important problems. Implied is the creation of something new, either something which has never existed before or at least something which the creator has never known. Involved in this process are curiosity, exploration, adventurous thinking, experimentation, discovery, invention. William James said that even genius, "in truth, means little more than the faculty of perceiving in an unhabitual way."

What is the place of creativity in education?

In 1956 Benjamin Bloom of the University of Chicago edited a volume, Taxonomy of Educational Objectives, in which learning goals were categorized in three "domains":

- The cognitive domain - Knowledge and intellectual skills
- The affective domain - Values, attitudes, appreciations
- The psychomotor domain - Manipulative or motor skills

And in that same year he stated flatly, "We cannot expect to progress nor even survive unless we develop and draw upon the creative potentialities of the entire population." In other words, imaginative solutions to problems are essential in all three domains.

Educational trends in the Sixties do seem to be moving teachers toward concern with more than one domain. Instructors in academic subjects who formerly accepted responsibility for only the cognitive domain of learning are using many types of teaching machines with increasing enthusiasm as they see manipulative activities reinforcing the intellectual. Vocational teachers are making serious efforts to incorporate principles from academic disciplines into their instruction. In the May, 1960 Educational Leadership, Kimball Wiles attempted to portray a high school program of 1985. So vital did he consider the teaching in the affective domain--values and attitudes--that he made a six-hour course in "Value Analysis" a requirement for all four years of high school! Yet he acknowledged that the problems in values would almost certainly arise in the various subject-matter classes. Some might question constant referral to a separate class out of the context of the original discussion, but there can be no doubt about Wiles' emphasis on the affective domain for every student.

Do these improvements not appear to be progress? Certainly millions of research dollars are being poured into such experimentation and change. "All very good," say both our critics and defenders, "but not enough!"

How creative are we as a nation?

Ruth and Edward Brecher, writing on "Creativity Ability" in Parents' Magazine, November, 1960 begin their article with these words. "American educators and psychologists are increasingly distressed these days by a sad and all too common fact of life--that the older our children grow and the longer they are exposed to our care and education, the less creative most of them become." During the same month another popularly written article in Today's Health states, "During the past fifteen years we have been ostensibly at peace, and the rigor mortis of security-consciousness has set into much American thinking. And, unhappily, it has trickled down to many young people in a trickle that has grown into a flood of old-maid conservatism."

As parents are thus alerted by the mass media, teachers must prepare to meet their honest questions. Are not we, too, concerned about youngsters' "insurance policy" of going steady from the sixth grade on? Are not we, too, distressed at students' apathetic approach to problems in classroom work and even toward activities of Future Homemakers of America? This article is a serious attempt to offer at least limited help to you before you are faced with such "honest questions" about creativity. What our critics variously call the "sew-a-fine-seam" or "cook-book" approach to teaching homemaking and family living is clearly no longer good enough for the sixties!

Colleges, too, are being severely criticized for turning out bright individuals who totally lack imagination. Seemingly they either will not or cannot tackle new problems and come up with creative solutions. Yet today employers are looking for creative potential as much or more than for present skills. Massachusetts Institute of Technology, faced with these unpalatable truths, is making radical changes in engineering curricula and laboratories. For example, the use of big commercial

equipment suitable for uniform stereotyped experiments is yielding to more imaginative approaches in which students are given an opportunity to undertake individual projects of their choice, and to benefit by a kind of internship under the guidance of a faculty member.

Frank Howard, Chairman of the Sloan-Kettering Institute for Cancer Research, has just released findings from a study of the number of patent applications filed in relation to the population of most countries except Russia. Results reveal that we are no longer a great nation of inventors. Not only are we no longer leading the world in this respect; in inventiveness we rank near the bottom of the list of established industrial countries. In a recent discussion of the gold shortage in this nation, one commentator sarcastically inquired, "Must we again trust the English to do our economic thinking for us?" Indeed, the times cry for new and creative thinking in every area of today's living!

This seems to be the age of the easy answer to the difficult question. Have we lost our pioneer taste for risk and adventure? "The people I want to hear about," says Robert Frost, "are the people who take risks." And Walter Lippman has warned all of us that "the things that have been made by the hard-working, the brave and the great cannot be preserved by the petty, the timid, and the lazy."

Why is creativity of critical importance to society?

We believe you will agree that the space age is taking us where old and comfortable ideas no longer apply. A world of automation, atomic power, vastly different communications, tremendous mobility of populations, competing ideologies, new political alignments, new world powers, and enormous economic readjustments may well make the upheaval of the Industrial Revolution look like a ripple on the tide of history. Just for a few examples, Captain Eddie Rickenbacker predicts that "before 1970 space ships will be accepted as part of the scene, passengers will be fired around the world in missiles, and atomic power will enable us to distill sea water which will revolutionize the world." That date of 1970, right or wrong though it may be, points up in a startling way how imminent is our dilemma.

In the article, "Are We Afraid to Take Chances?" by Joseph N. Bell, previously mentioned in the November, 1960 issue of Today's Health, Reverend John LaFarge, a sociologist, is quoted as saying, "There's a very serious danger in inertia and complacency. I'm a great admirer of the contented cow, but I want the contentedness to be in the cow, not in the human being." Too many still fail to recognize the seriousness of our situation, but gradually our apathy is being disturbed by these world-sized problems.

Perhaps more truly than ever before, civilization is in a race between education and disaster. Clearly we must find new and different solutions to our unprecedented problems. We must have faith in the poet's "The old order changeth and giveth place to new. And God fulfill's himself in many ways."

Scientists and scholars in every other field are relying primarily upon education for developing creativity up to the level that each individual's potentiality will permit. Dr. E. Paul Torrance, Director of the Bureau of Educational Research, University of Minnesota, is an outstanding leader in this area of education. He believes that changes in education ultimately must be as radical as the world revolution that is causing them. He warns such changes "will require boldness, imagination, and hard work; they will never be brought about by thinking happy thoughts."

Civilization itself is a product of creative thinking. One of the world's great resources has always been the creative potential of its citizens. Samuel Caplan declares that in our country this resource is largely untapped, so far as students at every educational level are concerned. While societal conditions in this country may have temporarily lessened the use of our imaginations, there is no reason to believe that teachers and students cannot measure up to the demands of what promises to be an extraordinarily difficult future.

Why is creativity of critical importance to the individual?

Clearly each individual will have to try to build a satisfying life out of the problems he encounters in the future. To this everyone will agree. How the school can best prepare him to do so is not so clear.

In an effort to expand our national supply of talent, some people are urging much stricter and more intensive schooling, calling for harder work and longer hours. The philosophy of the government's "crash programs" after Sputnik seems to have been adopted by educators without too much concern for the uniqueness and worth of each individual. Merely adding more mathematics, sciences, and foreign languages with little recognition of the great range of abilities in individuals is beginning to appear to be a hasty and somewhat superficial solution.

As Edgar Dale points out, more and more doesn't necessarily mean better and better education. Do we not need to ask why those academic subjects already studied failed to "take"? Teams of research workers are now engaged in trying to discover answers to this question. They have already reached one conclusion. Instead of superficially covering more ground, we ought to penetrate more deeply in studying vital problems.

Psychologists believe that the resulting sense of mastery, at least in some degree, is essential for personality development and mental health. They are now becoming equally convinced that mental health and a high utilization of one's creative potentials are closely associated. And why not? Even youngsters are able to realize that security gained from mastery of today's knowledge may be threatened by new technological, political, and economic developments of tomorrow. Under competent guidance students can be helped to recognize how creativity can contribute to the acquisition of education for the unknown future in all fields of subject matter.

Creativity as a primary goal of education

Home Economics has sometimes been indicted for its failure to encourage a creative approach to its learning activities. Individual safety and efficiency will always require a certain amount of specific directions, we believe. On the other hand, we are sure you will agree that there are many opportunities for imaginative experimenting of which we have not taken advantage. Because creativity can be developed through the solving of all kinds of problems which arise or should be caused to arise in the educational experiences of our students, its development should consistently be a part of our teaching of thinking, of valuing, and of performing.

Professional literature today suggests that elementary schools are already providing some of the freedom under guidance that creativity requires. Basic ideas and principles are being taught much earlier than heretofore by utilizing techniques of discovery through inquiry and experimentation. Pupils' enjoyment is intense, their imaginations unfettered. Yet, in the midst of all their novel and original thinking, they try to give consideration to practical problems, too. For instance, second graders in California build a space ship eight feet high, then decided they had better hold some committee meetings on ways of coping with garbage disposal in an area involving terrestrial navigation and gravitational forces!

When such highly creative individuals reach our high school classes, what are we going to do with them? Perhaps we had better start at once to re-evaluate our present procedures. Employers tell us that many specific tools and techniques are likely to be obsolete by the time students who are using them leave high school. Since development of manipulative skills is an excellent way of making creative expression possible, why not let students be as freely creative in this aspect of their learning as is at all feasible? These experiences might help to counteract the ominous impersonalization of the pushbutton factory or office where they may later be employed.

Compared to many academic subjects, indeed, home economics seems to be extraordinarily rich in opportunities to develop creative thinking and valuing, as well as performing. We seem to have an advantage, too, in that students usually identify emotionally more readily with problems of homemaking and family living than with more abstract questions, and we can hold their attention over the time necessary for creative expression. This is important for success. Charlton Ogburn, writing on "America, the Expendable," in Harper's, August, 1960, commented, "Pregnancies in high school, coronaries in middle age; we are determined to force the pace. We cannot wait. We pursue time--but only to find that we never have enough. Sustained attention is becoming difficult for all of us."

In view, then, of the essential nature of creativity from the standpoint of the progress of society as well as the self-realization of the individual, the school must consider the development of creativity as one of its primary responsibilities. And to the degree that each field of subject matter succeeds in promoting creativity, to that

degree will that field be valued in the future, we believe. Henceforth the tremendous competition for time in the high school program dare not be ignored. Home economics teaching can and must "deliver"!

Current Research in Creativity

If the number of research projects, the volume of tentative reports, and the number of conferences on creativity are any indication, then interest in creativity is at an all-time high. Unfortunately this interest is, by and large, a very recent development.

The plain fact is that, in spite of all the current activity, research on creativity is still in a pioneer stage. Firm information from any source is scarce because of lack of adequate replication. Much actual verification in the classroom still remains to be done. Perhaps the best--indeed, one of the few books available for public purchase--was published by Harper in 1959 under the title, Creativity and Its Cultivation. It is a compilation of scholarly papers written by authorities and edited by Dr. Harold Anderson. For background reading, this volume is excellent. For concrete facts and tentative conclusions, the privately mimeographed reports of research workers are more helpful but unavailable for general distribution.

Creativity in art education

Over twenty years ago Viktor Lowenfeld, who was a specialist in Art Education at Pennsylvania State University, published his first book on the nature of creativity. As his research was extended over the years, later revisions to incorporate his findings have been published, the last one, Creative and Mental Growth, in 1957 by the Macmillan Company.

Yet, in spite of his strong indictment of commercial books for coloring by children and of teachers' dogmatic how-to-do methods in art classes, these remain all too prevalent. Why has this happened in art education? Why have so few teachers failed to transfer such clear-cut principles from fine arts education to instruction in home economics? Suggestions for such transfer are included in the next section of this article.

Creativity in science education

As early as 1949 a study on creativity in science education was undertaken at the University of Southern California by J. P. Guilford, R. C. Wilson and D. J. Lewis. Since that time many others have investigated various tangible aspects of this problem, largely in basic and applied physical sciences. Perhaps because Utah has been by far the top producer of scientists per capita among the states, three national conferences on "The Identification of Creative Scientific Talent" have been held at the University of Utah. In a few university libraries reports of these conferences in 1955, 1957, and 1959, edited by Dr. Calvin Taylor, can still be found.

At a recent conference on gifted children at the University of Minnesota, Dr. Taylor attempted to summarize the present state of research on such identification. He first distinguished sharply

between the "IQ gifted" and the "creative gifted" that they were trying to identify. He contends that, at least in the sciences, "educators may be dealing with essentially two different worlds. The first one is the academic world with its current school-like activities. The second is the world on the job calling for creative and other activities which may not overlap very much the nature of school activities."

Taylor reports that creativity is being tested through a variety of approaches, by using not only intellectual, but also motivational, personality, biographical, and sociometric measures. He looks forward to the time when his long list of characteristics presumed to be present in creative individuals has been refined and reduced to sharper and more manageable proportions. The technique has been to locate creative scientists in their adulthood; later the instruments developed will be revised to use with younger ages.

Creativity in elementary education

Dr. E. Paul Torrance and his associates in the Bureau of Educational Research, University of Minnesota, chose to use the opposite of the scientists' method, deliberately studying children in the elementary grades for the most part. All of us have observed how much more spontaneous and creative are pre-schoolers and pupils in the lower grades than are the high school students with whom most teachers of home economics deal. One Illinois teacher has this year added music in grades one and two to her home economics schedule. She had been completely astonished but delighted at the way her moppets introduce original rhythmic exercises, parodies on the words of their songs, and other innovations without the slightest suggestion from her. Her high schoolers, by comparison, seem very lacking in imagination and resourcefulness.

Although Dr. Torrance and other researchers are increasingly collecting evidence on many facets of creativity in younger children, they hesitate as yet to label their findings as definitive. Perhaps one of the clearest clues--and one of the most discouraging--is the seeming rejection of highly creative pupils by their peers.

Where and how does the apparent loss of creativity occur? Because Dr. Torrance is dedicating so much of his research effort to answering this question, his studies appear to hold the greatest promise for home economists, particularly since he has included manipulative activities in his aspects of creativity investigated. He hopes to expand his present instruments for testing creativity in the early years to dependable measures for adolescent creativity. He has even stated, "It is quite likely that, just as there is a scientific method, there is a creative method." This latter he is obviously not quite ready to formulate, but he seems certain that it will recognize a vast variety of work methods.

Creativity in secondary education

Two psychologists at the University of Chicago, J. W. Getzels and P. W. Jackson, have for some time been doing interesting studies on adolescents' creativity. All their investigations are being carried

out with the students, teachers, and parents of the Laboratory School at the University. They do not claim that these are representative groups, but so far any replications of their studies in public schools have agreed with the Chicago results.

Getzels and Jackson compared their high school students in the upper 20 percent on creativity with those in the upper 20 percent on IQ. Although there was a difference of 23 IQ points in the averages of the two groups, there was no difference in achievement as measured by standardized achievement tests!

Next they prepared an instrument, Outstanding Traits Test, in which they attempted to list all the general qualities describing giftedness, since the students enrolled in the Laboratory School of the University are admittedly a very highly selected group. The students themselves, their parents and their teachers were asked to respond to this instrument. In brief, they found that, while the high IQ adolescent wants the qualities he believes make for success and the qualities he believes his teachers like, the highly creative adolescent favors personal qualities having no relationship to those he believes make for success and are in many ways quite the reverse of those he believes his teachers favor.

If the creative adolescent doesn't favor the things his teachers like, his teachers, in turn, do not especially like him either! Moreover, parents do not really want that kind of an adolescent in the family! The relationship between qualities which are assumed to define giftedness in adolescents and qualities believed to be essential for success in adults is nil for teachers and very low for parents.

Dare we wait for "truth" to be established?

These few descriptions of research in creativity are offered merely as examples of the types of investigations now going on in many universities. In some cases new findings support previous ones. In other cases they are contradictory. To state that "truth" has been established would go far beyond present results.

Yet educators are feeling a terrible urgency about developing creativity in future citizens that will enable them to meet the radical changes in daily living that now appear inevitable. Over and over in the home economics programs at the annual meeting of the American Vocational Association last month creativity was demanded for both teachers-in-training and secondary students. Mrs. Georgiana Hardy, a layman and a member of the Los Angeles Board of Education, offered a particularly dynamic and hard-hitting address to the home economists and industrial arts specialists attending a general program.

Mrs. Hardy deplored the attitude of today's students in just giving up if they cannot have automatic equipment. Since one of the authors of this article had encountered evidence of this fact in an equipment study she had made, the point seemed to be well taken. However, in her study, this attitude was apparently equally a characteristic of students and their parents. For example, only the fathers who had automatic coffeemakers started the beverage brewing for the family.

Nevertheless, Mrs. Hardy's contention that in earlier times home-makers displayed more imagination did point up the need for developing resourcefulness if and when the "going gets rough." Nor did the speaker accept that slow learners should be protected from such rigorous education. Instead, teachers were accused of "letting them down" if time and effort were not spent in realizing their potentials for creativity.

Similar emphases for increasing imagination and originality are found in articles addressed to parents of children. For example, does your super market happen to sell the little monthly, Woman's Day, which at ten cents per copy boasts of an enormous circulation in the lower-income group? In the January, 1961 issue, read "The Second R" by Joan White Jenkins. You'll enjoy its down-to-earth approach of the baby sitter's efforts at communication and the gay humor of the whole article. But make no mistake; the author's purpose is not merely to amuse! She describes many ways for a parent to prod his child's imagination and games to encourage inventiveness.

The Ladies' Home Journal is a popular, medium-priced magazine of wide middle-class circulation and with a fine reputation for leadership in working on problems of greatest concern to women. Read the editorial, "All good things are the fruits of Originality - John Stuart Mill," on page 11 of the January, 1961 issue. Mr. and Mrs. Gould make an important statement of future policy for their magazine in this editorial. Here are two quotes. "Imagination," Albert Einstein said, "is more important than knowledge." "The democratic way of life requires endless education, discovery, imagination and originality. Democracy feeds upon creativity."

Teachers who would like to ignore such newfangled ideas, do so at their own peril! Thousands of parents and taxpayers may even now be substituting "teacher" for the word "leader" in the following quotation. "A leader in a democracy must be able to originate, and to recognize and act upon, new ideas, or he will find himself behind his followers. To venture with confidence where no one has gone before is the true test of a leader. He cannot step into the same stream twice, because the stream flows and changes, and he changes too. He must believe in his followers no less than himself."

In John F. Kennedy's New Year's Message he emphasizes, above all other types of power, the need of brain power for survival of this nation. For the development of a continuing supply of this brain power he looks to education. (Note the last sentence of the paragraph quoted below.)

"What we need most of all is a constant flow of new ideas-- a government and a nation and a press and a public opinion which respect new ideas and respect the people who have them. Our country has surmounted great crises in the past, not because of our wealth, not because of our rhetoric, not because we had longer cars and whiter iceboxes and bigger television screens than anyone else, but because our ideas were more compelling and more penetrating and wiser and

more enduring. And perhaps more important, we encouraged all ideas--the unorthodox as well as the conventional, the radical as well as the traditional."

A calculated risk

Because of the mounting demands upon all education for developing creativity and because of the high stakes involved, we have decided to take what might be called a "calculated risk." We propose to knowingly, openly go beyond what present research evidence would justify as established truth. This does not mean that we are letting our ideas soar off "into the wide, blue yonder." We do propose to make more positive statements than present evidence warrants, but only on ideas that consistently have appeared in the literature as philosophically sound and that are supported by considerable if not complete results from research.

With this clear understanding, we propose to describe a few examples in home economics teaching that illustrate situations where the given statement appeared to operate effectively. From such examples we hope our readers will catch the courage to do some bold and adventurous experimenting on their own.

Guides to Creativity in Home Economics Teaching

Perhaps, believe it or not, the first bit of advice worth offering to a teacher who is warily approaching her maiden effort at developing creativity in a class is "relax and enjoy yourself! And expect some surprises!" Naturally, students' results improve as they learn to use their newfound freedom more effectively, but even at the beginning, their response is usually heartwarming to them and to the teacher. Curiously enough, too, those students who "rise up and shine" are frequently not those whom you would have predicted.

A real danger to all teachers

Study after study in 1959 by such authorities as Guilford, Taylor, and Wallace indicate that some of the abilities involved in creative thinking and decision making are vital to vocational success. Moreover, Dr. Torrance generously states that there is evidence that changes along this line are taking place in home economics teaching as well as in science, art, mathematics, foreign languages, English, and art education. But every instructor needs to be forewarned about an obstacle she may expect to encounter in herself!

Bluntly, most teachers find highly creative students "hard to take" at every educational level. As the reporter on news in education phrased it in the October 31st issue of Time last year, such a student has "the kind of mind likely to drive a teacher dotty, but he does solve problems by striking out in new directions."

Let's look at the adjectives that have come out of research trying to identify the characteristics of creative adolescent students. Some of them are: nonconforming to group standards, independent in thought

and action, profoundly skeptical of usually accepted ideas, spirited in disagreements with the teacher, unsociable and self-sufficient. Elementary teachers in public schools of Minnesota reported similar viewpoints. Those youngsters who rated high on the tests of creativity were less well known by the teacher, considered less desirable as pupils, and perceived as less studious, less ambitious, less friendly than other students. They were seen as impulsive, radical, and unruly little characters.

What kind of a student do teachers like at every educational level? Results of investigations are uniform on this point! They very much prefer students who are bright, persistent, conscientious academic achievers who "cause no trouble." They also appreciate the student leader whose personal adjustment is characterized by self-control, a sense of security, and freedom from anxiety.

As Cattell at this university points out, the characteristics of the creative student are definitely not those of a "pleasing personality." They differ markedly from those shown by the successful salesman or the elected, popular leader. You will recall that Getzels and Jackson discovered that their Chicago parents rejected creativity and goal directedness as desirable in the home; the three qualities they ranked highest as defining the child they wanted in the family were: emotional stability, moral character, social skill. Both teachers and parents perceived these characteristics as the ones needed for success in adult life.

As has been noted, the popular literature directed at parents is trying to help them recognize the value of and develop in their children an imaginative and resourceful approach to daily problems. More or less subtly they are being themselves educated to the necessity for creativity and to concrete ways of providing appropriate environments for such development. For example, the 1960-61 study-discussion programs in the National Parent-Teacher are openly labeled "Helping Young America Grow in Freedom."

This "freedom" is exactly what teachers find hard to allow to students whom they do not like, no matter how strongly they may give lip service to the need for creativity. Being only human, we cannot expect to change ourselves over night! But self-determination, based upon awareness of our critical need, can speed up the process of change.

A success story

Let us examine a typical incident. At the opening of school last fall a home economics instructor took her new tenth-grade students on a tour of the fine facilities afforded by the senior high school. All appeared to be properly impressed until they reached what the instructor perceived as "the crowning glory," the department's living room. To her irritated dismay, a shabby, not-too-clean student in the group suddenly stated loudly and firmly, "I don't like it." All the pleasantly conforming students stared in shocked incredulity! When the teacher demanded a reason for such a judgment, she could elicit only an insouciant shrug from the culprit and decided to ignore the remark.

Later she happened to read some of the current articles on creativity. She was particularly struck by the frequently repeated statement, "Everybody possesses potentials for creative abilities to some degree and in different fields." She asked herself, "Could that possibly be true of Pat, her tough-minded problem student?" By this time she had made a visit to Pat's poverty-stricken home and learned that the mother in the family had been in the local hospital for months; father and daughter were carrying on as best they could at a level which seemed to the home economics trained teacher very inadequate indeed. The one redeeming feature of Pat that the instructor could approve was that she was faithful about making visits to the hospital.

As the teacher reviewed the whole picture of Pat, she became dissatisfied with her early diagnosis of general hostility that simply must be endured. She asked herself what in Pat's background could possibly have caused her outspoken disparagement of the department's living room. Still smarting with a bit of personal resentment, because she herself had arranged that room last fall, she wondered, "Just what does the little lady think she could do with it?"

Trying to go along with this newfangled goal of education, she planned an experiment. In a private conference with Pat, she explained that she had been much interested in Pat's earlier comment on the living room but had felt it inadvisable to follow up on the matter until the foods unit had been completed. No response from Pat! The teacher nevertheless continued by asking the girl if she would like to try fixing up the room her way during the last class meeting of the foods unit while her classmates were preparing the laboratory for an in-coming class. Pat accepted with alacrity but again succeeded in irritating the instructor by saying, "Sure! I hate scrubbing!" Luckily the teacher had already prepared herself to accept Pat's results in "interior decoration" in terms of Pat's values.

Fortunately or unfortunately, the door between the living room and the school corridor was largely glass. The next day at dismissal time there was a noisy commotion in the corridor. Hastily the teacher investigated just in time to see Pat graciously opening the door to admit her foods students to a rearranged living room, complete with a blooming plant temporarily contributed by hospital authorities. The teacher could scarcely believe her eyes. The whole room seemed to beckon with a friendly warmth that it had certainly not had before! The change escaped no one, and surprise and admiration were freely expressed by adolescents who had previously left Pat pretty much of an isolate in the class group. "Oh, Miss Smith," the students begged, "may we meet in here tomorrow to start our study of home furnishings?"

After school Miss Smith sat in the revamped room and pondered long and earnestly. Why could Pat recognize the coldly institutional atmosphere of that room when she herself had not perceived it? Perhaps all those weary visits to the hospital had made Pat deeply sensitive to what she herself described as "coziness"? With only one broken down platform rocker to work on at home, was it surprising that Pat felt a righteous

anger at good furnishings being used so unimaginatively? But all this pondering still did not answer the \$64 question, "Where on earth had come that ability that reminded Miss Smith of Dr. Maslow's homemaker who had the talent of living creatively?" The teacher vowed to use every bit of ingenuity she possessed in fanning this spark in Pat so long as they worked together! No matter how often she might be irritated by the girl!

An analysis based upon research

Let us make a further analysis of this episode. Without benefit of much knowledge of current research, Miss Smith had put into practice several principles advocated by specialists.

- * She conquered her tendency to associate goodness with conformity. Until this is more universally true, the schools will continue to smother much of our nation's potential supply of creativity.
- * She recognized and made the most of a student's sensitivity to gaps in the environment that she herself was unable to see. She grew in her own sensitivity to the point that later she found an anecdote about a certain refugee deeply moving. When this boy was asked if he had a home, he replied, "Yes, but we don't have a house to put it in."
- * She conscientiously tried to develop the empathy to relate better to a human being from a different socio-economic level than her own. Carl Rogers suggests three criteria for establishing psychological safety for a potential creator. These are:
 - Accepting the individual as of unconditional worth.
 - Understanding empathically.
 - Providing a climate in which the locus of evaluation lies within the individual rather than outside him.
- * She gave the individual not only freedom but privacy for developing her own ideas. Even college students report that they do their best work not in quiet, stately libraries but in the privacy of their own small cubicle at home. High school students, insisting on a radio or long-playing records while studying, are sometimes thought to be building a wall of sound in order that they may achieve some necessary privacy of the spirit.
- * She encouraged through opportunity for exploration and peers' recognition of success the one strong interest or aptitude the individual exhibited at the moment instead of struggling to make her the so-called "well-rounded adolescent of life-adjustment programs." Studies of successful adults show almost invariably that the strong interest they felt as an adolescent was carried over into later life;

achieving their greatest personal satisfaction through their work, they continue to work long and hard along that one line of creative endeavor.

- * She comprehended the necessity for time to grow; the student required a full class period for various trial-and-error activities until she was satisfied; the teacher needed time for pondering the meanings of what had occurred. Appreciation of the role time plays in developing creativity can scarcely be overemphasized in today's hectic existence!

Self-motivation of students

Students as well as teachers have been studied. Getzels and Jackson, for instance, presented the Outstanding Traits Test to some 450 high school students and asked them to rank the different adolescents they knew "on the degree to which you would like to be like them." The result might be considered the self-ideal of each student. The first three qualities selected by girls as those they would like for themselves were: social skill, moral character, and emotional stability. High marks, high IQ, and creativity ranked toward the bottom.

When one realizes that we are told that creativity in thinking, in valuing, and in performing must be developed--and fast--within our present social context, the difficulties of getting cooperation from students look almost insurmountable, don't they? When even the "brains" attending Chicago's University Laboratory School seem to prefer social skill to intellectual excellence, one cannot wonder that the less able show this preference to an even more marked degree. Sociologists and educators are investigating many aspects of the social pressure for early marriage which is thought to be one reason for such attitudes on the part of today's girls. But even a popular presentation like that in Look, January 3, 1961, "Youth of the Sixties - The Explosive Generation," gives evidence of the confusion and contradictions researchers encounter.

At the elementary school level, at least, still a different kind of difficulty emerges. Students tend to exert social pressure upon any classmate who is highly creative! Dr. Torrance divided classes from second through sixth grade into groups of five children each and confronted every group with the task of discovering the principles which could be demonstrated and explained with a collection of science toys. Groups were composed on the basis of scores obtained on a battery of creative tests administered earlier. One of the most highly creative members of a class was placed in each small group. The focus of observation was on the techniques used by small groups to control this most creative member and on his method of adaptation.

Rather clear evidence of pressure against the most creative group member was found in all the groups studied. A majority (68 per cent) of the most creative initiated more ideas than did any other member of the group, but only 24 per cent of these were seen by other group members as making the most valuable contribution to the group's performance. It was clear to observers that at all grade levels many of

the highly creative youngsters brought their woes upon themselves by their unpleasant behavior. Obviously, there was a need to help them learn to be less obnoxious without sacrificing their creativity.

Increasingly at every grade level the groups seemed to develop a varied repertoire of techniques for controlling their most creative members. The following techniques of control were observed.

- Criticism of ideas--'wild, silly, naughty'
- Open aggression and hostility
- Rejection and/or ignoring
- Use of organizational machinery to limit scope of operation
- Use of organizational machinery to impose sanctions
- Exaltation to a position of power involving 'paper work' and administrative responsibilities

As might be expected, the most creative members developed an equally varied repertoire of adaptive techniques. These adaptive techniques included the following as observed in students' overt behavior.

- Compliance and acceptance of criticism
- Counter aggressiveness
- Apparent ignoring of criticism and rejection
- Indomitable persistence
- Silence and apathy or preoccupation
- Filling the gaps when others falter
- Clowning, playing around, and solitary activity

Whether similar manifestations occur in our buzz sessions that are so popular a part of the teaching of homemaking and family living is not known. High school tests of creativity are not available and, according to much research, even a highly creative teacher finds it difficult to estimate the degree of creativity in her students. When such tests become available, would it not be a stimulating experience for alert teachers to repeat the observations of Dr. Torrance and his associates with buzz groups organized from their own classes?

One teacher's experience

In a school system where there was superior instruction in art every day during the first nine grades, the teacher of ninth grade home economics was constantly frustrated by the lack of self-motivation on the part of her students whenever she attempted to integrate art with home economics. One such learning activity consisted of a teacher demonstration of the way that dining appointments, table decorations, favors, the room decor, and even the menu could be developed into a harmonious whole in preparation for celebrating Thanksgiving at home. Yet, in spite of all the time-consuming pre-preparation, students tended to be restless, inattentive, and uninspired to go home and do likewise. She next experimented with making the occasion of her demonstration a snack party for teen-age boys and girls instead of a family dinner party. Results were little better, in spite of the lure of gaining social skills.

Last summer this teacher went to summer school and read of Dr. Torrance's elementary groups with great interest. She started to plan an informal study of buzz groups in her own classes. Purely by chance,

she selected the students' experience in preparing for a Thanksgiving party table as her first tryout since products could be ignored during the observations and studied later. For selection of the five most creative students in each of her classes, she sought the recommendations of their art instructors. She formulated from Dr. Torrance's studies checklists for control and adaptation techniques used by students in each small work group.

Intent upon discovering what happened to the creativity of her students, it simply never occurred to Miss Crane to return to her previous procedures. Instead, she wrote upon the chalk board the problem of a girl who had been given permission to entertain three or four couples of her choosing. She wanted to serve a simple meal and make game prizes and favors so that her guests would remember the fun they had at her home. Miss Crane invited her students to suggest as many ideas as possible.

Suggestions of all kinds and qualities poured in so fast that she could scarcely keep up in her listing on the chalk board. Not until the fountain of ideas seemed to have run dry did she permit anyone to express a judgment. Eventually the most promising were pulled together into a fair facsimile of an assignment for the students to try their hands at, utilizing the quantities of varied construction materials, game books, cook books, song books, games and other fun supplies. Quietly and inconspicuously she managed to get those students recommended as highly creative into different work groups, but the groups themselves were not of uniform size. The class member from the wealthiest and most sophisticated home chose to work alone.

Almost every possible variety and degree of creative behavior was ultimately observed and recorded, but some time also had to be spent in guiding the class progress. Not, however, in stimulating student attention! The teacher had feared a breakdown in discipline, but nothing happened except for frequent requests to go to the school library, the record room, and even to a distant corridor where a group insisted that a picture there offered the one possible inspiration for a color scheme that they could use. Since all absentees returned to the classroom with their "loot," her concern gradually disappeared.

But the speed with which class periods disappeared, even for her, did worry her! Having started something, however, she grimly decided to finish it! Nor could she complain that the students were "soldiering on the job." On the contrary, many students were evidently devoting additional time to the project outside of class. Somewhere, sometime, the idea of exhibiting group results in a glass case in the main corridor was evolved and enthusiastically accepted.

The final cut-off date for the project found most group plans in pretty good shape. The teacher had invited the students to present their party plans in whatever unique way they might choose, but so completely and attractively that all class members would be "sold" on each party. Presentations were given with great variety and gusto, even by the work-alone girl who made an obvious effort to make her rather

dull-sounding plans seem attractive. One shock did await the teacher. With a single exception, all were pizza parties! Challenged for their lack of imagination, students wailed, "But that's all that boys will eat!"--and what is the answer to that?

After all the presentations, the teacher distributed a score card for teen-age parties that she "found" in her files the day before. She challenged the students to think about the presentations, then improve upon the ready-made instrument. So pleased were they with the improved score card that they decided to place a copy in each exhibit set up later.

Then, and only then, did Miss Crane attempt to help her class to generalize from what they had experienced, first in buzz groups different from the original work groups and later in a general class discussion. As most junior high school students do, her girls ran into semantic difficulties in formulating principles. After some drill on new and somewhat technical terms, however, the principles were achieved, ready to be applied to new situations in school and home. Asked if she was sure she understood one statement, one impatient struggler said, "Why, of course I do! I did it, didn't I? I just couldn't say it at first!"

Teaching results compared with research findings

First of all, we would like to emphasize that the evidence presented on this teacher's experience is more descriptive than it is experimental. The validity of the suggestions now found in the literature on creativity has not been established in any systematic research studies. In fact, even findings of research are often contradictory. For instance, the "right answer" to the question as to whether it is better to encourage individual or group cultivation of creativity is still in doubt.

Usually teachers follow Miss Crane's plan of permissiveness on this point. From her experience her best guess now is that most students are better stimulated in a group but that an occasional "loner" merits the right of privacy. After all, bed, church, and bathtub have been most frequently named as the places where important new insights have come to people.

The experience of the teacher

When Miss Crane encountered the following in her library explorations, she was startled into sharp attention. "There is considerable evidence that teaching may be effectively planned and directed toward the development of inquisitiveness, experimentation, and creative production. In general, research shows that creativity seems to depend upon:

- * time
- * a background of related experience
- * the development of an urge to express oneself
- * the accessibility of a variety of materials
- * a permissive atmosphere for creative work
- * a teacher who has had experiences in creative activities."

She had been conscious of trying to provide for the first five of the necessary factors. But had she had "experiences in creative activities"? As she remembered her undergraduate classes, she was very doubtful. She had felt somewhat more freedom in her graduate studies, but recalled that she felt ill at ease when asked to make a decision in these classes. Finally, she came to the conclusion that her complete reversal of former techniques in teaching the party-planning project must have been a creative activity for both herself and her students. "Although the girls obviously enjoyed the comparative freedom, the fact that I felt rather uncomfortable and uncertain convinced me that I had, indeed, experienced creativity," she reported.

Learning materials

All authorities state that creativity is aided by a great variety of appropriate materials to stimulate imagination and interest, and to increase a sense of purposefulness. One nursery school study indicates that, if a child is given an increased number of materials and opportunities in various media, he will develop a greater enjoyment of creative, imaginative experiences. Torrance has found that elementary children learn to be more creative by engaging in exploratory, manipulative activities.

In high school knowledge and materials must be available or obtainable to promote the potentials of creativity since most ideas, improvements, or inventions are projected or developed on the basis of previously known concepts. After observing what was and was not effective with her students, Miss Crane is inclined to henceforth emphasize the obtainable even more than the amount already available in the classroom. Her students identified stimulating materials that had never occurred to her.

Teacher-student relationships

Most current ideas of the teacher-student relationship are those in which a teacher responds to a particular youth and the child responds to the teacher. Emphasis is on the correctness of the stimulus and/or response. In the creative teacher-student relationship the emphasis is upon co-experiencing. The teacher in such a relationship must be curious, open-minded to new ways, not afraid of student's disagreement with him. In such an atmosphere, a student feels "safe"; he feels he can experiment without fear of ridicule or of being misunderstood. Miss Crane also read that "the creative teacher strives constantly that those he teaches may surpass him." Ruefully she decided that requirement had certainly been met; compared to her former demonstrations the art quality and imaginative variety of her students' plans obviously surpassed her own.

Miss Crane had rather uneasily wondered whether the relative freedom she felt obliged to provide would prove dangerously disruptive to orderly conduct in the classroom. Perhaps her very awareness of the danger was a weapon. Always in a school setting students expect some limitations and controls. Indeed, the less able would be lost without such "structure." These Miss Crane had provided but far fewer than in her usually well

regimented classroom. For instance, previously she would have considered it efficient and time saving to have herself assigned group membership. Yet, limiting her guidance to distributing only the highly creative students appeared to work out satisfactorily. Perhaps even better! Who knows?

Sensitivity to problems

A primary ability considered important in creativity is sensitivity to problems. Such problems may be in the three major aspects of daily living--feeling, thinking, or doing. Actually, in real life, problems usually involve some of each in varying proportions. For example, Miss Crane's students recognized boys' preference in foods as crucial to the success of the party. Organized thinking was required in developing plans but always with the challenge of looking for new ways of doing things. Commonplace ideas were "verboten." Yet students had also to be aware of the practical problems within the framework of reality, such as the limitations of home facilities and skill (or lack of it) in cookery, music, games, etc.

The ability to look with fresh and candid eyes upon unfamiliar developments will be of extreme importance in the future. That basic fact seems to justify deliberately taking time out in many lessons to ask such probing questions as the following.

- * What is the problem here as you see it? (Student perceptions vary widely.)
- * Is the apparent problem the real problem? (Students often need to dig deeper.)
- * What would happen if such and such were changed? (E.g., attendance changed from couples to an all-girl party.)
- * What would it be like if...? (Assumptions previously taken for granted are questioned, such as "if the home had no separate living room.")

Brainstorming in classrooms

A specialist in advertising, Alex Osborn, in 1957 proposed this technique to obtain as many ideas as possible on a given problem. Osborn gives four simple rules must be followed.

- * Judgment is ruled out. Criticism of ideas must be withheld until later.
- * Free-wheeling is welcome. The wilder the idea, the better. It is easier to tame down than to think up.
- * Quantity is wanted. The greater the number of ideas, the more likely you are to get a good one.
- * Combinations and improvements of ideas are sought. In addition to contributing ideas of their own, participants should suggest how ideas of others might be joined together to make still another idea.

Students have to be taught these rules and practice the technique of brainstorming before best results can be expected. After a while experienced students offer ideas too rapidly for any one person to write them all on the chalk board, and delay in recording spoils the fun. In that case two students go to the board to do the writing, one taking the odd numbered ideas and the other the even numbered ones. This plan leaves the teacher free to encourage the flow of ideas in the group.

Since one requirement for problems designed to develop creativity is that there is no pat answer, brainstorming is peculiarly adapted to this kind of teaching. For example, "How should a glass measuring cup be used?" is definitely not a problem on which to use brainstorming! A recent refinement of the technique for use with adults is to break up the problem into two parts. The first period of brainstorming is devoted to what are the many aspects involved in the problem; the second to solutions of the problem.

Brainstorming in its use with adults has been rather controversial as to whether or not it produces more good ideas than would result if people worked separately for the same length of time. Results of investigations have not been too clear-cut.

Robert Wilson of Portland State College recently made some studies on the effects of brainstorming upon students. He finds the "side effects" very good in classrooms. For one thing, students who do not participate much in the ordinary course of events are likely to be drawn out by this. Some students who are a little hostile and aggressive may be a little creative on the particular problem being brainstormed. If such students can express freely a few silly and wild ideas in this situation, this brief experience seems to reduce their hostility, yet does no harm to the brainstorming. Students enjoy doing brainstorming very much. Perhaps one reason is that these side effects tend to raise the morale of students.

Miss Crane encountered one sharp difference between theory and practice. According to her readings, highly creative students have the ideational fluency and the ability to see relationships that are only remotely connected in the very way that brainstorming demands. Actually in class she noticed that her students who had been recommended as highly creative were frequently silent! Then she found that Holland of the National Merit Scholarship Corporation in Evanston had studied the finalists in the 1958 program, and at least tentatively concluded that teachers rated very low as predictors of creativity. She wondered if her friends, the art teachers, had perhaps failed to identify the "creators" correctly.

Role of knowledge in creativity

Laura Zirbes makes the unequivocal statement that "An ignorant man is never a creative man." Flights of fancy are not enough in high school. In industry and in school the would-be creator must gather

information that his consideration of the problem indicates may be necessary. Then in more or less stumbling fashion he attempts to use his imagination in rearranging, restructuring, redesigning what he knows. He relates this known material in what are to him, at least, previously unknown ways. For example, the party plans of Miss Crane's students were all different, yet so decidedly a redesign of materials examined in common that the same evaluation instrument was possible for all of them.

Perceiving relationships, the fundamental component of creativity, can be taught in most lessons if teacher and students take time to do so. In applying science principles to home economics, the ability to understand cause-and-effect relationships is imperative for generalizing. In applying art principles, the ability to see clearly the relationships between form and function clarifies her values for the decision-maker. In performance the relationship between plans and facilities is vital to success. And even young adolescents can understand such relationships. One seventh grader reported great success in muffin making at school but demurred when asked to do so at home. "You see," she told her mother, "at school we have one oven for baking them and another for browning them."

One mark of the highly creative individual is thought to be his self-starting ability. As soon as he becomes aware of the problem, he starts having ideas as is demonstrated in brainstorming. But these ideas stem from relationships which he already possesses. In his "originality" he is simply rearranging in new ways, redefining the use of familiar things in unfamiliar fashion. Information and techniques gained in out-of-school learning are often borrowed for some flexible new applications.

Another characteristic of the highly creative individual requires more follow-up from the school. The student may exuberantly announce what he may call a "break-through"; psychologists label such transcending of the old an "insight." Many adolescents, having thus achieved Rogers' "Eureka" feeling, feel a let-down of interest and are more than willing to suggest "Let George do it!" Adolescents and adults need to be persistent in carrying out original ideas. That is the contribution of the school to adolescents. Sometimes life disciplines adults to see through their inspirations; if not, the whole process becomes a futile "flash in the pan" unworthy of maturity. Anne Ree's studies of leading artists and scientists in several fields found that only one trait stood out in common among individuals. This was a willingness to work hard for long hours. Edison, who ranks among the best of inventors, declared that his success was 2 percent inspiration and 98 percent perspiration!

Obstacles to creativity

Miss Crane, dreading failure of her changed teaching, checked with care on such suggestions as she could find in the literature concerning blocks to the creative process. She first located some hypotheses suggested by Cronbach some years ago as possible causes for difficulty in any problem solving. One of these he labeled "rigidity." He believed that this might spring from a sense of inadequacy, and recommended that teachers try to build self-confidence in such students since it takes

courage to discard one idea and wait for a new one. The second factor, he suggested, might well be perfectionism, and this is frequently quite evident in home economics classes. The third he labeled an "insistent individualism" because of which a student will not try to attack a problem. He resists conforming to a teacher's or his own peer's ideas, even though he may have no idea of his own to offer at the moment. This is thought to appear more frequently in boys than in girls.

Torrance and his associates are largely responsible for the findings from more recent studies. They approach the problem with a sharp focus on creativity alone, not general problem solving. Yet the blocks to the creative process discovered in their research certainly relate to the earlier conclusions of Cronbach. Here are the blocks reported by the Minnesota group.

- * Fear and timidity on the part of teachers lest "the students get beyond my control."
- * Frequent restrictions on curiosity and manipulateness when students say, "I wonder what would happen if I . . ."
- * Over-emphasis or misplaced emphasis on sex roles in a period when differences between sex roles are becoming blurred as never before.
- * Premature attempts to eliminate fantasy which may operate even in adolescence.
- * Misplaced emphasis upon verbal skills when freshness and spontaneity in creation are associated more often with an ease of emotional response than with a conventional vocabulary.
- * Destructive criticism when some experimenting is student-initiated and/or the product is commonplace.
- * Coercive pressure from peers--the block that started all of Miss Crane's self-questioning.

Guidance of creative learning experiences

Armed with such specific causes of failure, Miss Crane tried to evolve positive measures for avoiding these. Addressing the Minneapolis Teachers League on May 20, 1959, Dr. Torrance offered these instructors in a great urban system twenty ways of developing creative behavior through school experiences. For home economists Miss Crane's list is shorter but equally important.

- * Try constantly to help students enjoy freedom with self-discipline and self-responsibility--such self-control is no "off again, on again" type of growth.
- * Provide a rich stimulating environment as an essential basis for creative expression.

- * Encourage risk taking and unusual variations by the more creative students in order that they may move freely instead of being habit bound by a specific assignment.
- * Offer a choice of assignments with different but specific instructions to the least creative students in order that they may experience at least the stimulation of considering alternatives.
- * Provide "warm-up" activities, of which brainstorming is an excellent example but not the only way of stimulating ideas.
- * Point out variety in the raw materials from which creativity must come, whether these be human relations, applied science experiments, or proportions in art forms.
- * Provide for individuals and groups quiet as well as active periods in class--the bathtub, the bed, and church have often been named as the birthplace of a new idea or insight.
- * Contrive situations which will enable students to understand the phenomenon of relationships between ideas, materials, events, themselves by pointing out possible new relationships, sequences, and contrasts. Some authorities have defined creativity as relating existing things in unusual ways.
- * Use thoughtful judgment in the degree of competitiveness encouraged in a class; competition can be stimulating to some, devastating to others.
- * Treat imaginative questions and ideas with respect and give opportunities for experimenting and practicing before passing a judgment on them.
- * Reward creativity; the Brechers recommend in their article that teachers and parents should show pleasure when a youngster does "create" something even though it doesn't seem remarkable to an adult.

Mutual evaluation

The hypothesis for mutual evaluation in student-teacher coexperiencing is that, because it is relatively devoid of power over each other, it offers the maximum interplay of true perceptions, the maximum of communication, of understanding, and of harmony. This is what Miss Crane sought in her vigorous, mutually stimulating relationships with her students. These are some of the conclusions she reached in the process.

- * A student learns creativity when there is a mutual relationship of giving and receiving suggestions.
- * The proper criterion for judging a student's contribution or production is mainly the value of the creative experience to the student himself, occasionally to his group, and only very rarely to the accumulated social heritage, even at the college level.

- * The teacher must cultivate sensitivity to beginning efforts and perceive their potentialities for growth.
- * Teachers must learn to value and reward varying degrees of creativity more thoughtfully than in any other form of achievement and growth.
- * Imaginative work needs to be cooperatively judged according to individual progress rather than by group norms.

Of course, like all teachers, Miss Crane encountered considerable difficulty in putting into practice these clear-cut principles. She had a hunch that she might have a tendency to identify the product with achievement. She was all too correct! It was very hard for her to keep from over-rating the importance of the finished product, without considering whose ideas were represented and what was really learned. She discovered that her critical faculties were over-developed when a contribution contradicted some of her most cherished prejudices. And how can a teacher be expected to evaluate an achievement which surpasses her own concept of what is reasonable or necessary--perhaps a better result than she thinks she could achieve? "Well, a sense of humor helps," reports Miss Crane.

What happened to the investigation of peer pressures?

In informal action research in a classroom two outcomes usually surprise the investigator. One is likely to be that the expected did not happen. The other is that, perhaps due to her open-minded, inquiring observation, she learns a great deal about many other aspects of her students and her teaching.

You will recall that the selected students did not turn out to be so highly creative as she had been led to believe they were. She watched in vain for evidences of the peer pressures so clearly seen in the primary children. She speculated that home and school and general maturing had so "civilized" her adolescents that, although they occasionally felt the gusts of emotion to which little children give expression, they resisted the temptation to show these. Moreover, as the Brechers point out, in a good high school there are many outlets for various types of creativity in different subjects and especially in the extracurricular activities. This might tend to reduce their feeling of competitiveness if their creative needs were being met in other activities.

Teachers in less favored localities, however, may well encounter students who are less traditional and conventional in their viewpoints--but possibly, by the same token, more spontaneously creative. Such students, some of whom may develop into valuable innovators with the help of an understanding teacher, may be deliberately taught the following skills for avoiding peer sanctions, according to Dr. Torrance.

- * Be aware of his superiors, peers, and subordinates as persons.
- * Know his place without being timid, submissive or acquiescent.
- * Speak his mind without being domineering.
- * May work alone but not be withdrawn, isolated, uncommunicative.

- * May maintain his assertiveness without feeling hostile.
- * May be sharp without being overcritical.
- * Can be subtle but not cunning or manipulative as he tries to gain a point.

Miss Crane would add:

- * Develop a tolerance of unfamiliar ideas offered by others.
- * Protect a hearing for minority ideas and solutions to problems.

Differences apparent in students

Contrary to the common view prevailing some years ago, everyone is capable of creativity. However, research tells us that students differ widely in their general creativity, in the time when creative abilities first appear, and in their competence in applying creative thinking to specific problems. The individual differences in creative abilities found in a class are at least as large as the differences found in other abilities, physical or mental. Students differ not only among themselves in general spontaneity and originality, but each student differs within himself as to the degree of his creative abilities in different areas.

In an environment where they were free to try out their own ideas and felt they would be valued as persons if these ideas were quite individual, Miss Crane discovered that students tended to relax and act more naturally than she had ever seen them except in extracurricular activities. As a consequence, while the findings from research were only dimly visible, she felt she had a broadened perception of many of her familiar students. She noted the extreme restlessness of one of her high IQ students, the silent withdrawal for a time of a usually talkative girl. Both behaviors seemed to stem from self-doubt which was ultimately overcome.

She was particularly intrigued with the conduct of Marilyn who so calmly proposed to work alone. Although Miss Crane was reluctant to recognize this, she privately wondered if both she and the other students had shown undue concern about keeping the richest girl in the class surrounded by attentive friends. The pressures of a socially ambitious mother were probably in the same direction. In an environment of relative freedom, Marilyn felt free to assert her need for quiet and solitude, a need which no one in the classroom had ever perceived.

While deliberately trying to observe behavior of individuals, she began to examine another concern common to parents as well as teachers. She wondered if the fear that a student would not develop into a "well-rounded" individual made sense in today's and tomorrow's world. A society of individuals leveled off into dull mediocrity surely would find coping with the foreseeable future an impossibility. Why, then, should a home economics teacher feel discouraged when a gifted science student is seen reading a book on physics instead of polishing her party preparation? Lopsided development? Of course! But most creatively productive adults, too, choose to devote a very great amount of time to one interest.

Is creative teaching worth the effort?

That is the \$64 question asked by Miss Crane and the many other teachers who have recently been experimenting with trying to develop creativity in their students. Mrs. Pauline Gubbels, a graduate student in a class taught by Dr. Phyllis Lowe at Purdue University, stimulated nine in-service teachers to try the techniques they had been learning in teaching one lesson with the creative approach and one with a non-creative approach, then to compare results.

Mrs. Gubbels found that "all nine teachers reported the creative approach as producing the best results in their students. They substantiated this statement by pointing out that more interest, more enthusiasm, more spontaneity, more self-direction, greater retention, better selection of experiences, and/or more questioning was noticed among the students taught creatively." With this pooled judgment Miss Crane is in hearty agreement.

However, seven of the nine teachers averaged two or three times the amount of preparation time required in planning the creative lesson. In spite of the obviously improved results in teaching, this fact naturally led to some reservations about the feasibility of creative teaching. But two other facts must also be taken into account. The first is that teachers experienced in using one approach could be expected to require more time in preparation for using an unfamiliar one. This differential in preparation time should disappear as experience is gained in creativity.

The second fact is emerging as instructors continue trying to teach for the development of creativity. When a teacher looks with fresh and candid eyes at her students and her teaching, the need to give students ample time becomes very apparent. When this is done, the average preparation time per lesson may be expected to be very little (if any) more than for a traditional lesson.

Nevertheless, suppose learning to teach creatively does mean developing new skills and habits! Miss Edna Amidon, Chief of Home Economics Education in the Office of Education, recently deplored that the public lacks understanding of the contributions of home economics to "students' ability to think scientifically and creatively, and to education in human values as a function of the schools." She warns that we must "discipline ourselves if we are not to be disciplined by outside agencies and groups." The choice is ours!

Lessons That Lend Themselves to the Development of Creativity

In the Purdue experimenting, each of the nine teachers of necessity used the lessons which they had earlier planned to teach. As Miss Crane did, they merely used the creative rather than the teacher-dominated approach in altering their former methods of teaching. They succeeded in doing this in several aspects of homemaking teaching. In this section are offered examples of many lessons that have lent themselves to the development of student creativity.

How much creativity do we want?

All persons will encounter change. Hence a creativity program is not designed for the development of an elite leader group, as far too many teachers of Art have seemed to believe. This program must embrace the whole population of our society to the extent of their individual abilities. Creative leaders can win influence only in a society where people are disposed to be creative.

"All chiefs, no Indians" would negate our efforts at teaching cooperation. The trick with each class is to achieve a successful balance between the conformity of cooperation and the adventurous risk of creativity. Students need and want limitations on classroom freedom.

Not even the "greenest" of student teachers would perceive a lesson on inserting a zipper as an ideal one for developing creativity with beginners in clothing construction! Some technical processes have been standardized through the expenditure of much time and money; directions must be understood and followed exactly for economical and efficient results. We are told that 1/3 of our nation will soon be supporting 2/3 of our population. There will be no place in our society for one who has not learned to follow directions precisely.

On the other hand, advancing technology may soon change one or more aspects of many construction methods, such as new materials in zippers, an improved sewing machine attachment, obviously different directions; perhaps zippers of any type may become completely obsolete. Here again learning the indispensable behavior pattern of following directions precisely must be balanced against learning to adjust to changes with a maximum of mental health and imaginative satisfaction.

A complex problem? Yes, indeed! Every year decisions on teaching procedures become more complicated. One teacher answered the "how much?" question quite honestly in this way. "I reckon I'd better use the creative approach whenever and wherever I think I dare for I surely do enjoy the comfort of my dear old ruts!"

The younger the better

Observations in many schools seem to suggest that creativity comes more easily to teachers and students at the elementary level and next best is the junior high school. Of course, this does not imply that achievement of an organized body of subject matter is unnecessary in these grades! But more spontaneity and innovations can be introduced into this learning.

A seventh grade teacher had just introduced sewing machines into the lives of youngsters who had, as one child phrased it, "never before been right up close to one of these things." The correct threading was hard to remember. Then she heard one girl off in a corner sing-singing something to herself. Not wanting to let too many "Flower Drum Songs" get started, the teacher moved to listen. The youngster was making up a rhyming story to help her remember the sequence of threading and didn't even notice the teacher's approach. The next day Peggy was invited to share her rhyme

with her class, even though the instructor risked more humming. She had balanced the conventional classroom atmosphere against the interest factor--and interest amply supported her faith in it. Moreover, the rhymer proudly obliged with several more "memory aids" during that year.

Another teacher deliberately taught her youngsters the "reminder game" as a technique for later explorations into their current knowledge. She asked, "What are you reminded of when I say:

Soap and _____?
Paper and _____?" etc.

Then in studying food flavors, for example, she asked each student to write after a list of foods the combinations with other foods that they had known. All foods on this list could serve as a basis for a casserole dish. Most replies were the usual combinations, such as:

Macaroni and cheese, tomatoes, hamburger.

These responses furnished an excellent idea of what casserole foods were being prepared in the homes. For instance, she was astonished to find a few who had no experience with macaroni and no ideas on combinations. Others taught teacher something new, such as the student who reported combining a can of chili with some macaroni.

Later students tabulated all combinations for a given food and found a comparison of the nutritive value, cost in time and money, difficulty of preparation, and relative attractiveness in flavor and appearance of their own "brain children" much more exciting than if the combinations had been proposed by the teacher. One Monday morning a "Home Recipe Exchange" was followed by a group effort to formulate the science principles involved in casserole cookery. These were duplicated along with the recipes and carried home with delight. Not one child asked the familiar, "When do we cook?" They were far too busy and interested to think about it! And the teacher had saved her school funds for lessons involving cookery techniques that required classroom practice.

Most authorities seem to recommend group competition for stimulating creativity. The junior high school age enjoys good-natured competition in solving identical group problems. One example is the challenge of rearranging equipment in a unit kitchen for the maximum efficiency in preparing a breakfast of cocoa, scrambled egg, and toast. Objective evidence can be collected by tracing the necessary steps of a cook with string wound around the nails that hold paper slips representing the various pieces of large equipment in the unit kitchen and measuring the string at the completion of the whole task. The tangible quality of this evidence seems to appeal to youngsters in the same way that a cut-out puzzle does.

One error to be avoided always is allowing inadequate time. So long as ideas are being generated, even at a slower and slower pace, the work should go on. Dr. Benjamin Bloom of the University of Chicago, who has done considerable research in creative problem solving, states that "too little time seems to stifle productivity." To this inhibiting factor he adds "too much control, too detailed instructions."

Knowing these are threats to creativity, a teacher must often use the old Yankee technique of answering a student's question with another and refrain from interfering even when she perceives some gross error being

made. In the later class comparison of group plans, some student is certain to catch the mistake. In fact, after such a comparison, groups almost invariably ask to return to the problem to correct their own errors before handing plans in as finished.

The creative eye

What Florence Forst calls "the creative eye" can be gradually developed by students at any educational level from kindergarten to adult classes. Miss Forst points out that "the modern woman, who uses many more things than she makes, needs not so much skills of hand as skills of eye." In the May, 1957 issue of the Journal of Home Economics she identifies the three consecutive eye skills needed. All culminate in creative rearrangements of common household articles.

First a skillful arranger must see familiar objects as forms aside from their usual significance. For example, students may be faced with a counter full of likely and unlikely objects for composing centerpieces for a dining table. No longer will a squash be perceived as a vegetable for dinner but as a colorful shape that will be just the desired mass to give a sturdy foundation to an arrangement. Vague though the final arrangement may be in the creator's mind, always some selection must take place.

Next the arranger must relate objects to each other through their appearance apart from their function. For example, there is no need, once started on vegetables, for the innovator to limit herself to other vegetables. She may well assemble a weird assortment of objects and experiment in combining them. She is relating all these forms to each other in their various characteristics, accepting some, rejecting others in terms of color, line, "weight," texture, and all the other attributes which a "seeing eye" can perceive.

Ultimately the highly creative will come out with a whole that will make observers gasp and exclaim, "Now who in the world would ever dream of putting such objects together!" This third process is called integration by Miss Forst, a process by which separate objects are combined into a visual whole that is something other and greater than the sum of its parts. Even the least creative, stimulated by a wide assortment of objects from which to select and relate, will come up with arrangements more freely imaginative than they have ever before dreamed of combining.

To an instructor whose vision is hampered by her own preference for fresh flowers conservatively minimum in variety and arrangement, many of the students' results will appear so "far out" as to be hopeless. But why was this lesson taught in terms of student growth? Primarily for growth in imaginative flexibility in order that each participator in the experiences may be better able to meet radical changes in all his future modes of living. "Crazy" arrangements may well represent real, meaningful, developmental experiences for the creators.

And what harm has been done? Curiously enough, when students are faced with a decision as to which of all the arrangements should be shown in the department's exhibit case, the class choices usually express good taste as well as imagination! As one student said thoughtfully,

"Sure, these are the safest to show kids who will only be able to copy! A lot of the others are too beatnik for them to understand. But didn't we have fun!"

Some of us in home economics have seen the day when we would judge a "fun" lesson as a sheer waste of time. Today, commonplace or worse though results may appear to adults, specialists tell us that a person can become creative only through experiences in which he tries to act creatively. Cumulatively, such school experiences build his faith in creativity and increase his ability to do creatively things for which he originally had no skills developed. Such confidence and growth in creativity is vital for those facing conditions for which there are no patterns or precedents in human experience.

Other applications of "creative eye" skills

Repeatedly we are told that opportunities for developing potential creativity appear in many fields and diverse ways and forms. Lessons that permit applications of these skills of selection, relation and integration are literally almost innumerable in home economics. Let's use only the topic of "use of color" as a single example. Following are some "tried and true" ideas; probably at some time you have used these learning experiences but from the telling rather than the creative, experimental approach.

- * Determine the different ways certain combinations of table appointments make observers feel, such as dignified, frolicsome, friendly, conventional, efficient, freakish, old fashioned, family-style informal, and all the other possible variations to which a group might be sensitive. Then freely put together covers that combine place mats, china, glass, cutlery, that would generate some such feelings. Such experiences might lead many a soon-to-be bride to reassess the major effect she and her future husband might enjoy most over the years.
- * Explore the possibilities of today's many substitutes for the fresh flowers and plants that many homemakers lack the time, effort, and money to provide for their rooms. Some fine old prejudices of both students and teachers may have to be abandoned in the process, but results may well be highly appropriate to tomorrow's living.
- * Challenge the frequent "rule of thumb" so often offered in books, bulletins, newspaper articles, and advised by speakers on interior decoration that a good formula to follow in planning the color scheme for a room is:
 - "60% of one color or shades of that color
 - 30% of another color
 - 10% of color spots provided by cushions, books, pictures, and containers."
 Experiment with cut-outs of colored paper to determine how and why the quality of over-all results may vary when this formula is slavishly or creatively applied to a living room. Another

worthwhile experiment consists of student efforts to try out the neat little formula that two different woods may be used in the furniture of a single room "if used on a seven to three ratio."

- * Collect from available sources some typical colors and designs recommended for children's rooms, then try to duplicate these in miniature with whatever materials are at hand--colored wall papers, paints, swatches, hand sketches, etc. Even the least sensitive students can imagine what it would be like to live in a mass of "cute," strong colors and busy designs, further confused by the patterns created by the owner's colorful books, dolls and other playthings.

Many more examples of experimentation with color combinations will occur to a teacher of home economics. Trimmings, accessories, complete ensembles in clothing offer obvious possibilities. Foods on a dinner plate, arrangements on shelves or counters in bath rooms, kitchens, halls, living rooms, bedrooms--almost any combining of things may be creative even when, as in these examples, the practical purpose must be considered first and the selection of form follows function. With a minimum amount of help from an adult, some balance between fresh spontaneity and the mores of the social group can be achieved.

Clear and mutually understood goals

Many well-informed critics of schools are inclined to believe that "fuzzy" goals on the part of educators have seriously interfered with achievement of purposes. Richard Kerkhoff wrote in Merrill-Palmer Quarterly, Winter, 1959, the following warning concerning new trends in family life education. Perhaps these statements apply equally to other aspects of home economics. "Family life education is no longer a youthful, dynamic, pioneering, rapidly-changing field. I doubt, in fact, if family life education is changing as rapidly even as is the American family. Now, in this new phase, the field must produce real stuff--education and proof that it educates."

Too often teachers may resemble the father who tried to cure his ten-year-old son of spending his allowance on worthless items by having him write a detailed account of how he spent each penny. One night the youngster was laboring over his accounts and remarked wearily, "I sure think twice before I buy anything nowadays!" "Good," the father replied, proud of the way he had handled things, "I hope you always ask yourself: Can I really afford this item?" "Oh, I never ask that," the boy replied, "I ask: Can I spell it?"

Is creativity too abstract to be understood and accepted by students? "Not at all," reply the classroom teachers who already have "logged" a lot of experience in this new dimension of education. Adolescents unquestioningly accept the dizzy pace of change. What else have they ever known? They perceive their learning tasks in light of their past experience and readily assume that change will continue. The concept of and need for developing creativity is crystal clear to them. The proof that classroom activities are educating them for the future is not so clear!

Performance learnings, such as those suggested earlier, provide excellent outcomes for close examination by both students and teachers. If students continue to ask an instructor, "Is this what you want?" no Solomon is needed to conclude that the primary goal of developing creativity is neither clear nor understood by the students. And just possibly not by the teacher if she continues to grade on finished products but not on growth in creativity, instead of on a considered balance between the two.

Evaluation of growth in creativity

Today grades are assuming increased importance. Students and parents tend to equate what is graded with what is educationally valuable. If creativity is to be valued, students must be aided in finding honest answers to certain searching questions. These answers will need to be supported, whenever possible, by objective as well as subjective evidence from each experience.

- * Did I understand that creativity involves taking the materials and ideas which already exist and bringing them together in new and different ways?
- * Did I enjoy the freedom within limits and feel satisfaction in my own self-expression, even though it sometimes was a part of a group project?
- * Did I show some self-starting ability in experimenting and improving with resources available?
- * Did I recognize and seek necessary additional knowledge and techniques when blocked in trying to relate my present background in new ways?
- * Did I expend ample time in manipulating ideas and things in new ways, yet avoid "wool-gathering" and diverted interest?
- * Did I apply some form of reality test to the outcomes of my creative efforts so that my inspirations did not remain in the realm of fantasy?
- * Did I realize that I could grow in creativity by small degrees if my achievements were truly new to me?
- * Did I grow in judgment when deciding what situations called for conformity and which permitted creativity?

Criteria in a significant evaluation instrument have to be taught slowly and repeatedly if they are to be useful in self-appraisal. Each criterion usually involves language that requires interpretation, a concept that needs to be thoroughly explored as to the why as well as the how of its application, and a sequence of difficulty adapted to different developmental levels. For example, only the first three or four criteria may be achieved with less mature students. Ultimately, as research

develops improved methods of teaching, some level of attainment should be possible for older adolescents in all criteria, although in different aspects of home economics and always in varying degrees.

Values and creativity

If we really wish to know something more about a student's capacity to act creatively, we must understand something about his aspirations and values. Obviously the ability measured by IQ tests is not always operational for creativity. The relation between capacity to perform and the value structure of an individual is only now beginning to be exposed. There is, however, sufficient evidence to support a conclusion that the values of an individual may constitute a limitation on his capacities.

On the other hand, adolescents are looking hard for personal significance and the discovery by a student that he can play a creative role in thinking through a value problem can result in a complete reorganization of the student's concept of himself and his place in society. From this point of view the nature of the value problem may not be particularly important. The important thing is that he become personally involved in its solution and that no "pat" answer is known.

"Talent Salvage" in the recent National Goals Report refers not only to the gifted but also to those thousands of young people who will be thrown on the scrap heap if the schools are not made into lifelines to draw them toward their particular kind of fulfillment. If, as authorities believe, we can remove any of these students' limitations through creative study of their own and others' values, we shall be making one of our greatest contributions to the school program.

Therefore, in the study of valuing as related to personal and family living, all students should be warmly encouraged to try. The less able student is often so insecure that he feels he cannot afford to make a mistake in classes. Yet many of them are adventuresome and non-conforming in their lives outside of school. Can we not convince these youth that in Family Living mistakes are not our first concern since a simple "correct" answer eludes everyone? Can we not foster an atmosphere of acceptance even if a student's novel ideas may represent a distinct departure from tradition?

If there is need for evidence on the lack of "correct" answers, specialists can certainly provide it. In the January 3, 1961 issue of Look sixty pages are devoted to "Youth of the Sixties...The Explosive Generation." On page 36 statements of a sociologist, a teacher, a professor of religion, and a psychiatrist are quoted giving their considered judgments on the teen-age marriage trend. There is a notable lack of agreement in the opinions of these "experts." Even slow teenagers, because of their intense personal interest in youthful marriage, can figure from these statements something about the priority values of the different leaders.

Some examples of "value problems"

Current periodicals, newspapers, movies, TV programs are filled with situations that can be used with high school students. The problems of

today's youth are being analyzed by specialists, then reported in the popular mass media. Here are a variety of examples culled from recent sources.

- * On page 34 of the aforementioned issue of Look, a young married is quoted as believing, "My morale would be higher, I think, if I had an interesting job." Students are able to detect the fallacies in her perception of the situation and make various creative suggestions for coping with such attitudes.
- * In the same issue an illustration picturing loneliness as a teen-age problem on page 23 can be compared with the photograph of young marrieds quarreling on page 35. Possible consequences of continuing to operate on the inferred values in the pictures can be developed and constructive ways for changing attitudes be proposed.
- * In Family Weekly, September 11, 1960 Pearl S. Buck developed the thesis that "The modern young man no longer wants a girl like Mother." Because Mrs. Buck writes from an upper-class viewpoint her article stimulates a hot discussion of values in picking a mate in almost any public school group. Invite students to help in locating similar articles on controversial values.
- * In the "Teacher's Exchange" section of Marriage and Family Living, November, 1960, Dr. Evelyn Duvall reports some wildly contradictory findings from a national survey of Camp Fire Girls. Assuming this research as representing the feelings of many girls, students can be asked how they think such unrealistic values and attitudes toward homemaking could have developed and what they think should be done about it.
- * In suggesting ways to use the Brecher article referred to earlier, Dr. May Reynolds Sherwin proposes that the following question be discussed. "What would you (a parent) do if, one day when you were having guests, you found that your daughter had set the table with knife, fork, and spoon arranged in a fancy pattern in front of each plate instead of at the sides where we are accustomed to having them?" Junior high students as well as parents have ideas about this conflict between creativity and conformity.

"Tomorrow minds"

Calvin Taylor of Utah tells us that education's task today is to develop "tomorrow minds" rather than "yesterday minds." To behave effectively in the future universe, man must improve wherever possible his ability to predict the consequences of a given course of action. To do so requires not only clear but flexible, imaginative thinking.

Ready-made solutions which keep us from thinking of better ones, cultural expectancies and stereotypes which are no longer appropriate, and premature concentration on detail lead to what one psychologist has

called the "trained inefficiency" of the expert. Most of the really revolutionary ideas in human history have been the products of young people's thinking, perhaps because they are not so impressed with the traditional. Older folk can remember being asked scathingly, "Did you read that in the book or is that one of your own ideas?" Actually after a time many facts will be forgotten, but experience in creative thinking can remain as a permanent and practical process for decision-making throughout life.

Creative problem solving

The person who thinks creatively goes through essentially the same process as in any problem solving, with the possible differences that a greater emphasis is placed upon the imaginative, novel quality of the solution to the problem and that different technical terms are used. Most researchers in creativity are still using the four-stage analysis advanced by Graham Wallas in 1926--preparation, incubation, illumination, and verification. These four steps were developed from introspection of creative people, especially scientists, and on some experimental studies on these.

However, Dr. Torrance's suggested steps more clearly resemble our problem solving in home economics, and he believes that these should be deliberately taught to students.

- * Sensing of a need, random exploration, and a clarification or pinning down of a problem.
- * Preparation accompanied by reading, discussing, exploring, formulating many possible solutions; critically analyzing these solutions for advantages and disadvantages.
- * Birth of a new idea, a flash of insight sometimes evolving gradually after a period of considerable trial and error and, at other times, coming suddenly during a period of relaxation.
- * Experimentation to evaluate the most promising solution, then the selection and development of the idea or process.

Helpful hints on techniques to employ

In spite of ardent lip service, the sorry truth is that most teachers have not really "dug in" when teaching problems. You know all the reasons that we give to ourselves and others. Not until we teach thoroughly enough that we prepare students for and allow time enough for self-initiated learning are we likely to raise the level of creative thinking in home economics. There are plenty of assignments in the regular curriculum areas which will promote creativity as well as achieve traditional goals, so that we are recommending, not extras, but depth in teaching.

Dr. Sherwin, mentioned earlier, suggests that "An unusual kind of homemaking or an unorthodox way of settling a dispute might well be examples of creativity." Opportunities for imaginative thinking are all around us in home economics! And how students do "come through" with results! Here are some posters high school students developed for a corridor bulletin board. The series was entitled "Important Meetings."

- * Those behind with their studies please arrange for a conference with the Head of Lettuce.
- * All athletes please see your bottle of milk at once.
- * Candy-eaters and coke sippers will not be able to meet this week.
- * Tomorrow at breakfast - Big get-together meeting with the fruit. Everybody welcome!

How can such free-wheeling yet accurate thinking be stimulated? Here are some suggestions from teachers who have been experimenting with creativity.

- * Stimulate each student to work to capacity. Fifth grade health texts now offer the information used in these posters on diet. But meeting the challenge of posters forced the high school students to confront problems which stretched their imagination and ingenuity to the limit.
- * Use the approach "Let's think up an answer." Teach in terms of unknowns. For example, the preview of what changes will come into our lives by 1975 as reported in "The Fabulous Fifteen Years Ahead" in Changing Times, January, 1961 offers many opportunities for applying known principles to unknown conditions. Students' answers may seem a bit bizarre--but so do the projected changes to adults. Factual knowledge must continue to be important, but stress should be placed on relationships, on cause and effect, on comparisons with personal experience, and on contrasts with contemporary conditions.
- * Sharpen your focus. Edgar Dale declares that a "poor case situation covers ten points; a good one uncovers one." Fuzzy problems inevitably encourage fuzzy thinking.
- * Encourage the habit of working out the full implication of ideas. Instead of asking "Should we buy where trading stamps are given?" and accepting some superficial answers, lead students to bulletins that report research, let others "market" for common grocery items at stamp and non-stamp stores, compute savings at certain stores, then figure how much purchasing would be necessary if savings were used to buy the desired premium.
- * Teach students to value creative ideas in everyday living. Dr. Torrance suggests a notebook as an "idea-trap." Challenge them to identify in their not inconsiderable buying experience such problems as fraudulent scientific claims, bait advertising, faked advertising demonstrations on television, fictitious pricing, planned obsolescence, misleading guarantees, cheating in packaging, and credit deceptions.

Creativity in school and community projects

Can creativity be applied to situations where complex jobs are to be done, requiring rigorous application of thought, sustained effort, and

group sharing? Yes, but only after students have had considerable experience with individual creativity and have learned how to share their creative activities in smaller groups. Dr. Solomon Asch of Swarthmore College found that college students tended to subordinate their own ideas to large groups, even when the majority was obviously wrong. Lack of clarity or knowledge seemed to increase their compliance, hence clarification of the total project should precede creative planning. Here are a few large group projects that have been successful in developing students' potentials for creativity.

- * A puppet show depicting several Mother Goose rhymes prepared by students for a play school, later repeated for primary pupils.
- * Another puppet show with student-made script, "Weighty Problem," presented at PTA and other meetings of women.
- * A community program with demonstration and attractive informative booklet on "Dried Flowers for You."
- * Home Economics at the Science Fair, an annual school and community event in cooperation with other areas of subject matter.
- * A scoreboard at a County Fair that lighted a score as an individual punched foods eaten for breakfast; if the score was 100, he received a tag to wear proudly.

Time! Time! Time!

Alas, neither students nor teachers have unlimited time, no matter what fascinating and worthwhile opportunities arise! We all know we cannot continue adding to a program without subtracting. Miss Amidon of the Office of Education, accepting that ultimate choices in use of educational time rest with the teachers, has urged us to somehow find time to do four things.

- * Examine our professional activities as to purposes, procedures, and accomplishments.
- * Weigh relative importance of activities in which we are now engaged.
- * Decide on most important things to do, considering the foreseeable future.
- * Be realistic about amount that can be done by teacher and students.

One machine can do the work of 50 ordinary men in many industries today, but no machine can do the work of one thinking creative mind. Time for developing such minds has a high priority, indeed! We in home economics seem to have an almost infinite number of possibilities for contributing to this goal of education. Let's reassess and revamp our teaching, beginning right now!

Teachers, Too, Must Be Creative

What had happened to the teachers in Aden High School, as reported at the beginning of this article? Perhaps Edgar Dale offers an answer in the following quotation. "The disease in all professions is stagnation, a failure to grow in professional wisdom and competence. The curve of growth is not a typically rising line, but one in which plateaus are soon reached. We wonder why children don't want to learn, yet their teachers may exemplify persons who have stopped learning, who have little feeling of need for disciplining themselves to high standards of professional excellence...what is lacking is the zest and joy that comes from creative discovery, knowing why as well as how, trying out something that hasn't been done before."

The accelerating technological advances and the resulting changes in our social organization and institutions which are now taking place have radically changed our concept of the adequate teacher. In a society where change, although present, was so slow that it was perceived, if at all, as a slight displacement from "normal" conditions, it could be assumed that the ways of teaching which were considered adequate for the present would, with a little updating of specific subject matter, be adequate for preparing students for the future as well. For example, mastering the "Bishop Method" was perceived by some as about the only change necessary in teaching homemaking.

Rungs are not for resting

Educators, as well as critics of the schools, are talking much about quality teaching these days. But it is not enough to declare for excellence without deciding what we mean by excellence. One man who is frequently named as an apostle of excellence is John Gardiner, President of the Carnegie Corporation. How does he himself practice what he preaches? "His career," we are told, "has been dedicated to flexibility, venturesomeness, and creativity--to a range of values opposed at every point to rigidity and stagnation, to conformity and compromise."

This month Paul Woodring, Educational Adviser, Ford Foundation, offered six imperatives for professional organizations today. Three are related to creativity.

- * Look ahead in planning since we are preparing students to live in an unknown future.
- * Seek out talent and fill staff positions with people who are able and imaginative.
- * Be willing to lose membership in a good cause; creativity must expect criticism because its work, by its very nature, is adventurous.

In an investigation made by Jesse Bond in California the quality of creativity was discovered to be the chief difference between the good average teacher and the superior teacher who stimulates his students to

see that which is sufficiently novel and engaging in content as to cause students to respond to its challenges with curiosity and imagination, and cause them to seek applications in light of their own backgrounds and interests. In the terminology of industry, these superior teachers were the more highly productive.

As a result of organizational and technical advances the per capita productivity of industry has been increasing at the average rate of 3 percent for many years. During this same time the per teacher and per student productivity of the schools has risen, by the objective measures at our command, very little. It cannot be expected that the cost-conscious taxpayer will remain undisturbed by this apparent "inefficiency." The creative quality seems so pervasively essential that it has a right to demand that in merit ratings a premium be placed on creative teaching.

Why do teachers resist creativity as a primary goal of education?

Thoroughly discouraged after studying in 1960 the self-stated objectives of a representative sample of social studies teachers in elementary and secondary schools, Paul Torrance concluded: "On the whole, the pattern of objectives obtained from social studies teachers appears to be ideal for producing a generation highly susceptible to "brainwashing!" He feels strongly that four improvements in pre- and in-service teacher education are immediately essential.

- * Emphasis upon the techniques of inquiry, experimentation, discovery as methods of teaching.
- * Utilization of tests that not only measure what students know but also what they can generate from what they know.
- * Requiring study and practice in the psychology of thinking, including the creative, as well as psychology of learning.
- * Demanding increased depth in and an up-to-date grasp of the subject matter taught.

There is considerable evidence accumulating that teachers see no real need for such improvements, just as the Aden teachers perceived the imported lecturer as a mere time-filler gesture of the administration. Teachers, like other human beings, tend to resist change.

Change, of itself, is a strain on an individual. The hardest thing to accept is a disturbing idea! Remember the cartoon in a recent Saturday Evening Post where a wife is phoning the boss as her husband is seen in bed? She is saying, "He won't be in today. He woke up feeling very insecure." So do many thoughtful teachers! Instead of the comfort and safety of their previously tested processes and well-traveled pathways, teachers are being asked to break out of their present mold. One doubting Thomas exclaimed belligerently, "Which would you rather have, creative students or crooked seams?" Although few would perceive the issue as an either-or proposition, if an actual choice had to be made, educational leaders would undoubtedly vote for creativity.

Certain technical processes are standardized and must be taught with exactness for the same reason we teach the correct spelling of a word. Our critics are asking us to remove some of the detailed regimentation so often found in home economics classes, the teacher-imposed adult standards of performance, the thwarting of the safe exercise of curiosity and adventuresome investigation, and the failure to allow for student initiative, resourcefulness, and unorthodox thinking in problem situations.

For example, one teacher in a junior high school announced that the next day all students would prepare a "one-egg cake from scratch." One student, not notable for her love of manipulative activities, showed up the next day with her own package of "ready-mix" and enthusiastically proposed a comparison of her results and their cost in time, money, and effort with those of other class members. What do you think this teacher did? We'll leave you to guess with only this one clue about her: during summer vacations she stores her file of school recipes in a bank box!

Radical changes in the primary goals of education must always be thoroughly interpreted to students, parents, and occasionally to reluctant administrators. An amusing example of this need is offered by John Scanlon in his feature, "Report Card," in the Educational Supplement of Saturday Review for January 21, 1961. "Parents in East Grinstead, England, complained recently that their children in the Aston House Preparatory School were being taught 'creative lessons' in which they were asked to imagine they were dead." Often, however, others realize the seriousness of our situation even before teachers do, and will be critical if we fail to take action in reasonable ways.

Contentedness does not breed creativity

Some of Dr. Bond's "good average" teachers feel none of Dante's "divine discontent"! Today that attitude is dangerous if nurturing creativity in youth holds one of the best of all hopes for the future of mankind. Allport warns us that "The surest way to lose truth is to pretend that one already possesses it."

Others, not eager to leave their fixed and comfortable routines, declare that they simply have no aptitude for this God-given creativity that exists in some people. And, they think privately, "queer ducks they are!" They perceive creativity as a sort of process of spontaneous combustion--whatever comes, springs full-blown. Nothing could be farther from the truth, of course. Every teacher has the potentials for and can cultivate creativity in herself with hard work. No magic about it!

Dissatisfaction is the motivating power behind creativity--dissatisfaction strong enough to push individuals toward new solutions. Someone has said that the creative individual is a driven man. Every teacher needs to develop a self-image of himself as doing something he has never done before. Sometimes, tritely enough, necessity is the mother of invention. Consider the two home economics teachers in a California High School who arrived at the opening of school to discover that enrollments in Homemaking I had exactly doubled. Jubilation over achieving their heart's desire was somewhat dampened by also discovering that for these

ten large and enthusiastic classes the administrator had provided two teachers but only one all-purpose laboratory! Such creative innovators as these two dedicated instructors became! Their story is a saga of courage, inventiveness and good will.

As the old sea captain is supposed to have said, "To stay young and flexible in our minds and feelings, we must be limber, loving, and a little looney!" Many of the solutions of these California teachers were necessarily far from orthodox. Their most frequent expression was "Great Scott! What do we do next?" But their students savored the innovations and enjoyed their adventurous-spirited teachers. And even the least imaginative class member probably became more creative as he observed new developments forever emerging. At least, students and their teachers were sufficiently sold on the over-all outcomes that they requested that classes be continued indefinitely on a dual basis!

New challenges facing home economics

We hope you have read Ruth Cowles' "Home Economics for Intellectual Competency," the excellent lead article in the Journal of Home Economics for December, 1960. In it she says, "This seems the right time for forgetting the traditional and having really new beginnings." Note the creativity that will be required to meet the several improvements that she recommends near the close of the article. Even more radical changes are going to be necessary if the "Images of the Future" plan is adopted for many high schools. When we ponder "The Fabulous Fifteen Years Ahead" in the January, 1961 issue of Changing Times, and similar projections of the future, we begin to feel like the pre-schooler who was asked what he was going to paint. The ready reply was, "I don't know yet, but I might surprise myself!"

Almost any group of teachers can have a zestful time arguing on the issue, "Should programs in home economics place emphasis upon the principles of the physical and behavioral sciences with a corresponding de-emphasis upon manipulative skills?" Yet creativity as well as "brushed-up" subject matter will be necessary if the vision put forth at the American Vocational meetings is to become a reality. New courses of study will be only as good as the teacher who puts the units into action. Frederick McDonald in his 1959 Educational Psychology supports this point of view in his statement, "At the moment when a teacher decides what is the appropriate educational procedure to utilize, teaching is essentially creative."

It requires a skilled and perceptive teacher to meet the challenges suggested by Miss Cowles, Dr. Trump, curriculum consultants, and the many leaders who will be heard from as time goes on; above all, it will require on the part of every classroom teacher a willingness to try. Mistakes in judgment will and can be made, but if the students know (and they are quick to sense this) that the teacher is working to help them, these mistakes can be used to learn from and will harm neither the classroom atmosphere nor the students.

How does a teacher start to cultivate creativity?

Each of us has some potentials for creativity; the teaching situation offers ample opportunity for our development as well as the growth

of our students. Singly and in groups, we should begin to question assumptions on which our present practices are based. We might discover those practices that are too expensive to be continued in light of their educational contributions, just as have hospital administrators who have been driven by soaring costs to reassess their traditional ways of doing things.

The second step is to set up one specific goal of improvement for a teacher or for a group. Why only one when many aspects of the program cry for creative action? Because there are danger spots to watch in oneself; if too many materials are needed, if too many people or too much work are involved, you may get tired and give up before you ever start!

Next, like Miss Crane's students, you brainstorm for all possible ideas, and ultimately select one that seems to have realistic but constructive possibilities. One group in a city high school felt that home economics must accept the opportunity to offer a special elective course to seniors. Such a course, they were advised, should be designed to stimulate students' interests, serve as an introduction to college studies or to career occupations. NOT just some more of the same! They are currently developing a course named "Family Life Preview" to be taught by a team made up of instructors in the fields of social studies, health, and home economics. Their work is not completed, but they have already reached at least one important conclusion--team planning and teaching aid in cultivating creativity in all the team members.

Finally practices, large or small, that give promise of the improvements sought, are courageously tried out. Methodically and systematically evidence is gathered to test the worth of these changes. Results may be quite thrilling to you and your students. Even if they should be partly or wholly negative, you will find your students enthusiastic and cooperative about taking a chance on your next "try." It is easier for them to be "limber, loving, and a little looney." Indeed, they enjoy it!

Enjoy it for yourself!

Gesell says that at all ages, if we could work creatively, we would have less fatigue, less strain, more integration, more wholeness, more satisfaction. How readily we can observe this in youngsters!

But youth is not a time of life; it is a state of mind. It is a temper of the will, a quality of the imagination, a vigor of the emotions; it is a freshness of the deep springs of life. Youth means a temperamental predominance of courage over timidity, of the appetite for adventure over love of ease. This often exists in a teacher of fifty more than in one of twenty. All of us are as old as our fear, as young as our self-confidence; as old as our doubt, as young as our faith.

Even having only attempted to create, one can often find peace within himself and compassion for others. According to an Asian proverb, "The journey of a thousand miles is started with a single step." So happy creating to all our readers!

PLAY: ITS VALUE TO THE YOUNG CHILD

Lila Oderkirk
University of Illinois

As home economics students turn their attention to the study of child development, one area which all too frequently is taken for granted is that of PLAY. The casual observer sees children at play and concludes that they are simply "happy and busy." Often adults are completely oblivious of the significance of play for growing and developing children. What is this activity we so freely call play? What does it mean to young children? Is there any real value in play?

The purpose of this article is to answer these and other questions by briefly defining and describing the play of young children.

What is play?

An all inclusive definition of play for young children would state that play is living. Play is learning, growth, and development. A more specific definition is given by Hurlock in her text, Child Development, McGraw-Hill, 1956. "Play relates to any activity engaged in for the enjoyment it gives, without consideration of the end result." It is important to note that play is entered into voluntarily by the individual, whether a child or an adult. Also, one plays for the fun of playing and for no ulterior motive. What is work for one person is play for another, depending upon the external conditions and the motivating forces. When an activity is directed toward a specific end-result and the individual participates solely for the final product or result, what may have been at one time play becomes a form of work. For example, an activity such as painting or drawing is undoubtedly a form of play for a child when entered into freely as a means of self-expression. Dabbing, scrubbing over painted lines or watching excess drops of paint slowly drip down the easel paper may well be real play to a child. In contrast to this spontaneous expression, drawing or painting becomes a form of work if one is to sell his paintings as a source of income. The classification of an activity as either one depends on the individual's attitude toward the activity.

Clara Lambert, in her pamphlet Play: A Yardstick of Growth published by the Play Schools Association, New York, states the following regarding the significance of play for young children: "Play, in its deepest and broadest sense, is the bridge over which children must pass in order to grow up to make a satisfactory adjustment from childhood to adulthood."

Play, as a natural medium of self-expression, draws on a multitude of experiences, thoughts, and emotions. Through play children experiment with the world they know and with their individual emotional reactions to it. In essence, a child's universe is reflected. Play directly influences, and is influenced by, all aspects of a child's development: mental, emotional, social, and physical.

Play is educational.

To play is to learn. A major portion of a child's play consists of exploring and experimenting with materials in his environment. The following remarks given in Breckenridge and Murphy's Growth and Development of the Young Child stress the importance of free play for intellectual growth: "Feeling free to manipulate materials, to experiment with them, unhurried, and with a minimum of guidance, the child adds meanings which make his perceptions more complete.... Furthermore, these sensory experiences and perceptions provide facts to be used in reasoning, ideas to be expressed in language." Thus, through play elementary concepts such as size, shape, color, texture, and function are introduced. Contrasting concepts such as high and low, smooth and rough, and hard and soft are experienced in play. Considerable mental development takes place as children play with materials which lend themselves to experimentation and creativity. Block building, for example, provides unlimited opportunities for imaginative growth and reasoning. Essentially, blocks are the raw materials for everything from creations without a preconceived plan to elaborate fire stations, sky scrapers, and missile bases.

A considerable amount of valuable factual information is also acquired through play. Experiences such as collecting, exploring, reading, and excursions of various kinds are education for children of all ages. In reality such activities are, or at least can be, a form of play though adults may fail to recognize them as such.

Play helps children establish a clearer self-concept as they learn about themselves and their abilities. They gain a more realistic appraisal of both their capabilities and limitations through play.

Play of a dramatic nature broadens a child's understanding of roles of others. A child's own family is frequently depicted in dramatic play. As his awareness of others in his community increases, he frequently incorporates their activities in his play. To "be" a fireman in play, a child draws on his existing knowledge of real firemen as he imitates and "plays out" their activities. The child may know relatively little about firemen in the early stages of his play, but gradually acquires information from sources such as children, adults, books, excursions, etc. As increased knowledge is incorporated in play, it generally becomes more meaningful and enjoyable.

Language development is stimulated by play. In play young children use language for the following purposes: securing and transferring information, thinking aloud, securing what is wanted, and simple narration. A child's language development includes both comprehending and saying words. Social play, then, fosters both the child's passive (or understanding) and active vocabulary. Varied and rich play experiences influence both the accuracy and content of a child's verbal expression.

Play provides unlimited opportunities for children to express their emotional reactions (both positive and negative) to the world in which they live.

Release of tension, anxiety, and restraint is experienced in play. Erickson says that the child uses play "to make up for defeats, sufferings and frustrations, especially those resulting from a technically and culturally limited use of language." In free play, a child is able to formulate plans, solve problems, experience success and failure, comprehend and control his immediate play environment by manipulating the play materials as he desires. The necessary restrictions of daily life are minimized in play as the child experiences freedom and release. Expressions of imagination through dramatic play and other creative activities provide outlets for emotions which are often impossible, unacceptable, or imperceptible in real life. The therapeutic value of play may be emphasized by noting the scope of emotional responses experienced in the play situation. These responses include fear, anger, disgust, jealousy, distress, excitement, delight, joy, elation, and affection. Young children express these and other emotions in their play through speech and vocal sounds, facial expressions, body movements, and creative self-expression by manipulation of the play materials.

Physical activity, through play and exercise, is an essential factor in the complete picture of growth and development.

The rate of maturation, type of body build, state of physical fitness, and the child's previous experiences with a variety of activities influence his physical capabilities. Healthy young children possess considerable energy which needs to be released for their own, as well as others', best interests. Through large motor activities such as running, climbing, tumbling, and swinging, children release a tremendous amount of this surplus energy. To the amazement of many adults, children often run for what simply seems to be the sake of running. This may well be the case. For children, running is both freedom and fun. Running is "going places and doing things." Less tenseness, irritability, and nervousness result when energy is released through vigorous physical activity.

Through play children develop fundamental physical abilities and lay the groundwork for more advanced and complex skills. Both large and small muscle coordination develop through experimentation and repeated experiences with these emerging and improving abilities. If advanced physical skills are to develop, opportunities for rudimentary skills and activities must exist through play.

From play with others, children progress to more mature levels of social development.

Some research by Parten as reported in the Journal of Abnormal and Social Psychology reveals six types or levels of social play of pre-school children. These stages are briefly described on the following page.

- | | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Unoccupied | The child is not playing at all. |
| 2. Solitary play | The child plays alone and is not influenced by the presence of others or by their play. |
| 3. Spectatorship | The child's activity exhibits an awareness of other children. No interaction. |
| 4. Parallel play | The child imitates other children; plays near them without interacting. |
| 5. Associative play | The child plays with other children and interacts with them, doing the same or similar activities at the same time. |
| 6. Cooperative play | Complementary role playing. The child's play exemplifies some understanding and awareness of the play of others. Sharing of both ideas and materials for play takes place. Also, there is a marked sense of belonging. |

This progression to play at the cooperative level clearly delineates the gradual amount of increased social involvement.

It must be kept in mind that social play inevitably presents problem situations of considerable significance to young children. For example, a child is frequently confronted with a play group of which he would like to be a member. To become an active and participating part of the group he needs to draw upon his repertoire of past experiences for successful social techniques. The extreme value of learning in a variety of social situations shows its effects at times such as these. It is important that young children have opportunities to play under the following conditions: alone, with older and younger children, with children of both sexes, with varying amounts of adult guidance, and with a variety of both quantity and kind of play materials available. Through such experiences a child's behavior is gradually modified to be in accordance with the existing circumstances. For example, a particular child may be accustomed to playing with his brothers and sisters at home in a familiar and reasonably comfortable environment. Under these conditions his play might be at the more advanced parallel or cooperative stages. This same child upon first entering an unfamiliar play group, however, may well resort to play of a less mature level as he gradually "feels his way" in the group and the unfamiliar surroundings. One point which deserves emphasis at this time is that individual differences exist in children's abilities to adjust to new play situations. It is important that these differences be recognized and appreciated by the adults who are with the children at the particular time.

To summarize briefly then, play is living and learning. It is the means by which children grow and develop in all areas of development: intellectual, emotional, social, and physical.

It is the author's hope that you, as teachers, have found this introduction to the study of children's play rewarding and will want to secure additional information on this and other topics related to children.

A pamphlet entitled Observing and Recording the Behavior of Young Children by Dorothy Cohen and Virginia Stern is available from the Bureau of Publications, Teachers College, Columbia University, for one dollar. It is suggested that a catalog be secured from this office which reviews and lists this Bureau's recent books and pamphlets. There are several other publications listed therein which should be helpful to those actively engaged in teaching high school home economics.

The following books, understandably more costly than pamphlets, are suggested for both general background information and specific reference purposes:

- Breckenridge, M.E. and Murphy, M.S. Growth and Development of the Young Child. Saunders. 1958. \$5.50.
- Langford, L.M. Guidance of the Young Child. John Wiley & Sons. 1960. \$6.25.
- Martin, W.E. and Stendler, C.B. Child Behavior and Development. Harcourt, Brace. 1959. \$8.00.
- Moore, S.B. and Richards, P. Teaching in the Nursery School. Harper. 1959. \$5.50.
- Read, K. The Nursery School. Saunders. 1960. \$4.00.





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DEVELOPING UNDERSTANDINGS ABOUT VALUES THROUGH FILMS

Lela Adams, Home Economics Coordinator, Moline Public Schools
Ruth McNabb Dow, Home Economics Education, University of Illinois

"A picture is worth a thousand words," states a well-known proverb. Mrs. Evelyn Duvall has asked, "Do families sometimes hold back their children's development by emphasizing outmoded values?" These two apparently unrelated statements form the basis for this discussion of methods of using films and filmstrips in teaching the understanding of values and the manner in which they affect our lives.

Mrs. Duvall's challenging question suggests that, though parents may be the most emotionally weighted source of students' values, they themselves may not understand sufficiently what is happening to the world about them. Here the school may be of great service, helping to bridge the enormous gap between generations, interpreting parents to teen-agers and vice versa in a sympathetic (not sentimental) manner.

Concern for feelings has always been important to teachers of home economics. They have learned how to profitably take cognizance of feelings as a significant factor in learning. Helen Lodge points out that the choices adolescents make depend on how they perceive and define their problems. Teachers do well to help adolescents to become aware of the many-sidedness of problems, the possible consequences of choices, and the implications of adult and peer models chosen. In a culture which daily forces so many choices, equipping adolescents to become analytical--by using either real or vicarious experiences--is a clear and sound emphasis for teachers who seek to develop in teen-agers some understanding of their own value systems.

Recent Developments in the Area of Values

In Volume III, No. 7 of the Illinois Teacher the featured article was entitled "Studying Values Through Home Economics." Although this represented more than two years of experimentation and study on the part of the authors, only the most elementary techniques of using very short stories and playlets were recommended as a beginning in teaching values.

Values in current literature

Further development of techniques, however, has now become urgent. In the popular mass media the concept of "values" is appearing as never before. Public questioning of values held by underprivileged and near-delinquent adolescents is everywhere. Not so expected but equally important is the questioning of values held by the obviously privileged teen-ager. As one example of the latter, secure from your library the October 8, 1960 issue of The Saturday Evening Post and read "Suburbia's Coddled Kids." The evidence offered in this article certainly supports Mrs. Duvall's charge against parents' wisdom, even though they are well-educated and successful in terms of income and status.

In the professional literature, too, there is an almost spectacular increase in the attention to values. Less than two months after the completion of our article the May, 1960 issue of Educational Leadership, exploring the probable characteristics of schools in 1985, described a course in "Value Analysis" as the basic element of the program during all four years of high school study. The stated purpose was "to help each student to discover meaning, to develop increased commitment to a set of values, to provide opportunity to examine the conflicts among the many sets of values and viewpoints held by members of the society."

"In the sixties," writes Kimball Wiles in his projection of the high school of 1985, "it was recognized that unless citizens had values they understood, accepted, and could apply, the social structure would begin to disintegrate unless authoritarian controls were applied. To counteract the collapse of a democratic way of life, the school was assigned the task of making as sure that each student developed a set of values as that he learned to read." Details of this "Value Analysis" program are spelled out by Dr. Wiles in a startlingly realistic way. We strongly recommend a thorough study of the whole issue and, in particular, of the "Value Analysis" program.

Fundamental objectives in studying values

A 33 per cent increase in the number of subscriptions to Illinois Teacher this year seems to make imperative a repetition of the nine objectives toward which all learning activities are directed, whether the methods use skits and stories, films as in this article, or the more difficult role playing which will be reported on next year. Moreover, all the current literature seems to still support the fundamental quality of these goals.

- * To help students identify and clarify the values which they hold
- * To help students determine sources of their basic values
- * To help students understand the role of values in directing their lives
- * To help students forecast possible consequences of acting upon their values
- * To help students to develop an ability and desire to appraise their values
- * To help students examine critically their method of acquiring and changing values
- * To help students become aware of the impact of the conflicting values in American culture on their own lives
- * To help students develop an open-minded attitude toward those who hold different values and modes of behavior
- * To help students develop a workable and consistent philosophy of life

All the guides for developing understandings about values through selected filmstrips and films in this article are designed to contribute to the attainment of these objectives. No teacher should expect a skit or a film to change basic personality structure. But unless all our assumptions about the educability of the young are in error, study and social interaction in school do affect outlook and behavior. Moreover, although experiences of childhood may powerfully condition an individual's motivations, we have no reason to suppose that later experiences cannot moderate the effect of these earlier ones, change their directions, or even reconcile some of the conflicts they may have produced.

What are values?

We all know that, simply stated, values are what we prize in life. The most recent and scholarly interpretation has been provided by Raths. He defines values as "internalized aspirations based on experiences in which they were sensed, conceptualized, and submitted to tests of worth for further use in living." He describes the dynamic, changing character of values thus: "Value judgments are in process where aspirations are being actualized and where values are being submitted to tests of worth. Value judgments function in considered choices, and guide aspiring action based on such choices. Value judgments are cumulative, and they mature and develop in the course of use, as increments of value are realized, internalized, and extended in further living." Always the validity of the judgments rests on the clarity and the thoroughness with which the values have been stated, examined, and tested.

The difficulty of these tasks is obvious. On the one hand, we recognize that culture patterns and social class profoundly influence youth's ideals. On the other hand, we hold that each individual should thoughtfully and voluntarily arrive at the direction he believes his life should take. But the difficulty of the task does not absolve us of the obligation to undertake it.

How are values learned?

Laura Zirbes, a specialist on value education at the elementary level, reminds us: "To educate today's youth for the future in which they will live but that no one can predict, anthropologists tell us that we can and must educate for adaptivity, resourcefulness, flexibility, and readiness to adjust to constant change, but also for steadfastness to human values and self-reliance." There is no need in a democratic society to make all people think alike, feel alike or behave alike, but there is a common core of values and concepts which all should apply in their relations with one another. To the conservation of these human values and the continuous reconstruction of society for the attainment of those values, the school today is committed.

We cannot legislate values. We cannot indoctrinate values. We cannot coerce all students into values through fear or through systematic institutional rules and regulations.

Young children seem to learn values initially by imitation, identification, example and contagion. At first they seem to give blanket acceptance to extrinsic values. Later they begin to identify with peers

and teachers and to question previous values. Their values gradually become more intrinsic. They identify with an increasing number of those they admire or disapprove, first those immediately contacted, then those merely learned about. Under adequate guidance this should lead to further questioning and individual clarification of values.

"Causes abandoned for convertibles"

Sometimes even home economics teachers are inclined to think that students care too much about material things--and only about things! Even during the sensitive period of adolescence, youth often appear to be indifferent to the general welfare and callous to human need. Should students become involved in school problems emotionally as well as intellectually? Yet, indeed, if they have first been taught to understand their values, because each time they are involved enough to get excited about a point at issue, much creative energy is generated.

On the other hand, our world needs more men and women with sufficient objective understanding of themselves to be able to make decisions that are not warped by past hurts and unmet emotional needs. Fortunately good education and sound mental health go hand in hand. The way any education is carried on inevitably affects the mental health of students. In turn, their mental health affects their ability to learn. Among those who fail to develop any strongly held values, we find the over-conformer, the nagging dissenter, the under-achiever.

General guides for studying values

Every student is different. Every teacher is different. In no realm is this more apparent than when the nine objectives set up for studying values are sought. Yet there are a few guides for teachers that apply rather generally. Among these are the following.

- * Recognize that your values show in your every facial expression, gesture, tone of voice, word and action.
- * Choose situational problems to be explored with a high degree of selectivity in light of the needs of the particular group--occasionally of the needs of a single student with special difficulties.
- * Limit the number of situational problems explored to avoid superficial treatment that may only confuse; on the other hand, obviously no home economist should go to the other extreme and aspire to be a therapist.
- * Plan a thoughtful sequence of situational problems, considering such matters as moving from:
 - Impersonal to personal values
 - Group values to individual values
 - Simple to increasingly complex values
 - Less emotionally to more emotionally weighted values
 - Situations where consequences are relatively clear and can be considered objectively to situations where consequences are more involved and intangible.

- * Put forth maximum effort to build empathy with students whose experiential background is very different from your own.
- * Accept that there is much evidence that adolescents tend to operate on the basis of their personal values as well as in "the light of sweet reason."
- * Accept the responsibility for making Homemaking and Family Living classes taught by you increasingly rewarding experiences whereby students' valuing may become more mature.
- * Remember that persuasion is not education; carefully formulated questions must be asked of students--questions for which only they have the answers.
- * Accept students' answers, no matter how differently you may feel, with the comment that you now better understand their points of view; this technique tends to leave them in a thoughtful mood after a discussion.
- * Share your own feelings occasionally (you're probably unconsciously communicating them anyway) to aid in breaking down the barriers of reticence between you and the group.
- * Watch for evidences of student maturing through early unconscious imitation, then emotional identification, and later some deliberate acceptances of values that represent changes for individuals.
- * Help students to ultimately increase their recognition of the hierarchy of their personal and social values, at least in a rough approximation of their current feelings.
- * Insure through careful planning that the total experience in your class will give students time to establish new values; when they have made a satisfying choice, they should have a chance to plan their time in a way that will give this value a chance to be frequently expressed.

Using Filmstrips and Films

Utilization of visual aids in teaching may even precede recorded history. Colorful drawings of animals in the Lascaux caves in France apparently were used as long as 17,000 years ago to teach young hunters where to strike the vulnerable areas on their prey. This use for teaching has always been evident down through the ages. Indeed, George Eastman and Thomas Edison originally thought that the motion picture would first become a teaching tool rather than a popular entertainment feature. However, not until the 1930's did films creep into the curriculum. Because of the glamour attached to entertainment movies, films have become one of the most popular, modern A-V materials.

Advantages of filmstrips and films

Our present use of filmstrips and films in schools makes many contributions to the success of our teaching. Researchers have found that as

much as 96 per cent of our total learning is associated with our visual experiences. Hearing further reinforces the potential learning. A film cannot substitute for a teacher. But it is a rewarding supplement to the teacher and all the other resources of instruction.

Films can arouse and concentrate interest, present information, provide increased motivation, create situations for discussion and analysis, and clarify cause-and-effect relationships. A film insures a common experience, a springboard for discussion. It can realistically focus on a problem not otherwise perceived, eliminate the difficulties of extended time and space in the situation; and reading barriers may be overcome as well as intellectual barriers to learning.

Not only does the use of films tend to result in both a larger amount of learning and better retention but this type of visual aid often is effective in influencing attitudes, especially if the students' attention is focused on the values involved. It can provide the element of objectivity needed for a discussion of feelings--our own and others. Self-expression and the sharing of feelings may then be made easier. Films can enlarge horizons, give perspective, and help to develop unfamiliar appreciations. A good film encourages creativity in teacher and students--an important asset in the area of values where guide lines are less well defined.

Guides for selecting films

Certain criteria need to be considered when choosing any filmstrip or film. These include first and foremost suitability for the students, the school situation, and the community in terms of the home economics curriculum. Content should be up-to-date and timely, well organized, clearly and accurately presented in a way to develop interest and the ability to perceive distinctly, to reason impersonally and to discriminate among evidences of values.

The question of using free, commercially sponsored films arises here. Each should be judged on its own merits. If it fits your basic objectives and philosophy for the class and is impartial and objective in its presentation, it may make a worthwhile contribution to students' learning. The more successful some films are aesthetically, the less useful they may be for discussion. A film is neither good nor bad because it is sponsored. It is pointless and foolish to waste valuable class time on what one critic has called "entertaining baby-sitter" films that have no clear-cut relation to class goals. On the other hand, some will be helpful in studying values.

In addition, other factors need to be weighed when films presenting values and feelings are to be used. A highly biased film is likely to make it difficult to perceive various viewpoints, although deliberate use of such a film can be used as a springboard to lively discussion with proper preparation and guidance by the teacher. Two brief films with widely conflicting views on the same topic may be shown before considering the values portrayed in each. For example, the viewpoints of an ambitious retailer and those of a suspicious consumer may be shown in considering the "rights" of each in connection with the attempted return of an unsatisfactory garment for cash.

Most effective films are enacted by typical teen-agers in believable settings, not Hollywood glamour. These provide a realistic basis for lively discussion without the problem becoming personal. Although a whole constellation of values is involved in any important decision, the number of values shown in a teaching film has to be limited so that a sharp focus is provided for learning.

The psychological reason for this limiting lies in the fact that, at best, research and teachers' classroom experience indicate what a surprising number of different ideas students may get from viewing the same film. Of course, different home backgrounds and other environmental factors greatly influence students' feelings and their interpretation of and identification with characters on the screen. To offer too much variety could be overwhelming except to the very mature and talented observer. Adequately limited, variety in students' perceptions can provide for a rich discussion and broadened understandings.

Note that, while many teaching films are valued for their presentation of indisputable facts, "value films" emphasize conflicts in feelings. Films suitable for presenting facts--and only facts--may or may not offer enlightenment in the area of feelings.

Your major purpose in selecting a film should always be kept clearly in mind. Omit showing those parts that are not definitely contributory to achieving this purpose. Irrelevant material not only wastes time but often confuses the issues involved. No film is likely to be perfect for your purpose. Usually the solution is to present only that part of the film that is appropriate to students' thinking about values. On the other hand, rental fee or no rental fee, there is no justification for hesitating to decide against an entire film that, on previewing, appears to be a poor choice for your class.

Special guides for selecting filmstrips

As filmstrips teach chiefly through seeing, additional criteria for their selection are important. A filmstrip's story should be one adapted to being told by pictures alone. These should be clear and of high quality. Classroom testing suggests that black-and-white filmstrips tend to bore many adolescents, accustomed to Hollywood's technology. Consequently pictures should be in color whenever possible.

Filmstrips are of great value in visual teaching situations when motion is not an important element. More lengthy analysis and discussion are possible with filmstrips; the projector may be turned forward or backward at the wish of the instructor. Do not, however, leave the projector on one frame too long at a time lest heat from the bulb destroy the strip. Filmstrips may be shown effectively to small groups in only partially darkened rooms. They are compact and light in weight, easily handled and stored, often are available on free loan, and can usually be purchased for a small fee. If purchased, they offer the great advantage of always being at hand when desired. Projectors are sturdy and simple enough to be handled independently by students.

Many current filmstrips have an accompanying script on the strip itself, on an accompanying record, or in a booklet sent with the film. If a teacher or a student reads aloud a script, even one printed on the filmstrip, learning may be reinforced. This technique is really necessary with a class of slow learners and/or non-readers. But what if a script is not available? Believe it or not, one teacher arriving in a new school decided to discard all filmstrips that lacked ready-made scripts. When a more experienced instructor suggested that she experiment with using these filmstrips, or parts thereof, the beginner was astonished to discover that she and her students could employ their own imaginations with equally effective results--and with lots more satisfying meaning to all concerned.

General guides for using films

Remember: students are a captive audience but their attention and interest are not captive! Instructors should prepare themselves in advance for showing the film and guiding the discussion. Preparation of the students for what they are to see, as well as adequate follow-through and evaluation, is essential if maximum value is to be obtained from visual aids.

When films are being ordered the date of production, running time, recommended grade level, and reputation of educational source and of the educational consultant, if any, should be noted. The shorter films, or sometimes brief portions of longer films, are usually best for study of feelings. Identification of individuals with screen characters takes time, occasionally making a double running advisable. No matter how focused a film may appear to a teacher, it may uncover so many or such serious problems of a class that a need to study all relevant solutions is evident. Such discussion, if guided by careful thinking and judgment, is often a surprisingly lengthy process. And legitimately so.

In homemaking and family living where it is fatally easy to reach decisions purely on an emotional basis, there is no substitute for thinking. The purpose of thinking about values is not to discount feelings but to analyze and understand them so that we may at least partly control their influence on our lives. Increased understanding of our own and others' values will enable us to direct our lives more purposefully and effectively. Hence constructive and creative thinking about values is essential to every mature person.

Research further indicates that increased learning will result if viewers are told "firmly" that they will be expected to learn from a film and that this learning will be tested. In "value films" their learning will consist not so much of specific facts as of growth in the ability to perceive and analyze. Learning tends to be increased by pre-testing, post-testing, and showing the film more than once. For example, in light of some tentative discussion after the first showing, students themselves can see that they need to look more critically or more thoroughly at certain aspects of the problem presented. Results of post-testing should be discussed with the class, and some students may request an opportunity for further study of a filmstrip owned by the department. Of course, additional class time will probably be necessary for this review, but if there is a real feeling of need students will be likely to learn more from the

experience than if they tried to build new understandings upon an unclear or unaccepted foundation. "Teach less, but teach more thoroughly" is more than an educational cliché.

Although new devices for throwing light on each student's desk without affecting the desired darkness for viewing films are now available; authorities are inclined to recommend that note-taking not be encouraged on the first viewing of a movie because it interferes with attention. In contrast, note-taking may be feasible with filmstrips at any time because there is no continuing motion and the frames of the strip may be moved at a speed appropriate to the situation.

Pre-preparation of the teacher

Your preparation for showing visual aids and for guiding the subsequent discussions may make the difference between learning and mere entertainment in your classroom. Or possibly not even entertainment if you have hastily grabbed the film from the school office as you hasten to class. Even dull students can sense when a showing is a sheer waste of time!

- * Pre-test projectors or other equipment to be sure that everything needed is in good working order if you are to show the film. Or be sure that someone qualified to show the picture will be available at the proper time and place.
- * Know precisely what the film contains in order to plan how to use it. If only one viewpoint is presented, prepare yourself to remind students that others are possible and to stimulate different views in order that they may see the many facets of the problem.
- * Organize in your own mind the main points in the film and select the basic values and feelings to be discussed. Determine to what specific objectives recommended for teaching values this film can best contribute.
- * Note any unfamiliar words or concepts that may need to be clarified for students, and decide when this clarification should be introduced.
- * Develop some type of guide for aiding students to get as much as possible from the film, and present to students prior to the showing. Such a guide may take many forms, and is a challenge to a teacher's creativity. Some suggestions are:

Key questions for which students are to seek answers

A short pre-test on the content, perhaps using multiple-choice items to develop sharp observation

A story written about the subject of the film, with important blanks which must be later filled in by students

A case situation similar to that presented in the film, with students first writing their own solutions, then comparing them with the one shown in the film.

Arousing interest

Variety is the spice which may make learning more lasting. Not only is variety in type of films and filmstrips possible, but variety in arousing interest and preparing students for the showing challenges the imagination of any teacher. Research suggests that retention of learning is doubled when a class is properly prepared for a film. Motivation and anticipation can be stimulated in many ways. Students can be told to be prepared to list the values each thinks is held by different characters, together with their evidence for inferring these values. The wider variety of interpretations of the very same action, the livelier the discussion. Students may jot down questions as they view, then ask these of each other after the showing.

With less experienced students listing questions or key ideas on the chalk board proves to be quite helpful; students appear to be more interested and to learn more when some concrete structure is provided for them. They have to be taught how to learn from films just as from a book. Preliminary questions should be simply stated and usually not more than four or five in number. Of course, the discussion leader should feel free to branch out and explore these basic topics more fully. An intriguing poster, cartoon or curiosity-arousing question posted on a bulletin board previous to a showing serve as interest arousers. Or a similar situation, good or poor, may be dramatized to start thinking on a controversial topic; sometimes a relevant TV program may be so used.

Stopping a film or filmstrip may arouse much interest--as well as a clamor for "the rest of the movie." It is not necessary to start at the beginning if the film is pre-set ahead of time. It is thus possible to eliminate irrelevant material and concentrate on the teaching objectives. With some films cutting the film before the solution to the problem is shown or running it without the soundtrack can stimulate closer attention.

Another possibility is to show part of the film, think and analyze, and then show a part or all of the remainder. The film may be halted at a critical point and students asked to complete the "plot" in their own words and according to their own ideas. Later the rest of the film can be shown and the various "endings" compared. If the technique of halting or using only a portion of a film is used, it is essential that the teacher be familiar with the content of the film. It may be wise to previously explain your reason for showing only a part of the film so the class will not feel "cheated."

While guides preceding the showing are generally to be preferred over much activity during the viewing, some student participation may be helpful. As captions appear, students may read them aloud and ask questions that will clarify the meaning. Usually such immediate clarification is better than turning back to the frame later. And do not leave the frame until all students appear to understand its implications. Your own interest would sag if you had only the fuzziest idea of what the frame was explaining!

Follow-up, too, is important

Observing a film is but a small part of the learning process. It is important to consider the content as soon as possible after seeing it.

Discussion should relate the observations to students' own former experiences. Considerable study is usually necessary for improving students' perception and understanding of feelings and values portrayed, and their importance in directing lives. Occasionally another showing may be advisable for fixing or evaluating learning. Filmstrips that are owned may be shown at a still later date in order to test the effect of a lapse of time upon the value learning.

Important, too, are opportunities to verbalize and apply learnings. Readings and films complement each other, although values are often dealt with lightly in texts. Reading done before a viewing will enable students to come to the class with a few ideas at least partially formulated. Buzz sessions, role playing, and developing class bulletin boards are other examples of ways to reinforce, broaden, and help to retain learning.

For a long time it was tacitly assumed that generalizations about values were not only undesirable but impossible. Now teachers are encouraged to provide for a summary, preferably in the form of one or more basic concepts. Conclusions based on a common experience such as a film can be gradually developed into generalizations, which later experiences will refine still further. For example, a hot discussion of the unbelievably antiquated notions held by mothers was triggered unexpectedly by a clothing film. These ninth graders concluded that what is cherished as good at one age may not be given top priority at a later age by the same person.

Semantics, the science of word meanings

As communication, in the sense of understanding, has broken down on all levels from the "summit" to classrooms and committee meetings, semantics has been recognized as of increasing importance. We "talk past one another" either not hearing or not comprehending the meaning of the ideas as held by the speaker.

A dramatic example of the consequences of mistakes in word meaning concerns an Allied surrender ultimatum given to the Japanese in July, 1945. Had the press used the meaning intended by the Japanese government, the war might have ended then, with no atomic bombs on Hiroshima and Nagasaki. Ordinarily errors in interpretation do not have such far-reaching effects, but the problem is certainly of major importance in all education.

We have already recommended that you note unfamiliar words and concepts appearing in a film pre-view. To teach these most economically, find out the techniques being used by other teachers in your school and use these just as faithfully in home economics as in academic classes. Indeed, when dealing with values inferred from behavior observed on the screen, even our own use of vague terms should cause us to question the accuracy of our descriptions of other people! "Define! Define! Define!" must be our slogan.

For instance, a student may say a character is "mean," and everyone will nod a vigorous assent. Then ask each to write his definition of that word while you avail yourself of a teacher's privilege to use the dictionary.

We promise you any class will supply even more interpretations than does Webster! Why does this happen? Research evidence suggests that we tend to form relatively consistent patterns of personality descriptions, so that we see certain traits "as going together." Then, whether or not we see any behavior to support this pattern, we assume certain traits are observed. On the other hand, we tend to overlook traits that are not in our pattern, even though there is ample evidence in the film.

A thoughtful, time-consuming consideration of key words is therefore imperative. Lack of space and wide variety in classes, so far as needs in semantics are concerned, prevented us from including such exercises in semantics in our guides. On you rests this responsibility. Do not fail your students!

Listening improved through use of sound films

Since recent research on listening has been reported in considerable detail in Illinois Teacher, Vol. III, No. 7, pages 329 - 330, we shall confine ourselves to recommending two excellent references which should be readily available. One is a 1957 volume, Are You Listening?, by Ralph G. Nichols and Leonard A. Stevens. The other is Journal of Home Economics, November, 1960, specifically the articles on communication and listening. Ellen Semrow's pointed suggestions were intended for us! Have we been practicing these since November?

Presumably maturity makes for better listening as we reach a more objective understanding of our feelings and a more disciplined control over our thinking. The next time you are previewing a new movie, first listen to the sound without seeing the screen, halt it at the end of a short passage and write everything you can recall hearing. Then review the sound. Did you achieve better than the 50 per cent level of listening efficiency that college graduates are expected to have? Try this same informal test with your students. What was the level of each? Do some (or all) of them seem to need some rigorous training? The latest research indicates that listening comprehension is always superior to reading comprehension, but the higher the level of IQ, the smaller the superiority of listening over reading.

We perhaps also need to ask ourselves two questions. Do we listen with interest and empathy to what another person is saying, or are we busy thinking of what our own answer will be? Do we listen to ourselves? Unless we develop an inner ear that hears what and how we say things, we will not hear the unconscious attitudes we reveal to others through our speech. Developing self-awareness about her own listening and speaking is essential in a teacher who would help others to understand values.

Using films in evaluation

To identify students' general level of vocabulary, duplicate on paper a few of the most difficult "frames" on an unfamiliar filmstrip. After students have read these, ask them to take a short multiple-choice test on the meanings of key words first without the frames; then let them correct any errors they can from seeing the words in context on the duplicated

sheet. Such a pre-test usually offers convincing evidence of the need for taking time to learn the meanings of words used in class. The same items can be used as a post-test after the discussion of the filmstrip.

Differences in perception are most striking when a sound film is used. Students, as well as teachers, need to learn what parts of a presentation are perceived because they are in accord with personal values and what parts are unconsciously rejected when contrary to these, thus apparently reducing memory of what was seen. Because a sound film involves perceiving, listening, reacting, and remembering in a complicated fashion, usually a few essay questions are more rewarding in the results desired, since such a test is always highly revealing of personal feelings.

In several of the guides that appear later you will see places where the suggested procedures can be used for evaluation as well as teaching. Indeed, evaluation is one of the most effective methods of instruction. Remember that learning concerning attitudes, feelings, values and goals is almost certain to proceed more slowly than factual learning, but is likely to have a more permanent and useful effect on students' lives. Ultimately the success of such teaching can be broadly evaluated in terms of whether students become more responsive to the values of others and more experimental in planning and using ways of dealing with their own feelings.

Learning Through Discussion

Students need to learn to enjoy solving problems, as well as practice the processes for doing so. Variety in visual aids increases their enjoyment. So does a good class discussion. Active learning involves interaction between students and teachers and instructional materials. Discussion offers opportunity to:

Share information and personal experiences to identify and bridge the differences between people

Test ideas, learning to discriminate between facts, opinions, assumptions, prejudices, predispositions, values

Draw from exchange warranted conclusions as a basis for future action

Develop increased insight into people and their problems.

Steps in discussion

Someone has suggested five steps in discussion as the most desirable psychological sequence for studying values with younger students. These seem to be equally adapted to older adolescents as a general guide.

Step 1 - What happened? (Remembering, relating in own words, clarifying meanings of words)

Step 2 - How did he (or she) feel? (Deepening the awareness of personal reactions)

- Step 3 - Could this really happen? (Reality testing, bringing incidents from real life to bear upon the film story)
- Step 4 - What would you have done? (Problem solving involving values)
- Step 5 - What have we learned? (Finding principle in conclusions, reapplying to other situations, generalizing if warranted)

To enhance value changes

In many aspects of home economics, what is learned from discussion (Step 5) can culminate in action that is reasonably tangible and immediate. Applications of value learnings are not quite so simple. At the present time research suggests that the following conditions tend to enhance value change.

- * Any factor in the film that facilitates student identification enhances likelihood of value change.
- * Materials consistent with one's own attitudes will be perceived and accepted far more readily than ideas contrary to one's values.
- * Active involvement of the learner in free and open discussion is helpful.
- * The prestige and authority of the teacher has its greatest effect upon immediate opinion change but this is maintained only by continual association.
- * An adult-youth relationship characterized by mutual warmth, acceptance and esteem is potent but may be used unwisely.
- * Logical argument in the discussion is most likely to be effective in producing value change if the student does not have a sharply defined attitude or if he is already somewhat favorably disposed toward the position advocated.
- * A discussion based upon an emotional appeal is recognized as such by resisting students and arouses anxiety, not value change, in others.
- * Student identification with the group in deciding to put into practice what has been discussed is a powerful incentive to action.

Discussion of feelings

Every teacher's observation points to the important position of the peer group in the value-formation process. "Talking things over" with others often affects changes with amazing rapidity. Again, certain conditions facilitate the process.

When feelings are to be discussed, the atmosphere should be such that students talk first about those feelings they can handle rather casually.

Feelings obviously shared with others, especially classmates, offer a better starting point than feelings involving their homes and families. Discussion can be moved carefully and gradually toward more emotionally weighted aspects if there is a constructive reason for doing so. Approach such aspects with due planning; what may help one person in the group may harm another who is more sensitive or in a different situation. Always an individual conference or even referral to a trained counselor are desirable if there is any reason to believe that a student's problem is serious.

Whatever teaching about feelings that we attempt must be developed in relation to students' ability to understand and talk about concepts. In other words, we must reach beyond individual attitudes if learning is to be significant and meaningful for all. With increased understandings of themselves, students can tolerate their own feelings better and learn to redirect their actions. With help toward understanding others, their social interrelationships can be greatly improved.

"Rules" must not be taught about feelings. Feelings are not the same as facts, and we are not to set ourselves up as moral judges. Usually feelings can't be changed directly, anyway!

However, teachers can help students clarify opinions, values, and prejudices. We can help a student to see the background of personal experiences upon which her attitudes rest, to reveal present feelings as long as she can do this comfortably, and examine how those feelings developed. Furthermore, we may help her recognize the uniquely personal, human quality of that feeling of being for, against, or indifferent toward things. To learn not to fear feelings, to get them out into the open, and learn how to resolve conflicts are useful outcomes of students' study of feelings.

The discussion leader

Leadership is an acquired skill, not an inherited one. This statement simultaneously offers encouragement to all who would be better group leaders and a reminder that training and practice are important to improving leadership. The following suggestions apply especially in a discussion of "value" films, but should be helpful in other situations, too.

First, know yourself. Your own views and background may influence a class, even though you try to be objective. Many leaders have difficulty in working with some individuals or with some problem areas. Recognizing these human weaknesses may help us to take a more positive and objective approach.

Second, know your students--the age group, socio-economic status, needs, interests, attitudes, and what characterizes their daily living. All these affect how group members will think, act, interact, and interpret what they see and hear. Recognize these individual differences and their potentialities for greater growth in understanding others. Try to perceive and resolve barriers such as differences in word meanings and in backgrounds. Think of others' frames of reference, not just your own ideas, interests, and pet theories.

Structuring a discussion period offers several possibilities. Groups with a single person as the leader are the most common, but buzz sessions, panels, and other variations also are effective. Assign various responsibilities for viewing before students see a film. Each individual or group should study a particular character and look for certain relationships or problems, especially in regard to feelings. They should be prepared to express their own reactions as well and note specific information.

During the discussion the leader needs to keep her plans flexible. Be well prepared but do not hesitate to modify or drop plans if it seems wise. Try to keep to the few points on values that seem most important to attaining group goals. Don't feel you have to touch on everything the film might show, yet welcome students' questions. Try to take as much time as is necessary to draw a conclusion from each point. As follow-up, help students to reinforce their learning with small study groups on special points, the preparation of visual aids, the writing of papers or tests, and other related projects according to individuals' needs and interests.

The discussion setting

First it is essential to help the group understand and accept the purpose of the discussion. These goals should be clear, important to most if not all students, and capable of being changed, if necessary.

A reasonably permissive climate rather than an autocratic one is needed if individuals are to feel free to express differences of opinion frankly. However, avoid being so permissive that everyone is confused and purposeless, or that individuals get "picked upon" by others.

As the discussion progresses, keep sensitive to the group's feelings both as individuals and as a group. The teacher's own acceptance of persons in the situation, and her friendly enthusiasm are helpful. Ultimately the group should become increasingly sensitive to the feelings of individual members.

Most experienced teachers like a circular arrangement of chairs in the conviction that this will be most conducive to a free and lively discussion. However, there is some evidence to show that discussion may be hampered by all students facing each other in classes where there exist certain sharp differences between in-groups and out-groups. The latter may feel "protected" by a double semi-circle with their seats at the back. Only some experimentation can discover the best arrangement in different classes.

Some don'ts in guiding discussion

Although we should teach from a positive approach, sometimes among ourselves we may do well to look at some teachers' don'ts! The impact on a poor habit of ours may be greater! Anyway, the opposite of a don't is positive. Let's stir up our habits by looking at the don'ts first.

- * Don't think you have to know everything; be willing to learn with and from the students.

- * Don't do anything for a student which she can profitably do for herself.
- * Don't be so non-directive that to students you appear withdrawn from realities important to them.
- * Don't stay on one point so long that the discussion becomes "circular."
- * Don't monopolize the class time yourself, or permit any other individual to do so.
- * Don't sacrifice the whole discussion to the interests of a few or the rest will leave frustrated and dissatisfied.
- * Don't probe or force any individual to speak on personal values.
- * Don't draw all the conclusions; students, too, need that experience.
- * Don't value any conclusion over the method by which it was arrived at in the class discussions.

Now let's try for the positive approach

- * Give your group time to "warm up"; avoid firing questions at them.
- * Encourage the few who are ready to express their ideas on the situation or the characters in the film in order that the rest may be more quickly drawn into the discussion.
- * Center the discussion first on the film rather than on personalities in the class or on very subjective aspects of the problem.
- * Try to keep the early part of the discussion to a familiar, casual, non-emotional level.
- * Keep your remarks general, rather than specific, and phrase questions so as to get general but sincere answers.
- * Encourage the group to spontaneously express how they really feel, not how they think they should feel.
- * Help students to become articulate and objective in expressing feelings; people tend to feel first, then to observe, listen, and read objectively.
- * Test ideas proposed, not the speaker as "Ann's idea."
- * Demonstrate beforehand the way that discussion and student growth tend to be stopped by "burr" words in expressing disagreement, name calling, and flat statements that leave no room for further consideration of an idea.

- * Throw questions back to the group; encourage much interaction and freedom within the group.
- * Try to stay away from "Yes" or "No" questions as a general rule when discussing values.
- * Gently encourage the quiet student; the group may eventually become willing to listen to such a person because he does think before speaking, but habits are strong and the teacher may need to help develop such respect.
- * Help to keep discussion moving but take time to go back and clarify a point if it seems desirable.
- * Try to maintain objectivity always; others, too, may be doing good thinking.
- * Keep free discussion alive by not committing yourself to a certain position early in the discussion.
- * Present your own viewpoints, if asked, near close of discussion without taking unfair advantage of the authority of your position. Usually students learn to identify these in more subtle ways than by questioning you directly: "What you are speaking so loudly I cannot hear what you say!"

Some specific suggestions for meeting difficulties

Of course, every manual tells a leader of a discussion to handle difficulties with tact, dignity, kindly humor--with no sign of anger or dislike. Easier said than done, as we have all discovered! Here are a few quotations from authorities on this know-how that have proved helpful to beginning leaders.

- * To interrupt too lengthy a speaker, say something like: "This is very interesting; however, I'm sorry that we don't have time to hear the rest." Try to interrupt at a point when the narrator will be least sensitive and generalize from the story told, thus giving the interrupted person a feeling that she did make some worthwhile contributions.
- * To handle the heckler with firm courtesy, say "I'm sorry, but we're not here to discuss that. But it might be a good subject for another lesson. Now let's get back to the main discussion..."
- * To answer the person who, for reasons of her own, asks a question you are not prepared to answer and doubt its relevance to the point at issue, say "I'm sorry, but I feel unqualified to answer your question. I don't believe that we should hold up the rest of the discussion on the basis of such a technical aspect. However, your point is interesting and, if you should find out anything definite about that, we'd like to hear what you learn."

- * To protect from later embarrassment a student who wants to tell too much personal information, seize upon a point she makes and start by saying "You know, I have a friend who agrees with you about this..." Here introduce a harmless little anecdote, drawing the attention from the speaker, then continue the discussion.
- * To sidetrack a person who is inclined to disagree with almost everything, try "I'm sorry that you disagree with us, and probably there are some who would agree with you. However, I don't think we'll have time to discuss this further. Suppose we move on to something else..."
- * To help the student who is anxious to get help on a personal problem of a limited or irrelevant type, suggest an appointment to discuss the matter further with her. In the meantime, "I'm afraid there are not enough facts here for us to consider. Let's get together after class and make a date."
- * To aid and stimulate communication when the whole group seems to be bogging down in the discussion, you might try suggesting that each person may speak only after she has restated clearly and fairly the ideas and feelings of the previous speaker.

The summarizing process in a discussion

Just because a film used to study values offers no open-and-shut case, a teacher cannot assume that no summary is needed. Rare indeed is the classroom lesson in which summarizing is unnecessary. Nor will a hasty resume just before the bell rings do the trick. Authorities seem to agree that content which is the subject of genuine discussion is remembered longer and more accurately than content developed through most other types of learning experiences IF adequately summarized.

Periodically during a discussion it is the teacher's duty to articulate various points made by students. Reflect verbally what the group has said so that all may better understand. Summarize in their words but in a heightened, intensified, sharpened and integrated form. Almost always use a short positive statement written on the chalkboard. Everyone should feel that each member of the group has shared. Through this reflecting process, the class sees what they themselves said, not what was imposed by authority. Too, students gain a sense of progress.

A discussion has not been a good learning experience if students, asked about the lesson, reply, "Oh, we just talked." Perhaps the class perceived value objectives and/or concepts different from those of the teacher; if these are ignored by the leader, typical student response is likely to be such indifference. Hence, while we hope that the "sample" value objectives and concepts provided with each film may be suggestive to teachers, we urge you to use in actual teaching those aspects that are of real concern to your students.

Again, we hope that the suggested questions on each film guide will be helpful, but they should be administered judiciously lest the leader get too far ahead of group thinking. A class with widely differing

intellectual abilities may have a few students who will move the discussion swiftly forward, covering most of the points made in the questions, but a good part of the group may have lost the thread of the thinking several twists back. Consistently asking summarizing questions of these doubtful students in a tone of real interest and inquiry, not in a disgruntled or punitive voice, will quickly uncover their difficulties and prevent the confusion that handicaps them.

Group thinking changes as groups change. While one class may have arrived at one concept, another may perceive a totally different learning. An open mind about the value objectives attained or the concepts learned is essential in your summarizing. Usually it is in the final over-all summary of the lesson that a teacher unconsciously "slips" in this respect. Injecting your own convictions or your previously determined objectives will be quickly identified by students, and their natural reaction next time may be "Let George do it!"

Group consensus, when it can be reached, makes individuals feel satisfied and important, and can be a powerful motivating factor. Attitude and behavior changes are more likely as a result of such shared decision-making, in school and in real life. One note of caution may be necessary; consensus is fine but don't "water down" everyone's ideas just to achieve agreement. Such "agreement" is likely to be meaningless. Moreover, there is plenty of room within the democratic ideal for youth to study the same value problems and come out with different conclusions.

Of course, this frequent reflecting and summarizing takes time! Whether it is best to save time or to take time must be decided with each problem. The amount of time taken by a class to reach a point depends upon their experience in group thinking. Teaching them how to discuss effectively shows up eventually in decreased time used.

Most of the techniques of discussion included in this article can gradually be learned by older adolescents and ample opportunities for developing these should be provided. Remember out of your classes will come the future adult leaders of value discussions in PTA, church organizations, and (we hope) civic groups. Youth today are said to be irresponsible and uninterested in active citizenship. Perhaps we in home economics can make a sizable contribution here if we accept developing discussion techniques as an important goal when discussing values.

A common stimulus for discussion

If visual aids for stimulating discussion were to be arranged in a sequence of difficulty, single "stills" such as photographs, illustrations, and cartoons in printed materials would certainly come first, followed by filmstrips, then films. The various forms of single pictures can be shown through the use of an opaque projector, an overhead projector, a slide projector, duplicated copies of a traced cartoon for each student, or a crude sketch on the chalkboard. On the next page is a cartoon from the Dennis, the Menace series by Hank Ketcham.

Value objectives: Identify and clarify values held.
Resolve conflicts in values democratically through conference and compromise.

Concepts: Children learn and grow through real experiences.
Respect for property can be maintained without sacrificing experience.

The situation pictured is relatively simple and clear-cut, an important requisite for adolescents to perceive values and understand their effect on our decisions.

As students examine the cartoon, ask them to list opposing values in two columns. For example:

- (1) Children learn by doing.
Children need to have fun.
Children like to help.
- (2) Children need to learn to be reasonably neat.
Children need to learn to take care of property.

When students have recognized the conflicts, ask such questions as:

Which value is Dennis' mother likely to consider most important?

"We was gonna make you some fudge, but we had a lot of tough breaks."

How will the value most important to her affect her perception of the situation? Her action in regard to Dennis?

How do our values affect our actions directly? Indirectly?

What technique have we learned for resolving conflicts in values?

What concepts have we also learned about small children from this experience?



Guides on Selected Filmstrips

The careful examination of a very large number of filmstrips and films led to the inescapable conclusion that "teaching films" made up of largely telling or demonstrating provided limited opportunities for studying values.

Yet, as was mentioned earlier, a value discussion can be triggered by quite a mechanical how-to film. Such surprises provide the fun in teaching! Yet should time out be allowed for a discussion that is only slightly related to the planned lesson but of intense interest and meaning to the students? In each case the teacher has to weigh values and resolve the conflict as best she can.

All guides have been roughly listed in the estimated sequence of difficulty. Objectives and concepts have been stated as suggestions for the teacher and are not to be given to the students. Remember that everything on every guide is merely suggestive, to be used thoughtfully and flexibly in light of the local situation. For example, the wide variety of questions suggested provides a resource from which a teacher can hastily select those most appropriate to her situation. One writer has estimated that a question or other instructional idea can be selected in one-tenth of the time necessary for formulating from scratch.

To insure maximum usability of these suggestions, the home economics teachers in the various junior and senior high schools in Moline, Illinois tested the authors' original guides in their classes and offered many fine ideas for revisions. Such excellent cooperation has made possible the realistic guides that follow. But YOU, the teacher using them, are still the crucial element for success in YOUR situation. So the green light is on for your maximum creativity!

Filmstrip: Your Best You. Color. One print available to each school from Tussy Cosmetics, 445 Park Avenue, New York 22, N. Y.

Value objectives: Identify and clarify the values held.
Understand the role of values in directing their lives.

Concept: Neatness and good grooming are important to help achieve social approval and popularity.

Teacher suggestions:

1. Ask students to complete the following statement on paper: "A person who is neat _____." Example: brushes her teeth, is admired, etc.
2. Briefly discuss students' many ideas. Ask them to look for these ideas and new ones in the filmstrip.
3. Show first frames through the one on "quick showers will get you clean..." Skip to frame showing a dancing couple "To be popular..." and finish filmstrip.
4. Resume discussion begun above, using some or all of the following questions, depending upon student responses.

Why is it important to be neat and clean?
How and why do people's reasons for being neat and clean differ?

Will being neat automatically make a person popular?

If you want to be well groomed, to show others "your best you," what things will you do?

In what way does being well groomed mean different things to different people?

To what extent will something you feel is important--like looking your best--help you do even some things you really don't like to do--like washing your hair or picking up your clothes? Give other examples.

How do the things we believe and feel are important affect what we do?

Filmstrip: Milk in Breakfast. Evaporated Milk Association. Color. This filmstrip is no longer available, but many schools should have it because a free strip was sent to every school. A basic study of nutrition as related to breakfast, this filmstrip emphasizes the importance of milk in the diet. It may be used at the junior high level to suggest values to be derived from a properly balanced diet. It also might be used in a Family Living Class as a part of a Family Health discussion.

Value objectives: Identify and clarify the values held.
Determine sources of their basic values.
Forecast possible consequences of acting upon their values.

Concepts: A balanced breakfast helps promote good health, energy, and ability to participate in family, school, and athletic activities.
A good breakfast should be colorful and appetizing as well as nutritionally sound.
A well-planned and pleasant breakfast with the family together, if possible, starts the day well.

Teacher suggestions:

1. Ask students:

What does a "good breakfast" mean to you?

How does breakfast affect the way we feel the rest of the day?

2. Discuss briefly. Ask students to view picture in light of the discussion.

3. Omit the title frame, use the next five frames, which depict a pleasant family breakfast, suggestions for good breakfasts, and results of eating same. Four frames about halfway through the filmstrip show more colorful and appealing breakfast possibilities.

4. Repeat questions above and then ask the following:

How may a pleasant breakfast with the family, if possible, help start the day off right?

- Why are you more likely to eat and enjoy a meal that looks good? Give some examples.
- We have different ideas and feelings about breakfast. Where did these ideas and feelings come from?
- If you feel that breakfast is important to you, what difference will this make in the way you plan and use time each morning?
- Suppose you feel breakfast is not important; if you skip breakfast or eat a poor one, how are you likely to feel later in the day?
- Why do you think doctors stress the importance of eating breakfast?
- How are your feelings about breakfast likely to affect your health and life as you grow up?
- How do the things you feel are important make a difference in how you act?

Filmstrip: Going Steady. Family Filmstrips, Inc. Color. Guide book and record. Available from Alpark Educational Records, New Preston, Connecticut or from Methodist Publishing House, 740 Rush St., Chicago, Ill. \$8.00. Rental from Illinois Conference Board of Education, Methodist Church, 1204 N. Prairie, Bloomington, Ill. for \$1.00. In other states rent from Conference Board.

This filmstrip depicts a problem situation concerning values which might profitably be discussed by junior highs and sophomores. The strip could be used with or without the record which accompanies it, as the guide booklet has the script too. The first three of the booklet's four suggestions for discussion of values are pertinent in the schools. This is a good opportunity to discuss how much importance is attached to friends' opinions at this age.

Value objectives: Determine sources of their basic values.
Become aware of the impact of the conflicting values in American culture on their lives.

Concepts: Conflicting values from different sources influence us in choosing our own values.
Considering many aspects of a question helps us to understand varying viewpoints and perhaps to determine what we value most.

Teacher suggestions:

1. For a preparatory assignment before class:

Write a brief statement of what the term "going steady" means to you.

Then list advantages and disadvantages of going steady and whether you think the advantages outweigh the disadvantages.

2. Omit title frames except last one, "Going Steady." Show frames 1 - 15 with script, but omit last two words of script for frame 14. Frames 20 - 26 might also be used if desired.
3. Divide the class into small buzz groups to consider:

What reasons could Betty think of for going steady--if Don asked her?

Why might Betty feel that going steady was not such a good idea?

In what ways might a boy's ideas about going steady be different from a girl's? Why might they be different?

Where do you suppose Betty and Don got their ideas about dating and going steady?

From what different sources do our ideas and feelings come?

What happens if one's friends' ideas about dating are not the same as one's family's ideas?

How do our feelings about something have an effect on what we do?

How are we to know which values are most important to us?

We have considered many different ideas about going steady. Of what value is it to consider other points of view? Why do you think we so often fail to think about ideas other than our own?

In what way will looking at a question from different angles help us decide what we should or should not do?

Filmstrip: Directing Your Dollars. Color. Institute of Life Insurance, 488 Madison Ave., New York 22, N. Y. Free loan or purchase for \$3.00.

This filmstrip poses several typical teen-age money problems. Most financial situations involve decisions based on values, and this filmstrip depicts conflicting values and goals with unusual clarity. Situations and teen-agers seem very human and believable, an important asset in relating values discussed to students themselves. Students especially liked the filmstrip for that reason.

Value objectives: Identify and clarify values held.
Understand how values affect their lives.
Develop an open-minded attitude toward those who hold different values and modes of behavior.

Concepts: Money may be valued less highly than family cooperation.
Money doesn't necessarily buy popularity or approval.
Managing money involves decisions as to what we value most highly. It is usually a choice of "either/or."

Teacher suggestions:

1. Pre-set filmstrip to begin at the frame telling Babs' story. Explain that the senior prom has just been announced. As "the gang" sits discussing the dance, each reflects on his or her own problem--all spelled M-O-N-E-Y.

2. Give the Student Discussion Guide to each student or write questions on chalkboard. They may jot down ideas on their guide sheets. Answering the questions in writing prove to be effective, as it requires everyone to think.
3. Turn strip slowly so students may ponder on values involved.
4. Use Student Discussion Guide. This is the story of Babs planning for the senior prom, the BIG dance of the year. Watch carefully for answers to the following questions, and be ready to discuss them:

What conflicting values about money does Babs have?

Would a home-made formal make Babs less popular at the prom?

Is looking nice for such a special dance as the prom more important than what other members of Babs' family want? Why or why not?

What other values besides those concerning money are involved?

Which of these values would you rate as most important? Why?

How will her decision reflect the values she holds?

How do the decisions we make mirror our values?

Are our money values right for everyone else? Why or why not?

If we understand how values affect our lives, how can we better understand people whose values and actions differ from ours?

5. Other parts of the filmstrip may be used if they meet student needs, but use only one in a class period.

Filmstrip: Dollars For Security. Color. Institute of Life Insurance, 488 Madison Ave., New York 22, N. Y. Free loan or purchase for \$3.00.

This filmstrip is human, believable, and useful. Examples illustrating three ways in which insurance may be used are presented. Do not use more than one example in a class period; time for discussion must be adequate the day filmstrip is shown.

Value objectives: Identify and clarify the values held.
Understand the role of values in directing their lives.

Concepts: Insurance is an important part of the financial planning for a family's future security.
Sacrifice and cooperation may be of great value in helping a family over a difficult time.

Teacher suggestions:

1. Explain that this filmstrip is related to life insurance. The class should be prepared to answer:

What does Bud's being in the play have to do with life insurance?

How did the family work together to make the best of their situation?

2. Show the filmstrip from the beginning, moving over pictures rather quickly until the picture of Bud as 'man of the family' is reached. Show the frames until the end of the part about Bud.

3. Use Student Discussion Guide.

What did insurance have to do with Bud's part in the play?
What had Bud's parents evidently felt was quite important in relation to their family?

How had Mr. Jensen provided financial security? How did the Jensens benefit from what the father did for them because of the value he placed on security?

Why is financial security important for a family?

How else might Mr. Jensen have provided financial security?

To what extent is future security worth present sacrifice?

We tend to think that accidents and misfortune happen to "the other fellow." In what way did the Jensens' value of financial security probably affect their thinking along that line?

Why didn't the life insurance solve all their financial problems?

In what ways did they have to cooperate and sacrifice in order to achieve their goals? Why did they feel that such effort was important?

How do the values we hold influence our actions? Give specific examples?

What else did this family seem to value besides financial security?

To what extent were these other values possible because the finances had been taken care of first?

Which of these values do you think are most important? Why?

In what ways do the things you value influence what you do? Give specific examples.

Filmstrip: A New Look at Budgeting. Color. Script. Household Finance Corporation, Prudential Plaza, Chicago 1, Ill. Free loan or purchase for \$6.00.

This strip dramatizes the need for sound attitudes in the management of income to achieve personal and family goals. A portion of this filmstrip would be suitable for one class period. The part used would depend on the class and the purpose of the lesson. Frames 11 - 38 and 49 - 88 proved to be especially good, but need not be discussed all at one time.

Teacher suggestions:

1. A story with key words left blank might be used. Ask students to try to fill in blanks both before and after seeing the filmstrip. Such a story could serve as a basis for discussion of attitudes, goals, and values.

2. "The Case of the Hidden Treasure"

Before you or your family can spend money wisely, you need to _____ what is important to you. These things that you want to do or

that are important to you might be called your _____. Some of these _____ might be _____, _____, _____, etc., though they are different for each family. A plan for using money might be called a _____. In any _____ it is important that _____ balance the _____. Setting up _____ is the first step in making a _____. If you know what you _____, it is easier to get it because you fit it into your _____. _____ can be for the _____ or for right away. After _____ are listed, decide which ones are most _____ to you.

Some expenses are _____; others are _____. Include the _____ ones first, and then plan for the _____ ones which vary from time to time. Keeping a careful _____ of income and _____ for awhile can help you or your family know where your _____ goes. Then you can use this _____ of spending as a guide in making a _____. If a family _____ for expenses, they are more likely to have _____ left for _____ and _____. The _____ you or your family have depend on what you _____. You must understand these _____ in order to spend money _____. Setting up a _____ that is based on family _____, and on family _____ can help that family prepare for _____ and for the _____ plans of the family. _____ may not make more money, but it does help you use it more _____ so that it may seem as if you have discovered a treasure. In one sense, you do have a new treasure! You know how to plan to make the most of your money to get what you want.

3. Key: possible words to fill the above blanks are, in order: decide, goals, goals, security, new car, savings, budget, budget, income, outgo, goals or wishes, budget, want, plan, goals, future, goals, important, fixed, flexible or variable, fixed, flexible, record, expenses, money, pattern, budget, prepares, money, wishes, savings, goals, value, goals, wisely, budget, spending patterns, goals, emergencies, future, budgeting, wisely.
4. Ask students, after their completion of the blanks and study of the film to try to summarize the major concepts learned, and the value objectives gained.

Filmstrip: Measuring Home Management. Color. Script based on research by Dr. Irma Gross. Filmstrip runs horizontally. U. S. Department of Agriculture, Washington, D. C. This is no longer available from USDA, but many schools have prints because it was so generally distributed.

Management is often a less popular subject, and the crucial place of values and goals in the management process is often passed over lightly. Dr. Elizabeth W. Crandall, in her talk at the 1960 AHEA convention, stressed the necessity for further study of and emphasis on values and goals in management. These aspects of management are clearly presented in this filmstrip. This was rated as one of the better filmstrips. It has many implications in addition to those related to values.

Value objectives: Identify and clarify the values held.
Forecast possible consequences of acting upon their values.

Become aware of the impact of the conflicting values in American culture on their lives.
Develop a workable and consistent philosophy of life.

Concepts: Planning for the future is important if we are to achieve our personal and family goals.
Our goals for the future do--or should--help determine our present decisions and course of action.
Different people consider different values important to them.
The combination of our values and goals largely determine how we act, and in large measure comprise our philosophy of life.

Teacher suggestions:

1. Clarify with students the meaning of the word "goal." Then ask them to list on paper two personal goals they hope to achieve ten years from now, two goals in five years, and two goals one year from now.
2. Discuss briefly those goals students are willing to tell to class. Ask them to compare these with goals held by 400 Michigan homemakers in a study which was the basis for the filmstrip.
3. Show frames 11 - 20 and read accompanying script. Turn the filmstrip slowly enough for the printed list of goals to make an impression on the students.
4. Continue discussion with Student Discussion Guide.

What long-range goals do we have?

How do our goals compare with those of homemakers?

What basic values do these specific goals represent?

Choose one specific value you hold, and decide:

what goals would help implement that value?

what specific things would you have to do to reach these goals?

Should we all agree on goals and values? Why or why not?

How can we still respect and appreciate other people even if their values differ from ours?

How can a clearer understanding of our own goals and values help us to understand other people and their action? Give examples.

Why is it important that we recognize our goals and values?

How can planning for the future help us reach our goals?

Why are some of our goals likely to change over the years?

Are our values as likely to change as our goals? Why or why not?

"The combination of our goals and values greatly influence how we act and might be called our philosophy of life."

Do you agree with this statement? Why?

Of what value is it to consider such a philosophy or "what we believe at this point in our lives"?

What type of values is more important to you--"human" or "material" values? Why?

Americans often say they value spiritual or human values most highly but then act as if material values were more important. Which is a better standard of judging values--what people say or what they do? How are we to know what to believe and follow? Note: This last question is one that the inexperienced teacher may have trouble in helping girls answer. Some girls want a specific answer. It is a real "thought provoker."

Filmstrip: Your Money's Worth in Shopping. Color. Script. Household Finance Corporation, Prudential Plaza, Chicago 1, Ill. Free loan or purchase for \$6.00.

Based on establishing and using goals in order to make sound decisions concerning money, this filmstrip clearly is very useful in teaching about values. It illustrates ways to achieve goals through mastery of good shopping methods. The portion of the strip most suited to a particular class could be used.

Value objectives: Identify and clarify the values which they hold.
Understand the role of values in directing their lives.
Become aware of the impact of the conflicting values in American culture on their lives.

Concepts: Family goals, carefully established, are the most effective guides for using money to the best advantage.
Knowledge of product quality, uses, and cost, and of consumer credit and store services can all help a shopper achieve his financial goals.

Teacher suggestions:

1. A useful teaching technique called "opposing panels" is suggested by Dr. Louise Fernandez of New York University. The entire class has a film or filmstrip as a basis for discussion. Divide the class into two groups; Group I will be the "Question Raisers," Group II will be the "Question Answerers." Group I is assigned to get down some good questions on the topic for discussion--the kind they've wondered about or those they have heard others asking about. For this purpose, stress the place of values and goals. The second group is to anticipate the kind of questions which might come up and be ready to answer them. They are cautioned to cite evidence or source of information for their answers and to indicate when their answers are an opinion.
2. After 15 - 20 minutes the two groups reassemble as a class and the "Question Raisers" begin by asking their best question. The "Answerers" give the answer. The "Question Raisers" must indicate whether the reply given by the "Answerers" is adequate and correct. If the "Question Raisers" are not satisfied with the answers, they may then add something to the answer themselves.

3. The teacher is considered part of the answering group and may add an important point after the others have finished. A class secretary should be appointed to keep notes on the discussion, group interest, group productiveness, and report to the group the last few minutes of the class. If you analyze the above technique, you will find it is effective since BOTH groups will have to raise questions (and good ones!), and BOTH groups will have to be prepared with answers!
4. Suggested examples of questions to use on this filmstrip:

How are families like purchasing agents for large companies?
 What kinds of information can we get to help us be better shoppers? How can this information help us?

After we have information, we must still make choices. What are goals? How can goals help us make choices in using our money?

What other things can a shopper do to prepare himself to use money wisely?

How are price and quality related to a shopper's goals?

What effect do the following have on ways people spend their money? Give specific examples.

Advertising in newspapers, magazines, on radio and television.

What other people have and do.

Installment buying.

How are these factors related to the shoppers' goals? What happens if a shopper doesn't have goals for spending or doesn't know what they are?

How will our goals and values directly affect what we buy and what we do? Give examples.

Other suggestions

The following filmstrips are recommended although detailed guides for using them have not been developed.

Filmstrip: Managing Your Clothing Dollars. Color. Comments printed on the filmstrip. Household Finance Corporation, Prudential Plaza, Chicago 1, Ill. Free loan or purchase for \$6.00.

This filmstrip shows how to plan a wardrobe, buy and care for clothes for each family member. Probably only part of it would be used in one class session. Comparison of clothing, price, quality, ease of care, and importance of good clothing maintenance could all be related to values.

Filmstrip: Focus on Food Dollars. Color. Comments printed on the filmstrip. Household Finance Corporation. Free loan or purchase for \$6.00.

Highlighting the challenges and the rewards of skillful management of food dollars, this filmstrip is also useful in teaching about values. The emphasis desired would determine the portion of the strip to be used. Time and convenience vs. money indicates but one comparison of values that might profitably be considered.

Filmstrip: Dollars For Health. Color. Institute of Life Insurance, 488 Madison Avenue, New York 22, N. Y. Free loan or purchase for \$3.00.

Similar in method of presentation to the other two filmstrips from this source, "Dollars for Health" suggests the importance of health insurance in various situations. Use only a portion of the strip in a class period. Values could very easily be discussed as was suggested in the guide for "Dollars for Security." The emphasis would depend on the class and on the purpose of the lesson.

Guides For Selected Films

Note: Films marked with an asterisk * may be secured for a rental fee from Visual Aids Service, University of Illinois, Urbana, Illinois.

*Film: Family Life: Dad's Wish. Black and white, 6 min. Teaching Film Custodians.

This excerpt from a long commercial movie deals with a family situation in which the mother explains to her little girl why they cannot have everything that they want in life. The father also makes it plain that he is grateful for his family and for what he has, though it is materially much less than what a neighbor has.

Value objectives: Understand the role of values in directing their lives.
To develop an ability and desire to appraise their values.
Develop a workable and consistent philosophy of life.

Concepts: Family cooperation and unity can be more important than material possessions and success in its popular meaning.
Most goals necessitate a choice between alternatives.
Decisions should be based on what is valued most highly.

Teacher suggestions:

1. Divide the class into four groups. Explain: We are going to meet four people in this film--a neighbor, Ma, Pa, and their daughter. Each one has ideas about what he or she thinks is important. Watch especially the person assigned to your group. Be ready to answer these questions:

What does he/she think is most important in life?
How does what he/she values affect what he does with time and money?
Is he/she happy?

2. Show entire film.
3. Use Student Discussion Guide and above questions.

How would you measure the cost of the neighbor's new barn?
Ma said a new barn would cost Pa "too much." Was she referring only to money? In what other ways would it cost him?

What did Ma mean when she said, "It's better not to have anything than to have it and be afraid"?

In what ways did Ma and Pa agree on their basic values? Is their daughter likely to grow up with the same values? Why or why not?

How did their values differ from those of the neighbor?

How did their different values affect what they did?

Which of these values are most important to you? Why?

Suppose we see that someone we admire believes something to be important. In what way might we be likely to re-examine our own values to see if we might like to change them?

Someone has said, "I don't care what you believe as long as you believe something." Do you agree with this? Does what you believe have any effect on what you do? Give specific examples.

How do all the things you believe and value make you different from anyone else? All of the things you believe and value strongly influence your actions and might be called your philosophy of life.

4. The film is short enough so that it might be shown again as a summary comparison of the different values.
5. Assign a one-page paper on "Three Things in Life that Mean the Most to Me." Teachers who used the Teacher Suggestions and this assignment rated this movie higher.

*Film: Getting Along with Parents. Black and white, 16 min. Encyclopaedia Britannica.

This film deals with the question of mutual respect between teen-agers and their parents. A teen-agers' plan to visit a night club after the junior prom is opposed by parents for different reasons, disclosing varied family backgrounds and attitudes. Set in a suburban atmosphere, the film would be suitable for various age groups, depending on the community.

Value objectives: Determine sources of their basic values.
 Become aware of the impact of conflicting values in American culture on their lives.
 Develop an open-minded attitude toward those who hold different values and modes of behavior.

Concepts: No one may do exactly as he pleases, but should respect the opinions and feelings of others. Neither side is usually all right or all wrong.
 Democracy includes sharing, cooperation, self-discipline, and responsibility.

Teacher suggestions:

1. Use an attitude inventory to obtain students' opinions on the subject of "getting along with parents." Stress that papers are to be their opinions and are to be unsigned. They should be marked again at the

end of class or at the beginning of the next class period, and then turned in. Use different marks for before and after seeing the film, as X and O. The inventory should help focus attention on the attitudes toward parents, and the same form used again may afford some comparison of any shift in opinions and values. When the inventory is duplicated, the same continuum of choices should be presented for checking each statement: Always ____ Usually ____ Sometimes ____ Very Seldom ____ Never ____.

I think that:

- Parents understand teen-agers.
- Parents want what is best for their offspring.
- Parents forget what it is like to be young.
- Parents think their ideas are more nearly right than those of teen-agers.
- Parents have good reasons for their decisions and rules.
- Teen-agers think as their parents do.
- Teen-agers like to follow the crowd.
- Teen-agers understand parents' problems and viewpoints.
- Teen-agers should make their own decisions.
- Talking over a problem together helps parents and teen-agers understand each other.

2. Show film.

3. Use Student Discussion Guide.

- Why did the teen-agers want to go to the Blue Room after the dance?
- Why did different parents not want them to go?
- What different values are represented by the various opinions of each parent and each teen-ager?
- Where did the different parents and their young people acquire their values?
- What are different sources for acquiring values?
- Some values are much more strongly held than others. What sources of values make the strongest impression on us?
- Why are such strong values and attitudes difficult to change?
- What different values common in America today were clear in the values held by this group of parents and teen-agers?
- We see these conflicting values all about us--at home, school, on television, etc. Give examples of each. How do these conflicting values affect our lives?
- The students and their parents had many different ideas and values. How do we know what values are best? Where can we get "help" in order to know what values are best?
- How can each opinion have some good in it? Why do you think some people have the idea that an opinion is either all right or all wrong?
- Can talking a problem over help us to understand another's viewpoint? How? Suggestion: Have two students role-play a problem situation between parent and teen-ager.
- Will understanding others who differ from us in attitude and behavior help us to be better citizens in our democratic society in the United States? Why and how?

If there are other racial or nationality groups in your neighborhood, church, or school, give some specific examples of attitudes and behavior that are different from yours.

4. Continue to the next class period if there is insufficient time to finish discussion and again use the inventory.
5. After the inventories have been turned in, summarize and try to judge whether there has been any change in attitudes toward "getting along with parents." Results from the inventory proved this film to be quite effective with all ages of adolescents. Seniors who saw this film felt that "even they" benefited from it because they could see it more objectively than younger students.

*Film: Allen Is My Brother. Black and white or color, 11 min. Churchill-Wexler Film Productions, 801 N. Seward St., Los Angeles 38, Calif.

*Available from Visual Aids Service, University of Illinois, Urbana, Ill. in black and white by September 1, 1961.

"Allen Is My Brother" should stimulate discussion of family life among junior high and high school students. It presents a concrete brother-sister problem which most persons will find familiar from their own experience. The film suggests a healthy attitude toward being a part of the family, and will help students to understand some of their own problems with younger brothers and sisters. This film shows a mother who controls her children, while allowing them freedom to learn from their own experiences.

Value objectives: Identify and clarify the values which they hold.
Understand the role of values in directing their lives.

Concepts: Tasks are not always enjoyable but may be important.
Sharing responsibilities as well as privileges and fun is important to happy family relationships.
Trying to understand and help others should result in better human relationships.

Teacher suggestions:

1. Explain briefly the content of the film. Divide the class into two groups. One group should identify with Karen and the other group with Karen's mother. They should study the discussion questions and be prepared to answer them from the point of view of their character.
2. Show film.
3. Use Student Discussion Guide.

How do you think Karen felt about staying with her brother?
Why?

Why do you think Karen's mother would ask Karen to stay with Allen when she knew Karen wanted to play with her friend?
What was more important to Karen? To her mother?

- Why did Karen's mother take time to explain to her why she had to take care of Allen?
- When Karen understood why she was to help with Allen, she was more willing to do it. Why? How could such understandings help make us more willing?
- Karen still was not very interested in helping. Is understanding a reason or an idea the same as accepting it? Why or why not? How did Karen's actions show that even though she understood why she should help, she didn't want to do it? Does this ever happen to you? Give examples.
- What did Karen's mother do that shows she understood how Karen felt?
- Why didn't the mother stop Allen when Karen let him water the clothes? What did Karen learn from this experience?
- Which did the mother seem to think was more important, Karen's learning about responsibility or keeping her clothes dry?
- What did Karen learn about Allen while she was taking care of him?
- The mother seemed to stay and watch Karen and Allen, so she probably didn't get any more work done than if she had taken care of Allen herself. What did she seem to value most in relation to her work and her children? How did she show this by what she did? How do the things we believe in influence what we do? Give specific examples.

*Film: Marriage Is a Partnership. Black and white, 17 min. Coronet.

For older adolescents, this film sets out to establish a positive approach towards marriage and considers some of the major problems that arise during the first years of marriage.

Value objectives: Determine sources of their basic values.
Develop an ability and desire to appraise their values.
Examine critically methods of acquiring and changing values.

Concepts: Seeing the other person's viewpoint is essential in reaching a successful compromise.
Emotional maturity is essential to marital happiness.
Marital adjustment may require re-examination and appraisal of habits and values.
Marriage is a partnership which may be strengthened as conflicts in interests, loyalties, and values are resolved together.

Teacher suggestions:

As this film is often used in home management and family living classes, it may be assumed that most teachers are familiar with it. This guide is to deal only with the aspects of the film related to values. These questions could be fitted into the teaching method already being used for this film.

1. Show without sound the short part portraying Jean and her mother-in-law cleaning. Then discuss possible reasons for their friction and the place of values in this situation.

2. Show entire film with sound. Compare students' ideas of the cleaning scene without and with sound.
3. Use Student Discussion Guide

What basic values do Pete and Jean each bring to marriage?

How and to what extent did their values differ?

Where did they acquire the values they brought to marriage?

Why would the values they acquired from their families be more difficult to change than other values?

What values did Pete and Jean have which helped them decide that Jean should quit her job?

What values might influence them to live in a house by themselves?

What values did they hold in regard to decision-making?

As their marriage progressed, there seemed to be several conflicts. Were these conflicts in values and attitudes?

Explain your answer.

Pete and Jean took a good look at their beliefs and values when they were confronted with the decision to change jobs. Do you think this was hard to do? Did they act as young adults? In what way? Do you think it was wise? Why or why not?

Why are values and habits rather difficult to change?

How does understanding why we believe as we do often make it easier to understand and change our actions if necessary?

To what extent does understanding what we believe make it easier to understand another's view? Illustrate with examples from your own experience.

*Film: How Much Affection? Black and white, 20 min. Correlated with the book, Your Marriage and Family Living by Paul Landis. McGraw-Hill.

As the title implies, this film deals with an important problem of young adults. Mary and Jeff, a "steady" couple become upset when faced with the tensions stemming from a mutual physical attraction. Although the film leaves no doubt as to what is the wisest course of action, it neither preaches nor solves the problem. Therefore, it should promote discussion of feelings and values.

Value objectives: Identify and clarify the values which they hold.
Forecast possible consequences of acting upon their values.

Concepts: Control of strong emotions aroused in normal boy-girl relationships may be difficult, but is likely to result in more stable, respected, and pleasant relationship in the future.
Understanding feelings and emotions may help us to control them.

Teacher suggestions:

1. Divide the class into three groups, each of which should look for the answer to one of the following questions.

In what way are emotions such as Mary and Jeff felt common and normal? How will understanding that such feelings are normal help them?
 What can they do to keep the situation under control?
 How will the way they handle this situation affect their future?

2. Show film.
3. Have each group discuss its question briefly and report to the class.
4. Continue with Student Discussion Guide. If some of these questions are too emotionally tinged for a specific class, alter them somewhat. When a class discusses Mary and Jeff rather than themselves, these questions are usually acceptable.

Why did Mary and Jeff's date upset them so much?
 In what way was Mary's mother understanding and sympathetic?
 At her age, how could she understand Mary's problem?
 What do you think Mary and Jeff feel is important in their relationship with each other? What do we think is most important in this area of young adult relationships?
 How will what they think is important affect what they will do?
 In what way will such actions be reflected in their future lives?
 How do our feelings and what we value most highly affect what we do?
 If such feelings are normal, to what extent should they be controlled? Why?
 Eileen and Fred responded to a similar situation in a different way. What might be reasons for their action?
 How might this reflect different values that Fred and Eileen held? Why do you think this was or was not the reason for their different action? How did their action affect their future?
 How does acting according to what we value affect our future?
 In what way did better understanding of their emotions help Mary and Jeff keep the situation under control?
 How can understanding our own feelings and values help us direct our lives more purposefully?

5. As an alternative approach, try writing a brief description of the problem pictured in this film and ask students to write their own solutions. Compare with the suggestions made in the film.

Film: Measure of a Man. Produced by the Institute of Life Insurance. Black and white, 28 min., but only portion to be used. Association Films. Free loan.

In many ways this film makes a "soft sell" for insurance, but what it has to say about values and behavior that illustrate the "measure of a man" is of much greater importance, at least for the purpose of studying values. Comparing Lockhart, a carefree "troubleshooter" and Charlie, a solid citizen in his community, makes a good study in values.

Value objectives: Identify and clarify the values held.
 Understand the role of values in directing their lives.
 Become aware of the impact of the conflicting values in
 American culture on their lives.
 Develop a workable and consistent philosophy of life.

Concept: Understanding what is important in our lives and planning a course
 of action based on such values may lead to a more satisfying
 and worthwhile life.

Teacher suggestions:

1. Preview and pre-set the film to begin at the point where Lockhart goes to visit Charlie's boss.
2. Ask class to complete this sentence: "Three things I think are important in life are _____." Save papers until later.
3. Briefly explain plot of the film so students will understand what is going on. Ask them to watch for:
 What does Charlie seem to think is important in life?
 What does Lockhart seem to think is important in life?
4. Show pre-set film to point where Mrs. Hammond and Lockhart are discussing what is important in life. Cut at the end of that scene.
5. Use Student Discussion Guide.

What does Lockhart seem to think is important in life?

Why do you think his wife disagrees with him?

Does Lockhart really know what he wants? Why does this cause unhappiness in his family relations?

What does Charlie Hammond think is important in life?

Why do you think he knows just what he values most?

How does what he values affect his actions?

Why do you think the Hammonds seem to be in agreement about what is most important to them?

Why does Lockhart say Charlie's life is "all too planned"?

To what extent and in what ways do Lockhart and Charlie represent attitudes common in this country today?

How are these attitudes in America shown on television, in magazines, etc.? Give specific examples.

How do these opposing attitudes affect us and our attitudes?

Which of these attitudes is most important to you? How do you decide what you value most? Suggestion: List answers on chalkboard so that class may get a better idea of how people differ.

As shown in a part of the film which you did not see, Charlie had had to make sacrifices in order to reach his goals. He had taken a pay cut to have the job he wanted, and driven an old car, and put up with housing that was less than satisfactory to him. To what extent did his values seem to shape his life?

How do our values tend to shape our lives?

What did Charlie's boss feel was important in the man who was to take over his paper? How did he "measure the man"?

Which of these values are important to you?

All of Charlie's values directly influenced his actions and might be called his philosophy of life. Does everyone have a philosophy of life? Is it important to you? How does a philosophy of life help us to guide our lives?

6. Ask students to summarize their "measure of a man" and to change or add to any of the values they listed at the beginning of the class. This summary may be turned in at the next meeting of the class. This film and especially the summary proved effective with students.

Film: Trouble in Paradise. Color, 13 min. For above-average learners. Association Films. Free loan.

Although this colorful cartoon presents a picture of a serious problem in the imaginary land of Paradise, resemblances to the familiar U. S. A. are neither coincidental nor vague. The Institute of Life Insurance has chosen this method to emphasize the causes, effects, and dangers of "the enemy within"--INFLATION. At first glance this film might appear to be merely factual, but further consideration suggests a number of implied values.

Value objectives: To develop an ability and desire to appraise their values. Become aware of the impact of conflicting values in American culture on their lives.

Concepts: Things are not always what they seem. A pleasant situation may blind us to reality.
 Money values may supersede human values.
 Often a choice must be made between promoting the good of all, and promoting the good of some.
 Discipline and united effort are often necessary in order to achieve a common goal.

Teacher suggestions:

1. This film presents the many evils of inflation and implies several beneficial things which may occur during a period of inflation. Divide the class into two teams; ask one to observe and list the evils of inflation; the other to list the possible benefits. As the latter probably will be more difficult, the following examples might be suggested: Pro-- More cars, schools, growing economy. Con--Dollar buys less and less.
2. Show film. Ask each group to compare the pertinent points they discovered in the film, and choose two people to debate each side of the issue. Deal with facts in the debate insofar as possible.
3. Stage a brief debate, to be based primarily on facts gained from the film. The entire class should be ready to contribute to the subsequent

discussion, which will deal with values based on the facts. We discovered that students were so interested in discussing their ideas for curbing inflation that they sometimes forgot values. Note that in this film the values are not as obvious as in some films. Therefore good teacher-preparation is important. This film is good for a class of college-bound students, although it proved to be of value to average students as well.

4. Use Student Discussion Guide.

- How did inflation affect people in various ways?
 How did it affect persons on pensions and other fixed income?
 In the period of prosperity in Paradise what benefits did the government provide?
 What did the additional money help many of the people to have that they otherwise might not have had?
 How do these benefits for many compare with the difficulties faced by some of the people?
 To what extent are these opposing values found in America as well?
 How do opposing values in our society affect the lives of each of us? Give specific examples.
 What did the people of Paradise have to do to overcome inflation?
 What did they seem to value most?
 In what ways did some of the people--and the government of all the people--have to take another look at their values in view of the inflationary situation?
 Why and how did some of them have to change their values?
 Why do you suppose these values were difficult to change?
 If we were in a similar situation, how would we rate our values?
 Do you think the temporary sacrifices would be too great to make in order to reach the long-range goal of a stable economy?
 Why or why not?
 How does a rating or appraisal of our values sometimes lead to a changed course of action and perhaps to some sacrifice?
 How does a good backward look and rating of our goals and values sometimes help us see values we never knew we held?

*Film: Understanding Others. Black and white, 12 min. For junior high and sophomores. McGraw-Centron Corporation.

Using a situation involving the selection of an editor for the school paper, this film shows what a difference a particular attitude toward a person can make in the way he is treated. The same event is repeated three times as seen through the eyes of three different persons.

Value objectives: Determine sources of their basic values.
 Examine critically methods of acquiring and changing values.
 Develop an open-minded attitude toward those who hold different values and modes of behavior.

Concepts: People behave in different ways partly because their home situations are different.

Many different ideas and ways of acting can have value. Learning more about others may help us understand them better and perhaps change our attitude toward them.

Teacher suggestions:

1. Explain the film's method of presenting the situation, as described above. Students should look for different attitudes toward Ben, and possible reasons for those attitudes.
2. Show film.
3. Use Student Discussion Guide.

Why did the others treat Ben as they did?

What might be some reasons why Ben acted the way he did?

What did the other students know about Ben's home life?

Where do you suppose Bob and the others got their ideas about Ben?

In what different ways and from what sources are opinions acquired?

Why are some of these ways and these sources better than others?

If the others had known more about Ben and why he behaved as he did, do you think they would have treated him differently?

Why or why not?

If they were all going to work together successfully on the paper, what attitudes would they have to change?

Would Ben have to change some of his feelings and ways of acting too? Why?

Are attitudes easy to change? Why or why not?

What do you think these teen-agers had to do in order to change some of their attitudes and to better understand each other?

Was either Bob or Ben all right or all wrong?

Is anyone all right or wrong? Explain your answer.

There is an Indian saying, "Before you judge another Indian, walk in his moccasins for two weeks." Is this a good idea? Why?

How does this apply to the situation in the film?

How would it apply to some situation in which you are involved. Give an example.

Is learning more about others and trying to understand their views, problems, and feelings worth the time and effort required? Why or why not?

*Film: Balance Your Diet For Health and Appearance. Black and white, 11 min. Coronet.

This film deals less with details of nutrition than with reasons for following a balanced diet. Bill, Fred, and Jane, three high school students, discuss their failure to secure summer jobs for which they had applied. To their surprise, they discover that each of their problems--

overweight, underweight, and acne--are largely related to diet. A brief, general description of an adequate diet based on the Basic Seven is given and the three resolve to improve their eating habits in order to achieve their particular goals.

Value objectives: Identify and clarify the values held.
Determine sources of their basic values.
Forecast possible consequences of acting upon their values.

Concepts: Strength, energy, stamina, and personal appearance vitally affect our work and play, and often social approval and our relationships with other persons as well.
A well-balanced diet is essential to good health and to an attractive appearance.
An appetizing, adequate breakfast has an important effect on people's performance, energy and even attitudes later in the day.

Teacher suggestions:

1. Write student questions on chalkboard and cover them.
2. Before showing the film explain to the class that three students in the film are looking for summer jobs. They are, in the order shown, Bill--construction work, Fred--lifeguard, and Jane--summer theater.

Ask the students to judge just from the appearance of each of the three why he or she might have difficulty getting the job he wants.
Then ask what all of these difficulties seem to be related to.
3. Show first part of the film up to the point where Bill actually applies for his job. Be sure to preview it so you'll know where to stop. Discuss the above questions briefly to begin to focus attention on the value of a balanced diet as related to jobs, appearance, status, approval--all important to most students. Ask students to suggest one general solution to the problems of Bill, Fred, and Jane--a better diet.
4. Show remainder of the film.
5. Divide the class into three groups, one for each of the three students, Bill, Fred, and Jane. Uncover the student questions on the board and have each group discuss them in relation to the student it represents. Ask each group to report at end of the buzz session.
6. Discuss group reports and summarize. Emphasize values represented and the effect these values may have on the students' lives.
7. Use Student Discussion Guide.

What are the personal goals of the student, as shown in the film?

What prevents him or her from reaching these goals?
 What can he or she do to improve the situation?
 Why does a good breakfast have an important place in the day's balanced diet? Can other meals make up for a poor breakfast? Why?
 If you think a good breakfast is important, how will this affect your habits of getting up in the morning and of eating breakfast?
 Each student will have to give up something to have a better diet. What will he have to give up? Why? Is it worth it to him? Would it be worth it to you, or why wouldn't it be worthwhile to you?
 Where did these students probably get their ideas about breakfast and the kinds of food they eat?
 Why are such ideas and habits usually rather difficult to change?
 If their personal goals are important enough to them, how will that help them to change their eating habits?
 The test of their new ideas about a balanced diet came at the lunch counter. Did they value the results of a good diet enough to resist temptation?
 Do habits and things we value most change overnight? Why or why not?
 Which values that were important to Bill, Fred, and Jane are important to you?
 How are these goals related to your diets?
 What changes, if any, do you need to make in order to achieve your goals as related to health and appearance?

Other suggestions

The following films are recommended although detailed guides for using them have not been developed.

*Film: How To Say No. Black and white, 10 min. Coronet.

This film could be used effectively to evaluate students' learning about values. Show the film with no introduction or guiding comments. Then see how well the students understand and interpret the values involved in the film situation.

Different situations are presented in which it is often difficult to say no--"and still keep your friends." Questions involving smoking, drinking, and petting are pictured. As each episode is presented, stop the film and ask students how they would react and why. Then show the suggestions given by teen-agers in the film. Role playing could be used to suggest ways to meet the problems on the screen. Show problem, role play, and discuss values represented. How do the decisions of whether to say no reflect our values? How are our values influenced by other persons? Some specific suggestions, including, "Know yourself and your standards," are given.

*Film: You and Your Attitudes. Black and white, 10 min. Association Films. Free loan.

Several situations show how various attitudes affect decisions and actions, and possible ways of changing those attitudes. Values concerning finances, problems of other people, and prejudice are all considered. The effect of attitudes and values in life is more obvious in this film than in many others. Good opportunity is presented for gaining understanding of others and for appraising and changing values.

Film: Family Circus. Color, 10 min. Illinois Dept. of Public Health, Springfield, Illinois. Free loan.

In this lively cartoon, reasons for Patsy's jealousy of her baby brother are rather clearly presented. Junior highs and sophomores studying child development or others studying human relationships should find this film appealing and helpful. The importance of understanding and considering all family members is stressed. The effect of values on action is shown clearly.

*Film: Making a Decision. Black and white, 8 min. National Film Board of Canada. Distributed by McGraw-Canada.

One of the "What Do You Think?" series, this film presents a situation in which teen-agers often find themselves, that of deciding between a school activity with friends and a planned family event. Eileen must decide between a special date with Tommy and a birthday trip the family "always makes." At first she knew what she wanted, but when the decision was left to her, she didn't know which alternative to choose. Teen-agers often resent being told what they ought to do, but have they the resources for making their own decisions?

The teacher might write up a brief similar problem situation to present to students before they see the film and ask, "What would you do?" Then show the film and discuss the various values involved in Eileen's decision. As her parents left the choice up to Eileen, what value would seem to be important to them? This situation is calculated to rouse discussion.

Film: Mr. Finley's Feelings. Color, 10 min. Discussion guide with film. Association Films. Free loan.

Produced by Metropolitan Life Insurance Company, this animated cartoon depicts one day in the life of Tom Finley. Finley is never pictured, but all events are shown through his eyes, with the effects of his feelings and attitudes rather clearly presented. Although this film is recommended for college and adult groups, advanced juniors and seniors should find it of worth. Points to note especially include these: how Tom's difficulties at work affect his behavior at home, how his feelings cause him trouble, and how he appraises and modifies some of his attitudes.

Film: First Five Days in the Life of a New Guinea Baby. Black and white, 19 min. Margaret Mead. Distributed by New York University Film Library, Washington Square, New York, N. Y.

This film, produced and narrated by one of the world's most noted anthropologists, presents to students some new ideas in child care, as seen in a very different culture. Our American need for understanding such cultures is urgent; perhaps your community is ready for this film. Family life authorities urge its use, stating:

"Intrigued at the start by the strangeness of primitive nudity in the jungle, students watch the supposedly familiar procedures of infant birth, care, and the bathing and feeding of a baby. Although familiar in a broad sense, the subject is totally new in detail. The film shakes up the false security engendered by smugness, and the student is more readily receptive to a discussion of the meaning of cultural differences in the development of human beings. This is easily followed by studies of what is similar in infant growth and what is susceptible to cultural variations."

This film is different from those commonly used for high school students, but it does offer opportunity to consider other cultural patterns and values and their effect on the lives of those concerned. This film is for advanced students in family living. After a teacher has previewed it, she can decide whether or not her girls are sufficiently mature for its study. A small number of mothers might be invited to help her to make this decision.

A challenge to you

In the present confused state of education and of the world, trying to evaluate any program is like trying to "take a tuck in a cloud." But with three to four billion neighbors, friendly, neutral, unfriendly, learning to recognize reasons for similarities in values and to respect and get along with differences has become imperative. The home economics curriculum of the immediate future must be designed to give students time to study values as well as learn facts and principles if homes and family life are to be improved.

Every teacher today is challenged to greater effort than in any previous age. Teachers, too, must take time to clarify their own values and possibly change some of them. From knowledge and insight come wisdom and growth. As Proverbs reminds us:

"Be attentive, that you may gain insight
For on the lips of him who has understanding, wisdom is found."

HOW THE SCHOOL LUNCH CAN HELP TEACH NUTRITION

Mildred Bonnell, Head
Division of Institution Management
University of Illinois

Homemaking teachers are playing an increasingly important role in dealing with the problem of teen-age diets. Why not let the school lunch help with this part of teaching? Here are some of the facts which need to be recognized:

- * The diets of teen-agers are the poorest to be found in this country. The present trend toward early marriage and parenthood gives primary importance to the dietary of teen-age girls.
- * High school boys make better food selections than high school girls.
- * Both girls and boys of junior high age are inclined to fill up on snacks which have low nutritive value but dull the appetite for well-balanced meals.
- * Overweight is our greatest nutritional problem.

There is no doubt that teen-age girls are interested in diet. They want very much to look their best with clear skins, good figures, shiny hair, and sparkling personalities, yet they are apt to eliminate important elements of diet such as milk, eggs, and green vegetables, substituting instead soft drinks, candy bars and potato chips.

The teacher, no doubt, does recognize these factors and feels duty bound to do something about correcting diet deficiencies in students. In most schools you will find the lunchroom manager also eager and willing to cooperate in a nutrition teaching program. There is every reason to believe that the lunchroom can be a laboratory where learnings in nutrition are practiced in a natural and normal way.

To make the lunchroom program an integral part of a nutrition education program, there should be a planning together and mutual understanding of the objectives and responsibilities of the program. A tentative plan of work should be set up. Let us assume that your objectives are:

- * Helping students to improve food habits by learning to appreciate the value of nutrition to health.
- * Teaching them to like new foods.
- * Helping them to avoid empty calorie foods.
- * Finding ways to include more green and yellow vegetables and Vitamin C foods in student diets.

With these objectives in mind, the following is suggested as a program which could be accomplished cooperatively

Teach the value of nutrition in relation to health and appearance by:

1. Teaching the pattern for the Type A school lunch:
1/2 pt. milk
2 oz. protein rich food

3/4 c. raw or cooked vegetable or fruit
 1 serving bread, enriched or whole grained
 2 tsp. butter

2. Following this up with a student project of planning menus for the lunchroom, choosing several of the best student menus to serve in the school lunchroom, and giving publicity to the menu maker, the menu and its nutritive value.

One very dramatic way to illustrate nutritional adequacy is to conduct a rat feeding experiment in which one rat is regularly fed the school lunch diet and the other eats potato chips, hot dogs and Coca Cola. Encourage students to talk about school lunch menus. Challenge their nutritional adequacy. Analysis of an actual student problem makes nutrition more interesting.

With the approval of the administration, homemaking students might conduct a survey of all students eating in the lunchroom. Slips, "Good," "Fair," and "Poor," may be duplicated in quantity and given to each lunchroom student to tell him how his lunch rates for that day. Different colors for the three ratings may be used; amusing sketches may be duplicated on each slip. This survey should be accompanied by a conspicuous poster indicating the basis on which the lunch was rated.

Teach students to like new foods

Ask the lunchroom manager to feature a "taste" dish from which everyone would be given a free taste. Students might help with preparation while it is linked with class discussion of its value in the diet.

Teach students how to avoid empty calorie foods

It has been suggested that one reason for students liking "snack" foods is because they are in a hurry. Perhaps the lunchroom manager could be encouraged to provide nutritive snacks such as carrot and celery sticks, a piece of fruit and protein-rich sandwiches for a fast service line.

Find ways to include more nutritive foods without increasing calories

Girls sometimes think that a snack is less caloric and, therefore, preferable. Yet the protein, vitamin, and mineral content that contributes toward the physical qualities for which they are striving is lacking often in a snack diet. A positive approach would be to have students suggest salad plate combinations with low calories which also would be nutritionally adequate for weight-conscious students. The school lunch manager could cooperate by featuring these suggestions on the lunch counter.

Cooperation between teachers and the lunchroom staff could have far reaching influence in teaching many other things as well as good food habits. With encouragement from teachers the lunchroom can relate in a vital way to the total educational program.





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TEACHING HOUSING IN SENIOR HIGH SCHOOLS

Marjorie Savage, Associate Professor of Home Economics
Western Michigan University, Kalamazoo, Michigan
Hilda Geuther, Curriculum Coordinator, Carl Sandburg
High School, Orland Park, Illinois

Everyone has some interest in housing! It may be personal, it may be motivated by his business, or it may grow out of his interest in civic affairs. At the eleventh and twelfth grade level, a student has sufficient maturity to approach the study of housing in relation to how it will affect his own economic, social, and psychological needs at the same time it provides his shelter. Within the framework of a sequence of housing topics, a teacher may develop the following outcomes.

- * An understanding of the housing market
- * An interest in the technological advances being used in the housing industry
- * A knowledge of governmental activity in the housing industry
- * Ability to apply criteria for judging house design and construction
- * An appreciation of the role of the architect in house planning
- * An appreciation of the role of the house as a background for family living
- * Ability to apply criteria for judging a ready-built house
- * An interest in and understanding of community planning
- * A willingness to continually study recent developments in housing

To achieve such outcomes, a course needs to include such topics as these.

- * The house in relation to one's economic, social, and psychological needs
- * The role of government in the housing industry
- * Basic construction factors when planning a house or judging a ready-built one:

- Adequate space
- Insulation
- Roofing
- Heating
- Electrical service

Plumbing
 Sound control
 Air conditioning
 Lighting
 Windows
 Flooring

- * Traditional structural materials and methods; new developments in types of housing such as industrially produced component parts and factory built housing
- * Leases, real estate contracts, mortgages and other aspects of financing shelter
- * Bases for deciding to buy, build, or rent housing

Needs and space use for work, relaxation and group living is a vital aspect of housing that is conspicuous by its absence from this list of topics. The functional aspect of housing has always appeared to be well taught in several units of high school homemaking programs. Examples are topics such as kitchen and laundry planning, arrangement of home furnishings and of household equipment. Agan's recently revised edition of The House: Its Use and Care is concretely helpful in teaching this topic, for example, as well as some other high school texts. Consequently we are assuming that our readers already have this aspect well under control.

Our experience in working with in-service teachers and inquiries of other mature instructors and homemakers holding home economics degrees has lead us to think that basic concepts on the less familiar but fundamental topics of housing might be of most immediate use to our readers. Hence major attention in this article has been devoted to the first topics in our list. In a follow-up issue of the Illinois Teacher of Home Economics in 1961-62, content and methods of teaching the remaining topics will be presented.

Economic, Sociological, and Psychological Aspects

Impulse buying is consistently deplored in every kind of personal and family purchasing. In no kind of purchase is a mistake more disastrous than in buying a house! For many persons a home is the largest single investment they will ever make. Like Mark Twain's facetious remark about the weather, "We talk a lot about it but we don't do anything!"

We have been highly selective about the concise, basic concepts we are offering you in the hope that you will do something with and for your older students. Naturally, we would wish you at least a few college-bound students since the challenge of today's housing research is fascinating to the most academically talented. But we can assure you from experience that the imminence of need felt by less able students about to be married stimulates previously unheard of achievements. To be sure, the talented can often achieve in six weeks what slow learners need to study hard for a semester; the important point is that both acquire the necessary information and attitudes sooner or later.

Population influences on the housing market

The present mushrooming population cannot be ignored with respect to the housing market. Last year in an article entitled "A Good House Nowadays Is Hard To Find," Watkins stated, "America's home-building industry has been turning out an average of just over a million new houses a year during the 1950's. It is incapable of meeting the demand." This means that many low-income families may be forced to continue to live in substandard places.

Additional strain will be placed on the demand for housing when the World War II babies are ready to establish homes and families. Information from the Census Bureau points to the fact that our country's population will "hit between 260 and 275 million by 1980--an enormous increase of 85 to 100 million people in twenty years."

Mobile homes

One phenomenon, resulting from the mushrooming American population, is the number of people living in mobile homes; 3,500,000 live in mobile homes, and 365,000 owners of travel trailers live in trailers during vacation.

Causes which are basic to the development of mobile homes are the mobility of American people, increased cost of residential land, and the ease of maintenance and housekeeping offered by these "compactly-designed units." The character of the population is described in a Home Safety Review. "18 per cent of mobile home owners are professional people. Skilled workers comprise 37 per cent of mobile home population, and 20 per cent is military personnel. Retired couples occupy 10 per cent of such dwellings, students 3 per cent. More owners fall into these categories than into any others."

The expression "domestication of the trailer" is a reality when we consider the special equipment and permits needed for transportation of the mobile home. In many instances, financing the mobile home has become easier as the trailer family is considered more stable and a better risk for lending institutions.

Inflation and deflation

The normal fluctuations in the economy of our country influence the availability of mortgage funds for a prospective home-buyer. Beyer states that in a period of low economic growth "when the supply is large relative to demand, the price of dwelling units (including rents) will tend to be lower." However, at a time of economic growth and expansion, there tends to be a great demand for borrowed funds.

A "tight" money market means that the demand for money is greater than the supply of savings and investment money, a condition accompanied by high interest rates. In this situation, lenders are able to be selective because the demands of individuals outnumber available loan funds. Lenders will then be less attracted to mortgage contracts on a long-term basis with a low down payment and/or interest rate. People in the lower-income groups, for the most part, are affected by a "tight" money situation.

Changing conditions

Many problems in the area of housing result from a conflict between technological change and development on the one hand and a lag in other facets of life, such as governmental regulations and labor methods. Inertia in government and in-grained methods of labor have interfered with progress in the home-building industry. Technological advance in the discovery and use of new materials has resulted in need for evaluation and change in many attitudes toward housing.

Building codes

One of the main factors contributing to waste of the housing dollar is the existence of obsolete building codes. A building code may be defined as a series of local laws and ordinances--a kind of guidebook that describes how buildings shall be constructed and occupied, in order to guard the health and safety of everyone. Building codes in some localities fail to keep pace with changing economic conditions and recent research in the building industry.

In some instances, codes fail to allow the use of such innovations as an economical roof truss, plastic pipe, copper tubing in plumbing systems, prefabricated fireplaces. Consequently, the consumer fails to take advantage of economical methods and materials. The enlightened building code of today is known as the "performance type." Materials are listed which meet "performance" standards. The older codes of a "specification" type, which still exist in some places, give the names of materials which have to be used.

Standard codes of the "performance" type have been developed by national organizations, such as National Research Council, American Society for Listing Materials, National Bureau of Standards. A community, which decides to take action and reform an existing code, should seriously consider adopting one of the standard building codes. Colean speaks of the process of code revision in this way: "To accommodate even a modest innovation, tests must be made, conflicting interests must often be reconciled and legislative action may be required."

High building costs

According to A. M. Watkins, a former editor of House and Home, the basic problem now besetting the \$18 billion a year industry is the present high cost of building. "Building costs have risen nearly 500 per cent since 1890, or well over twice the 220 per cent increase in all general prices during the same period (using constant dollars)." Important causes contributing to the sustained rise in building costs are increased cost of building materials and inefficient labor productivity.

The home buyer needs to consider the kind of materials required by a house plan. One authority states that "the cost of the materials and finishes that go into a house account for 35 percent to 40 percent of the total cost of construction." Freight and shipping costs greatly influence

the cost of materials. Consequently, building materials from a nearby source of supply will be less expensive. Basic building costs can vary between \$10. and \$17. a square foot, depending on the place of residence.

The second largest factor in the expense of building a house is that of labor, accounting for 25 percent to 30 percent of house costs. A reliable contractor who uses up-to-date building methods is a definite asset. However, builders or contractors are somewhat limited in practicing efficient methods since plumbing, heating, wiring, and other specialized jobs are given to subcontractors, who are required to follow union regulations.

Better Homes and Gardens featured an article entitled, "You Must Pay for These Building Wastes," which characterized inefficient labor productivity as follows:

"Too much time
 Too many costly coffee breaks
 Six and one-half hours work for eight hours pay
 Limits placed on daily output per man"

"Too many men
 Two or three men for one man's job
 High cost men or unskilled work
 Some men doing no work at all"

"Old-fashioned methods
 Restrictions on use of tools
 New ideas discouraged or outlawed
 Costly, needless jobs done on site"

The housing "co-op" idea

Statistics point to the fact that "over-all housing costs have risen thirty-two percent since the 1947-49 period and rents have jumped forty-three percent." As a result of rent boosts, especially in the larger cities, there has been a rapid rise in cooperative housing. In many instances, credit unions provide an answer to the problem by sponsoring cooperative housing for middle-income families. The idea of cooperative housing is spreading; in some instances, a community organization serves as sponsor for a fair-sized housing co-op.

An article in Machinist states, "In Cincinnati, Co-operative News Service reports that the new Park Town Co-op will provide garden apartments for 323 member families. They'll pay down \$250. for an efficiency apartment, and \$650. for a three-bedroom unit. Monthly carrying charges, including interest, principal, taxes, insurance and maintenance, range from \$70. a month to \$100." (The Machinist is published by the International Association of Machinists, 909 Machinist Bldg., 1300 Connecticut Ave., Washington 6, D. C. The subscription price is \$3.00 a year.)

Housing discrimination

In the recent 1960 "Freedom pamphlet" entitled Housing Discrimination, Eunice and George Grier provide important facts which merit intelligent

and serious consideration by all American citizens. Some progress has been made in curbing other forms of discrimination; however, a different picture exists with respect to the field of housing.

The victims of housing discrimination include more than 27 million people. In many instances, "benefits of the FHA and VA programs have not been available to minority citizens on equal terms....As for the American home building industry, only one percent of all new private homes built in America in recent years have been available to non-whites."

The Role of Government in Housing

In 1892 Congress passed a resolution to provide money for an investigation of slum conditions in cities of over 200,000 population. Yet the public still seems to think that government activities in housing are a very recent development!

During World War I Congress authorized the establishment of a Bureau of Industrial Housing and Transportation in the Department of Labor. In the same period Congress provided authority to the United States Shipping Board and the Emergency Fleet Corporation for providing housing for workers in the shipyards. Soon thereafter the President, by executive order, established the United States Housing Corporation.

Federal aid to housing

Glenn Beyer of Cornell University lists the following as the major areas of government activity in housing.

- * Aids to private housing
- * Public housing
- * Slum clearance and urban renewal
- * Defense and war housing
- * Veterans' emergency housing
- * Farm housing
- * Housing statistics

Many people maintain that housing has become a public responsibility. President Roosevelt's "ill-housed" one-third of the population has by no means been eliminated as a recent pronouncement by President Kennedy supports. All people, however, recognize that the housing industry has become a medium for maintaining the national economy at a high level and avoiding economic set-backs. So sensitive is it as a barometer of the health of the national income that your students will constantly be finding clippings on the subject from current reading.

The role of the federal government in housing has always been and is today highly controversial. The conflict basically is between two opposing concepts--one emphasizing the freedom of the individual and the other emphasizing the over-all needs of society. Those who favor public housing declare it is necessary to eliminate slums, and is the best way to provide low-cost housing for low-income groups. Those opposed to public housing say it is high-cost housing made available at low rents that are made possible by the subsidies paid out of tax monies.

In actual practice, families with the greatest need, such as widows with children and persons on relief, are usually not eligible for public housing. Nor has public housing in the majority of cases resulted in the elimination of slums. So great is the importance of adequate housing to the health and welfare of our nation, however, that high school students should be introduced early to the complicated problem in the hope that, in their maturity, they may evolve better solutions.

Agencies active in the field of housing

The United States Treasury and the Federal Reserve Board act to regulate the equilibrium of the economy at all times. Available money, interest rates and mortgage terms are used to manipulate the factors of supply and demand in the field of housing.

The list of active housing and home finance agencies is a long one, and especially difficult to remember because they are usually referred to in "alphabetical" terms. For example, the Federal Housing Administration is known as FHA (not our Future Homemakers of America), the Public Housing Authority is alluded to as PHA, the Community Facilities Agency is shortened to CFA, and the Urban Renewal Agency to URA. Here are some general understandings that everyone should know.

- * The Federal Housing Administration insures home mortgage loans up to 93 percent of their appraised value. These insured loans generally require less down payment, demand less interest, and are repayable over a longer period of time than conventional loans. This agency does not plan or build housing, nor make direct loans to the purchaser.
- * The Public Housing Authority provides loan monies and federal subsidies for the construction of publicly-owned rental housing built by local housing authorities.
- * The Home Loan Bank Board, through the Federal Home Loan Bank System, provides a credit reserve for member savings and loan associations throughout the nation.
- * The Communities Facilities Administration administers loans to state and local governments to finance the construction of public works, the construction of community facilities in defense housing areas, loans to colleges for student and faculty housing, and supervises the construction of school buildings financed with funds furnished by the Office of Education in Washington.
- * The Urban Renewal Agency has the basic job of finding ways to improve existing housing by means of rehabilitation, redevelopment or conservation.

The urban renewal project that retains and improves most of the structures in a neighborhood is essentially a rehabilitation job.

When projects call for total clearance--total demolition of all buildings in the area--the project is called redevelopment.

Conservation is best used to describe an urban renewal project involving fairly good structures that need modernization, minor repairs and possibly changed zoning.

- * The Federal National Mortgage Association is a federally administered "secondary market" which supplies additional mortgage credit to supplement that which is available from private institutions.
- * The Veterans Administration by authority of the Servicemen's Readjustment Act may guarantee part of a loan made by a private institution. The Loan Guaranty Service functions through these GI loans.
- * The Farm Home Administration makes loans only to farmers. These may be operating loans to provide for farm operating and home living expenses, tenant purchase loans, farm development loans. It may also insure loans made by other agencies for land purchase.

Basic Construction Factors

Due to space limitations, only part of the basic construction factors listed on page 247-48 are developed in this issue. Depth in fundamental concepts was thereby given preference over breadth. All of the content that follows has been reviewed and approved by established representatives of the government agencies, and the trades and industries involved.

Insulation

Five important functions provided by adequate insulation of the home make this one of the most important construction factors for tomorrow's world of conditioned air.

- * Insulation increases the efficiency of the heating system and allows for more uniform heating. Homes heated by electricity require heavier layers of insulation than do other methods of heating, and are subject to special standards of the National Electric Code.
- * Insulation impedes the passage of heat through walls, floors and ceilings; protects your home from heat, cold, and draft areas. In order to eliminate spaces through which heat can escape or enter, careful application of insulation is necessary.
- * Insulation lowers fuel costs in winter and air-conditioning costs in summer. Since heat is kept from escaping, less fuel is consumed.
- * Since adequate insulation lowers the amount of heat entering a house, the cooling load for an air-conditioner is reduced.

* Costs of equipment are lower because smaller heating and cooling units are required, and the life of equipment is increased as less load is placed on them.

Three principles of physics which explain the process of heat flow are conduction, convection, and radiation. Most authorities agree that insulation works through the sealing in of millions of tiny dead air spaces, which impede the passage of heat. The time for insulating a home needs careful consideration as the job is easier and less costly when the house is being built.

According to the Small Homes Council of the University of Illinois, the selection of one type of material over another depends on three factors.

- Degree of insulation needed
- Limitations of the building itself
- Cost of material and labor

Factors which influence the effectiveness of insulation are as follows:

- The degree of thickness used in walls, ceilings or floor
- The presence of a vapor barrier in connection with the insulation
- The location in the house.

The thickness of insulation recommended for an electrically heated or air-conditioned home is six inches for roof or ceiling, four inches for walls, and two inches for a crawl space or the edges of a slab. For a home without air-conditioning or electric heat, the recommended thickness is less--four inches of insulation in the ceiling, three to four inches in the walls, and two inches of insulation at the floor.

A vapor barrier, located on the heated-in-winter side of walls, floors, or ceilings, offers the following advantages:

- Keeps walls dry
- Protects walls from decay
- Protects exterior paint
- Contributes to effective insulation.

Moisture vapor from the interior of a tightly built home has a natural tendency to pass through wall areas to drier spaces. Since water vapor condenses when it strikes a colder surface, insulation material without a vapor barrier may become soggy and lack resistance to electrical short circuits. Some types of insulation, such as the loose fill, require a separate vapor barrier.

Ceiling insulation

Since warm air rises, the heaviest heat loss is through the ceiling. In a house with attic space above the ceiling, the fill type of insulation retards heat flow by conduction and convection, and can be blown inside attic floors to a depth of four inches. Fill type is recommended for use in residential work where there is no settlement problem. A batt type of

insulation, with adjoining air space and foil cover adjacent to attic, also may be used. Additional measures that should be used to deal with excessive attic heat are ventilation provided at both ends of the attic and sometimes an exhaust fan.

Rigid or "board" insulation is recommended in a house with exposed ceiling; it retards heat flow by conduction. Rigid insulation comes in thicknesses up to four inches and may be applied to roof rafters as an exposed ceiling finish. The value of this type of insulation is dependent on its thickness and termite resistance.

Wall insulation

All methods of heat travel, conduction, convection and radiation, must be considered in dealing with wall space. Batt insulation with foil cover, or enclosed in paper and cut into rectangular batts, retards heat travel by conduction and convection. Kirkpatrick, a specialist in housing, states that "if the heat insulation is covered with metallic covering and a space is left between it and the exterior or interior wall covering, it will also retard heat flow by radiation." The full thickness of insulation is especially needed on north and west walls.

Floor insulation

To eliminate cold floors and protect against heat loss, floor insulation is recommended for floors over a crawl space. To insure protection of the insulation, in turn, a soil cover or vapor barrier is required, as well as adequate ventilation in the crawl space. Such ventilation eliminates excess moisture which will reduce the value of the insulation. Perimeter insulation is needed around the rim of floors built on a concrete slab. A rigid type of insulation of two-inch thickness will retard the flow of heat around the edges of the slab construction. Additional floor insulation is required under the slab to prevent the discomfort of cold floors and eliminate heat loss. Regardless of whether or not insulation is provided, a vapor barrier is absolutely necessary to prevent moisture coming from the ground by capillary action through slab construction.

Some additional pointers that contribute to satisfying insulation are:

- * Small spaces should be well insulated, and the material should extend up to studs and joists, pipes, and electrical boxes.
- * With batt type insulation, staples should not be more than six inches apart. When insulation is snug against studs, joists or rafters, heat travel will be minimized.
- * Vapor barriers around openings and odd-shaped spaces should not have any torn spots.
- * A double-glazed window, which is made of two sheets of glass with an interior vacuum, is a form of insulation. So are adequate weather-stripping and calking around windows and doors.

Roofing

Basic concepts on roofing may be grouped around the three key requirements of a good roof. These are appropriate style, good water drainage, and long-lasting protection.

Style in roofs

The type of roof depends primarily on the architectural style of the house. Roof styles are gable, flat, hip, shed, gambrel and mansard. Gable, hip, gambrel and mansard roofs allow space on the upper floor for attic storage or additional rooms. Shed roofs allow freedom in room layout. Use of roof trusses with gable roofs also provides for flexible room layout.

The more complex the roof shape, the more expensive it is to build and maintain. Naturally, flat roofs are the most economical.

Water drainage

The advantages of having the eaves extend two to four feet beyond the exterior walls are to give the house a bold and handsome appearance, to protect windows from rain and snow, to keep rain off of exterior walls, to prolong the life of paint or other exterior finish, to shield the ground next to the foundation from roof water, and to shade windows and walls from the summer sun. Roof overhangs are most effective on north and west exposures, less effective on east and south. The farther north the house is located, the wider the overhang needs to be for effective shade.

Flashing is used where projections such as the chimney, vent pipes, or dormers come through the roof, where the roof butts up against a vertical wall, or where there is a meeting of two different roof sections known as a "valley." Flashing is needed to cover every roof joint where water might gain entry. The joint is spanned with metal or plastic sheet to make it water tight. To be effective the flashing must extend at least four inches up the chimney and at least four inches under the nearest shingles. The flashing may be tin, galvanized iron, aluminum, copper or plastic.

A metal lip should extend over the edge of the eave to guide water run-off away from the underlying construction as a protection against insidious water leaks. Gutters are open channels of wood or metal around the eaves for carrying off rain water. Gutters funnel water into leaders, referred to as "downspouts," which should connect with the storm sewer. Where there are no storm sewers, the downspouts should lead into dry wells or field tiles leading away from the foundation.

Surfacing materials for roofs

Galvanized steel sheets, either flat or corrugated, may be used on roofs having a minimum three-inch pitch. It has exceptional strength and wind resistance. When painted white, it reflects the sun's heat. Usually this roofing is not considered attractive enough to use on dwellings. It may be used over old roofing. Its disadvantages are noise and difficulty in repairing.

Asbestos-cement shingles are made of asbestos fiber and portland cement. They are available in various widths and thicknesses, and are laid to look like wood shingles. Being larger than most shingles, asbestos-cement shingles can be applied in less time. They are resistant to acids and atmosphere. This shingle will last indefinitely and is fire resistant. It is classified in the medium-cost bracket and is seldom used for utility roofs.

Clay tile is made of shale and clay baked into a hard material which may be flat and rectangular or somewhat barrel-shaped. Clay tile is used on buildings where appearance and permanence are important. It is fireproof, wind resistant, and may be expected to last indefinitely. Some come with a highly glazed surface in a variety of colors.

Asphalt shingles are a cellulose-fiber felt saturated with asphalt and covered with mineral granules. These shingles are available as three-tab square butt strips, two- and three-tab hex strips, and individual lock or staple-down shingles. Asphalt shingles are used on two out of every three new houses. The life expectancy varies according to the grade. The minimum grade allowed for FHA insured loans is 210-215 pound weight which can be expected to give 15-20 years of service. Medium grade weighs 250 pounds per square and may be expected to last 20-25 years while the best grade weighs 300 pounds per square. A square of roofing material equals the amount needed to cover 100 square feet of roof area.

Terne is a lead-tin alloy which ranks with copper and slate in quality and price. Terne is usually laid vertically on the roof with standing seams. It must be painted with an acrylic emulsion paint which may be expected to last 10-15 years.

Slate is natural stone cut into rectangles, with either a smooth or rough surface which shows the grain of the stone. This windproof, rain, snow and ice-shedding material will give indefinite fire-resistant service.

Aluminum roofing is light in weight, easy to install, has high sun-heat reflectivity, long life and low maintenance cost. Safety requires that houses with aluminum roofs be well grounded for lightning protection. Aluminum roofing and nails should not come in contact with other metals because of the need to avoid electrolytic corrosion. The life of aluminum roofing is indefinite. It comes in a variety of colors produced by enamels permanently bonded to the metals.

Copper sheets are usually laid vertically with standing or thick batten seams. The metal looks bright at first, becomes dull, and finally develops a lovely green patina. It will last indefinitely, is wind resistant and does not corrode. The disadvantage is that it absorbs heat.

Wood shingles are cut from cedar, redwood or cypress. The quality is determined by the thickness, with 3/8 inch shingles giving 15-20 years service. Thick shingles are called shakes which range up to one and one-fourth inches with a life expectancy of fifty years. Wood shingles of any thickness have the disadvantages of being combustible, or cracking, of attracting fungus and of having the butts curl.

Roll roofing is an asphalt sheet material, 36 inches wide, covered with mineral granules, available in a variety of colors. While roll roofing is not considered equal to a four- or five-ply built-up roof, it is said to be superior to a cheap built-up roof. The life expectancy depends upon the thickness of the material, the color and the climate. This type roof has little surface texture and is generally used on utility buildings rather than dwellings.

Built-up roofs are made from alternate layers of building felt or fiber glass and an asphaltic material covered with gravel, slag or mineral particles. The roof is continuous from eave to ridge and rake to rake in a smooth expanse of surface. Five-ply is considered good quality and can be expected to last 20 years. If white chips are used the roof will reflect heat. Built-up roofs are used mostly on contemporary houses with flat or very low-pitched roofs.

196X roofs

House and Home magazine, January 1958, predicts that the 196X roof will be very light, made of a few panels, perhaps 20 to a 1,200 square foot house. Each panel will have a core of honeycomb or foamed plastic or glass fiber insulation, and skins of metal, plastic, plywood or composition boards. The top surfaces of the roof panels may be finished off in any number of ways, including some of the materials in use today.

Among the new finishes will be sprayed on plastic skins in different colors and textures to form a weather tight coating over the entire surface. Joints between panels will be interlocking with gaskets to assure weather tightness. We can expect roof shapes to be developed on folded and warped plane principles. Experimental models are located in many sections of the country. Watch for developments in your area.

Heating

A heating system designed, engineered, and installed by a qualified person according to all local and state code requirements, is an investment in comfort. While future developments in technology is certain to result in some changes, the concepts presented here are fundamental for everyone to know, we believe.

A properly designed system includes correct:

- Size of unit
- Size of pipes or ducts
- Size and type of register or radiation
- Location of registers or radiation.

The heat loss of the house determines the size of the unit required, and varies according to these factors.

- The size of the house
- The amount of glass area
- The type of construction, such as frame, brick or block
- The use of storm windows
- The amount and type of insulation used

Which is the best heat for your house?

The Hearst Corporation has given us permission to duplicate this chart from House Beautiful's Building Manual, Fall-Winter, 1960-1961, copyright 1960. This material is so concise, up-to-date and authentic that we feel it is a privilege to present it here.

WHICH IS THE BEST HEAT		
	FORCED WARM-AIR HEAT	HOT-WATER HEAT (HYDRONIC)
Operation	Air is heated in a furnace and circulated by electric blower through ducts to all rooms. Cold air from house is drawn back through return ducts to the furnace for reheating.	Water is heated in a boiler, and a pump (circulator) forces it through pipes to radiators throughout house. Cooled-off water from radiators is pumped back to boiler for reheating.
Main Advantages	Air conditioning can usually be added, using the same ducts for cool-air circulation in summer. Comparatively low first cost. Provides heat quickly in response to call from thermostat. House air is constantly filtered. (Moisture can easily be added to house via humidifier attachment on furnace.)	Probably least susceptible to design errors. Leaves headroom in basement (since pipes take less space than ducts). Separate hot-water heater is not needed; domestic hot-water heater can come inside boiler. New boilers are small, good for nonbasement houses.
Limitations	Openings sometimes must be made in rugs or carpeting for air outlets in floor. Furniture placement is sometimes limited so there will be no interference with warm-air discharge into rooms from floor or baseboard registers. Beware of skimpy ductwork.	Separate provisions must be made for air cleaning, ventilation, and humidification. If poorly installed, system can be noisy.
Humidity Control	Moisture can be added to the house by a humidifier attachment on furnace. (But pan humidifier that comes with many furnaces is often inadequate.)	Some kind of humidifier used with warm-air heat is used, but it is installed independently of heating boiler.

FOR YOUR HOUSE?

ELECTRIC HEAT	CENTRAL HEAT PUMP
<p>Electricity flowing through wire generates heat. Methods include radiant wall heaters; wall convectors with fans; electric baseboards; plaster-embedded ceiling cable; ducted electric furnace.</p>	<p>In summer, an electrically operated refrigeration compressor cools and dehumidifies house air. In winter, operation reverses, extracts heat from an outside source (usually air or water) and pumps it into house.</p>
<p>Low first cost of installation (but don't forget to add in extra insulation cost, as noted below). Negligible maintenance since there is no conventional furnace or boiler. No chimney (unless you want a fireplace). No dirt from fuel combustion. Excellent for heating added rooms.</p>	<p>One power source (electricity) and one piece of equipment provide year-around heating and cooling. Air is filtered (as with conventional heating and cooling). Moisture can be easily added in winter. No fuel to burn. Like conventional electric heat, needs no chimney.</p>
<p>High operating cost, unless you have low-cost electricity locally. Requires very thickly insulated house. Thus, may be stuffy inside, unless special provisions for ventilation are made. Ventilation is also needed to prevent excess moisture (generated indoors by cooking, bathing).</p>	<p>Recommended only where local electric rates are low. Some brands of heat pumps are recommended only in the South. Special electric resistance heaters are needed when outside temperature drops below 20 or 30 degrees.</p>
<p>Must be provided by separate humidifier. (But as noted above, too much humidity may be more likely than not enough.)</p>	<p>Same as with conventional warm-air heat.</p>

	FORCED WARM-AIR HEAT	HOT-WATER HEAT (HYDRONIC)
Zone Control	Warm-air ducts can be divided into separate circuits, each controlled by separate thermostat, so separate parts of house can have "zoned" heating. Or two furnaces with individual duct systems can do zoning.	Most easily zoned of conventional heating systems. Two or more circular pumps are used, each one controlled by separate thermostat upstairs in each "zone" of house. Simple zone control is one of hot water heat's biggest advantages.
Service and Maintenance	Air filters must be cleaned and blower motor oiled regularly. Registers, walls above them, need periodic cleaning.	Radiators must be "bled" of air, and boiler-water pressure checked periodically. Circular pump motor may require oil, occasionally. Finned-baseboard must be vacuumed.
Installation	Perimeter ducts are recommended for most houses, particularly slab and crawl-space houses. Ducts supply outlets under windows.	Baseboard radiators are the most popular today. Radiators are generally located at outer walls, preferably under windows.
Air Conditioning	Air conditioner is easily coupled to furnace using same ducts and one blower for warm- or cool-air supply.	Separate central air conditioner or through-the-wall units are generally your best bet.
Costs	Comparatively low first cost. Operating cost depends on fuel used (gas or oil).	Generally higher in first cost than warm air. But hot-water heat people claim new installation methods are bringing down cost of hot water to a par with comparable quality warm-air heat. Operating cost depends on fuel.
Buying Tips	Furnace should carry a ten-year guarantee; pulley driven blower is recommended over direct-drive blower furnace. Duct system should conform to standards of the National Warm Air Assn. or Silver Shield.	Long, low baseboard radiators (about 7 to 9 inches high) are most popular radiator type. They are best looking and provide even distribution of heat, particularly under large or wide windows.

ELECTRIC HEAT	CENTRAL HEAT PUMP
A natural with electric heat, since each room can have its own thermostat.	Same as with conventional warm-air heat.
Very little to none, depending on the particular system.	Air filters must be cleaned and blower motor oiled periodically. The main refrigeration mechanism generally requires the same annual check needed by air conditioning.
Radiant baseboard units or wall panels are located at exterior walls. In North, perimeter ducts with electric furnace are recommended.	Much like year-around air conditioning with warm-air heat. Perimeter ducts are best, especially in mild or cold climates.
Needs separate central air conditioner or through-the-wall units.	Automatically provided.
Operating costs vary tremendously according to local electric rates. They generally will be competitive with oil or gas heat when electric rates are no more than 1¢ to 1-1/2¢ per kilowatt-hour provided your house has heavy insulation.	May average about 10 to 15 per cent higher in first cost than conventional heating and cooling. Operating cost same as regular central air conditioning in summer; should be equal or lower than conventional electric heat in winter.
The importance of plenty of house insulation, properly installed, is doubly emphasized. Before you buy, check local electric utility to get an operating-cost estimate.	Important to buy only a top-name brand from a reputable local contractor who can show you other successful jobs he has installed. In general, heat pumps work best in warm or mild climates.

Heating units are rated by BTU capacity, either input or output. BTU means British Thermal Unit and is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit, or roughly is equal to the heat generated by a burning match. The input rating of a unit is the total amount of heat in BTUs produced by the unit, including the heat loss through the chimney vent due to the process of combustion. The capacity of all gas units are rated by BTU input. The output rating of a unit is the amount of heat in BTUs which the unit will produce efficiently and deliver to the heated area. This is approximately 20 - 22 percent less than the input. Oil or coal burning units are in most cases rated in BTU output.

Electrical home wiring

A modern wiring system is designed in light of facts about the family as well as about the house. The size of the family and the family interests and activities are considered in all functional aspects of housing. Family needs and the ability to meet initial and operating costs of equipment result in different electrical arrangements for different families.

A home owner saves money if adequate wiring is installed at the time a house is under construction. According to the building-trade magazine, House and Home, "Half of the home owners in many large projects must spend nearly \$100 within six months for additional electrical service that the builder could have provided during construction for less than \$20."

A well-planned electrical system will allow for existing and anticipated load requirements. A satisfactory approach to designing an electrical system is to estimate the necessary fixed and portable electrical equipment and the load in watts that individual equipment must carry, thereby determining the total number of circuits required and the capacity of the distribution panel.

In order to insure safety of individuals, the National Electric Code and local ordinances should be followed. Up-to-date building codes have resulted in a decrease in fire, property damage, and loss of life. Most local codes require the services of a qualified electrician for installation to insure against hazards and meet code requirements. Local power companies provide electrical service after local inspectors have approved a house wiring job.

Inadequate wiring

Symptoms of inadequate wiring include the following.

- Fuses blow
- Dimming of lights when appliances are in operation
- Inadequate TV reception
- Extension cords necessary for lamps and appliances
- Slow heating of small appliances
- Limited furniture arrangement
- Lack of well-placed adequate wall switches

According to the National Adequate Wiring Bureau, "When lamps and appliances which should be getting 120 volts are receiving only 90 or 100 volts, their performance can be affected in three ways. A heating appliance, such as an iron or a toaster, takes longer than it should to heat up; when the voltage drops ten percent, it takes twenty percent longer to heat. The motor which operates an appliance such as the washer, vacuum cleaner or refrigerator will be overworked and eventually burn out, if often operated while the drop in voltage is great. Lamp bulbs do not give their full quota of light. The amount of light is often reduced as much as one-third."

Some improvements can be made in existing wiring. If sufficient power is available, additional wiring may be provided by surface extension wiring. Since motor-driven appliances take high current in the starting operation, a time-delay fuse helps to eliminate fuse blowing problems and protect electric motors.

Definitions of essential terms

- * An ampere is the unit of electrical current.
- * A volt is a unit of electrical pressure needed to move amperes through wires or conductors.
- * A watt is the measure of the amount of electric power an appliance needs.
- * The watt is computed by multiplying voltage by amperes.
- * A kilowatt-hour (kwh) is the unit for measuring electrical energy consumed.
- * Adequate electric service entrance or electrical capacity means having three wires from the utility line of sufficient size to bring in enough current and adequate fuse-type or circuit breaker equipment in load center or distribution panel.
- * Adequate branch circuits indicates a sufficient number of circuits with large enough wires to carry electricity at full power from the service entrance to all electrical equipment, lights and appliances.
- * Adequate convenience outlets indicates enough outlets at the proper placed to provide for convenience, flexibility and beauty.

Service entrance equipment, planned and installed twenty years ago, such as No. 2 wire, 30 amperes fuse, 120 volts service, is inadequate for today's family needs. Wiring standards for today's home call for at least a No. 3 wire, 100 amperes fuse, 240 volts service. In an article on "Lighting and Wiring" in a recent issue of What's New in Home Economics, this statement was made: "The increasing popularity of electric house heating and central air conditioning points toward the need for further increasing service entrance capacity to 150 and/or even 200 amperes

service." Authorities state that the capacity of the entire home wiring system is determined by the size of the service entrance wires. According to the National Adequate Wiring Bureau, the most reliable method for determining this capacity is to secure the service of a licensed electrical contractor or the power supplier.

Types of circuits

Three types of circuits used in home wiring are general purpose, small appliance and individual equipment. Each type of circuit has a recommended fuse capacity in amperes and wire size.

- * General purpose circuit - No. 12 wire, 20 amperes fuse, 120 volts
- * Small appliance circuit - No. 12 wire, 3 wire circuit, 120 volts
- * Individual equipment - various sizes and types of fuses

A split-wired circuit is often used in the kitchen, making possible a larger supply of current to each outlet and double fuse protection. A split-wired circuit recommended for appliances includes two hot wires and one neutral wire at each receptacle, whereas a regular circuit includes one hot wire and one neutral wire. The above-mentioned article summarized the need for split-wired 3-wire circuits thus. "The changing pattern of electrical use in the home points toward the desirability of installing split-wired 3-wire circuits throughout the house. This changing pattern relates to the trend toward use of small appliances in living rooms, recreation areas, and out-of-doors rather than confining their use to the kitchen and dining tables."

Branch circuits

Knowledge of the number of circuits needed makes it possible to estimate the size of the distribution panel. In a distribution panel or box power is divided into branches or circuits, which provide power for particular areas of the home. An adequate number of branch circuits should be provided to accommodate electrical appliances and lamps.

The capacity of a circuit is governed by the size of the wire. The National Adequate Wiring Bureau states that voltage drop may result when circuit wires are too small or branch circuits are too long. Smaller loss of current takes place with use of larger wire and shorter runs. According to a House and Home article, heavy wiring runs to major appliances should be short. Costs can be lowered when range, washers and dryers are located as close as possible to the distribution panel.

Outlets

An outlet is that point in a circuit from which electricity may be obtained for the operation of lights and appliances. An outlet may be the receptacle where electrical equipment is plugged into the circuit or the box where wires are connected for ceiling fixtures. Three types of outlets needed in residential wiring include:

- Ceiling or lighting outlets
- Convenience or appliance outlets
- Special purpose outlets.

The National Wiring Bureau in its latest publications provides many specific suggestions for placement of convenience outlets in various areas of the home. Other suggestions are these.

- * An outlet has been properly grounded when a receptacle has three holes rather than two.
- * Extra power or capacity of electrical service cannot be supplied by installing additional outlets.
- * Switches for the purpose of controlling lighting outlets are usually installed about 48 inches above floor level.
- * Three- or four-way type switches can be used when it is desirable to control lighting from two or three locations.

Safety

Safe wiring is determined by the proper number of circuits, fuses of adequate size, the size of wires used, and the quality of installation. A few points are especially worthwhile remembering.

- * Outlets supplied by a given circuit should be conveniently placed so that long extension cords are unnecessary.
- * Outlets and light switches should be located away from the bathtub and shower.
- * The purpose of using the correct size fuse with a particular circuit is to provide protection against fire as well as eliminate damage to equipment.
- * Grounding provided in places where moisture exists, such as the basement and kitchen, pays dividends in safety. Regardless of degree of shock, a grounded outlet offers protection.
- * Three-way switches are often used for garage and yard lights as they are designed to turn on or off at both ends of a circuit, thereby reducing hazards.

Plumbing

Important factors which contribute to safety, convenience and economy in plumbing facilities may be grouped in three categories.

Arrangement of bathroom with respect to total house plan, including
 Sound control
 Provision for storage
 Accessibility without entering other rooms.

Safety as related to

Water heater with a temperature-relief valve and the label
 of a nationally recognized testing agency
 Placement of electrical outlets away from fixtures.

Convenience with respect to
 Clearance of fixtures
 Design of fixtures
 Type of materials used for piping, fittings, and fixtures
 Adequate water pressure for family needs
 Adequate size piping
 Neighborhood water conditions

An experienced plumber knows materials and installations required by the local code, and can advise on what is currently available and best suited to local needs. A family able to hire the services of a reputable plumber is apt to save money in the long run, especially when building without the services of a supervising architect. An architect can make valuable suggestions concerning concentrated plumbing, size of water supply pipes, essential sanitary details, adequate venting, special problems of water supply, and grading of the drainage system.

Certain requirements must be met for an installation to be in accordance with a local plumbing code:

Size of pipes
 Material for pipes
 Proper venting
 Type of connections
 Sanitary standards.

An up-to-date plumbing code protects the health of individuals, contributes to their safety, and reduces the costs of materials and labor.

There are two piping systems. Supply pipes deliver fresh hot and cold water under pressure. Drainage pipes remove water and sanitary waste, due to force of gravity. Drainage and supply systems are easily cleaned if clean-out plugs are located wherever pipe changes direction.

House service from a city main should be of galvanized iron or copper and located underground below freezing depth and away from any drive. A shut-off valve at the property line controls the water supply to the home. It is located inside the foundation wall or in the utility room.

Larger pipes are needed for a drainage system than for the water-supply system. Piping, usually concealed and carefully graded or pitched, is required for adequate drainage. A trap, exposed and located close to each fixture, provides a water seal to eliminate any backward flow of sewer gas. Vent pipes pass upward through the roof to the outside. They balance air pressure in the drainage system and safeguard the water seal of the trap.

A bathroom is one of the most expensive parts of a house; it seldom costs less than \$1000, and it may cost more. Experts say that bathroom costs divide roughly this way.

One-third for the three basic fixtures
 One-third for plumbing labor and materials
 One-third for finishing wall, floor, wiring, labor and materials

With respect to sanitation and efficiency, there is no difference in the high-cost and low-cost fixtures. Disadvantages of the lower priced lines include:

- Absence of color
- Not as good styling as higher priced lines
- Not as quiet operation as higher priced lines
- Absence of long-lasting and stain-resistant finish.

Fittings which include such items as faucets and waste valves are sold in three price categories. Disadvantages of the low-cost units, known as the "builder line," include:

- Difference in quality of materials used
- Great difference in efficiency
- Problem of resisting corrosion
- Lack of convenience features.

Considerations which should govern the finishing of bathrooms are, first of all, the amount of money available after the cost of the plumbing installation is known, and the availability and original cost of finishing materials as well as their durability and cost of maintenance. The main advantages of higher-priced materials are durability and low maintenance costs. Higher-priced materials, such as tile around a tub, may be combined with less expensive materials such as waterproof paint.

A common plumbing core is likely to be economical in any house. It implies the arrangement of fixtures for direct connection into the same wall. It minimizes the amount of materials and labor required for the plumbing installation. The common core, achieved through vertical or adjacent concentration, makes it possible for a group of fixtures to be served by the same supply, drain and vent lines. In a one-story house, adjacent or back-to-back concentration of fixtures permits use of the common core. In a two-story house, vertical concentration or a one-over-the-other plan permits use of the core.

A concentrated plumbing arrangement eliminates supply and drain lines passing under a floor area to another side of the room, thereby reducing the cost of buying additional feet of pipe, pipe joints, and carpenter work. House Beautiful, in an article entitled "Design Your Bathroom," once gave important recommendations for placement of fixtures with respect to water supply.

- * "The closer you place fixtures to your main water supply line and to your sewer line or septic tank, the better."
- * "If your water supply and sewer lines both enter your house from the same side, try to place fixtures near this side."
- * "If your water supply and sewer lines enter from different sides of your house, place your fixtures nearest the sewer line because it is made of heavy material and costs more to buy and install than water pipe."

Another recommendation concerns the water heater. "Place your water heater as close to hot water using fixtures and to kitchen and laundry appliances as possible." This arrangement reduces the length of hot water piping runs, and saves money in several ways. It cuts not only the cost of your materials but also your water and heating bills because the longer the pipe, the more heat you lose through the pipe and the more water you waste when you turn on a faucet and wait for the water to come through hot.

Desirable standards in existing or new homes

Clues to satisfactory design and installation of plumbing can be detected in any house. These are:

Quick and quiet operation
Absence of undesirable odor
Adequate water pressure
Well-insulated pipes
System properly vented for air flow.

Some of the common causes of difficulties also may be identified; a reputable plumber can estimate the cost of the remedies necessary.

- * Reasons for slow drainage are clogged pipes or improper fittings for the drainage system.
- * Reasons for slow discharge of water from faucets include low water pressure, and pipes too small or clogged.
- * "Glurking" sounds may be due to inadequate provision for air flow and may be eliminated through improved venting.
- * Pounding in both cold and hot water lines occurs when there is too great water pressure; remedies sometimes used include installing:
 - An air chamber at each fixture
 - A water pressure regulator between house lines and the meter
 - Temperature and pressure valves at water heater. These are required in some localities.
- * Bathroom noise can be better controlled if piping is insulated and not in contact with the framing of a building. Noise can be reduced when storage walls can be located to act as a sound barrier.
- * With respect to quietness of operation of a water closet, selecting a unit with tank and bowl in one piece will cost more but insure quiet operation. Authorities state that the most satisfactory water closet is the siphon-jet type, followed by the reverse-trap and the washdown.
- * Well-placed lighting controlled by wall switches should be far enough from any person using bathtub and lavatory so as to be out of reach to prevent any accidents.

* A mixer faucet which combines hot and cold water at the lavatory and shower reduces hazards from burns.

Suggested Teaching Methods in Housing

Are you feeling somewhat overwhelmed by the preceding minimum basic concepts? That is not in the least surprising. For one thing, housing as a field has been expanding and changing content greatly since you perhaps studied a course in college. Moreover, basic concepts require a background of supporting and explanatory facts to become truly meaningful. Such facts are available in current bulletins, periodicals, and newspapers. As most instructors trying to teach housing have discovered, in every aspect the \$64 question is always "What few concepts are fundamental to an over-all understanding of housing now and in the future?"

The concepts offered have been developed by many classes in senior high schools and colleges, and reduced to the manageable minimum we offer by experienced teachers in classes and workshops on teaching housing. So difficult has been this problem of "high selectivity" that we consider it our major and unique contribution to you teacher-readers.

Nevertheless, we realize the need for balancing these selected concepts with a wide variety of suggestions for developing these with your students. We know and you know that mere memorization of concepts without meaning for the memorizer would be a complete waste of everybody's time. We hope that you will find our suggested teaching methods and devices helpful in developing such meanings.

Why not continue to "furnish a dream home"?

How often about this time of year local newspapers carry the headline, "The Boys Build, The Girls Decorate!" Reading the fine print below this headline, you discover that boys in the building trades program of the high school have completed a house as their year-long class project. Before the structure is put up for sale, the services of girls in the homemaking classes are enlisted. Their contributions may range from selection of color schemes and furnishings on the local market to actual construction of the draperies and window curtains. Such cooperative school projects have always rightly been considered a fine way for girls to secure practical experience in interior decoration.

However, two recent studies of young adults and their current practices have raised some disquieting questions concerning not only this type of project but also the general practice of largely limiting the high school study of shelter to home decoration. Here are the facts collected in communities where unemployment has been practically non-existent this year, as in other years. Of course, this economic stability is not representative but it seems to make the findings even more significant.

The first study had for its purpose an attempt to discover how young homemakers who had attended the local high school during the past decade, including both graduates and drop-outs, valued their school experiences.

They were asked to make constructive suggestions for improving any experiences they considered could be improved without exorbitant expenditures. Interviewers were volunteers from the PTA and encountered almost overwhelming cooperation. An experienced research worker analyzed the results and submitted the proposals for improvements to the appropriate school personnel.

The young homemakers deplored the values represented in their elaborate scrapbooks on furnishing a "dream home" as completely divorced from reality. They, too, had shared in furnishing "model homes." As one woman said grimly, "I never expect (and maybe never want) to try to keep up such a home--at least, until all the kids are gone. And then, of course, there'll be the grandchildren!" Just as they recommended less fancy cookery but more nutrition and economic principles, so they urged that home furnishing study be kept to attainable standards and a minimum time. In the time saved they asked that house construction and financing be dealt with thoroughly.

A community-betterment organization sponsored the second survey; the collection and analysis of data were done by a professional research firm with funds donated by a local philanthropist. The purpose of the study was to determine how families made decisions about money matters, and in what types of purchases they were most satisfied and least satisfied. Subjects were young husbands and wives, interviewed separately whenever possible. The type of purchase in which they were least satisfied was the buying of their houses, in spite of the fact that they presumably had some guidance from the Veterans' Administration or the Federal Housing Administration. In attempting to determine why this high proportion of dissatisfaction existed, two surprising facts were discovered.

As our population becomes increasingly urban, our world of work more highly specialized, apparently young men have failed to develop knowledges and skills in areas of living previously considered solely a male role. Although husbands and wives consulted together on whether to buy a home, the husband knew little if any more than the wife about critically examining the structural qualities of a house, either already-built or in process of construction! Nor did he propose to learn or have any desire to become a "do-it-yourselfer."

Prevalent as it is among high school and college graduates, this attitude obviously would never appear in boys in the building trades program. These are so definitely in the minority, however, that a true housing course is being recommended for girls in senior high school more strongly than ever before. Girls are proving to be patient and thoughtful in trying to learn basic concepts and ways to keep up-to-date in details. And why not? Women are far more willing to struggle with innumerable details if they see a good reason for doing so. What better reason could any woman have than the challenge of getting her money's worth in what is usually the biggest investment of her married life?

The high cost of ignorance

Parenthetically, before we proceed, we should like to have our readers note the recency of most of the teaching materials to which we refer.

Basic concepts give a student a sound framework for understanding and valuing future information about housing. But every month and every year the details within this framework change. There is no "rest for the weary"--teachers, students, homemakers--in the constant effort to keep abreast of the times in housing, as in everything else related to home and family living.

Both recency and historical perspective are combined in an article in the April, 1961 issue of Changing Times, "Where Did All That Money Go?" A middle-class American family shares with readers a summary of their accounts for the past thirteen years, and the averaged expenditure for housing leads all the rest by a striking margin. Of the 13-year total, 23.50 percent went to housing, and household operating expenses averaged 5.75 percent. Students will find it easy to identify with and accept these data because the Pattersons have the kind of generous income most youth dream about, they have a large family of six small children, they use credit freely, and are satisfied to depend upon an insurance policy and the equity in their house rather than attempting to save. Just the same, devoting nearly one-third of the income to housing does impress!

In another current magazine, housing costs are approached from a different point of view. On page 83 of The American Home, April, 1961, some estimates for repairing an older house are provided. They include insulation, roofing, heating, electrical service and plumbing among other construction factors likely to need attention. The estimated costs look astronomical to older adolescents. They are impressive even to adults.

Alert students, of course, will rightly argue that these prices apply to homes far larger than they want. Encourage various individuals or small committees to interview local persons who would have information along the same lines as the data presented in Changing Times and The American Home. Compare the local data with those printed and try to discover possible reasons for the differences. Whatever the results, the only over-all conclusion that will be warranted is certain to show that housing does require a high percentage of the income, hence savings through intelligent planning, selection, and care are bound to be substantial and worth learning.

Why has instruction in housing been neglected in favor of home furnishings?

Not too long ago a graduate student tried to discover through a questionnaire what and how various aspects of housing construction and financing were being taught in Illinois high schools. If some programs failed to include housing, she requested respondents to check the major reason(s) for the omission. An even smaller proportion of the schools than she had expected reported that housing construction and financing were being taught, and then only briefly and/or incidentally. Reasons given were in order of frequency:

- Lack of texts and references
- Lack of training of the teacher
- Lack of time in the program
- Lack of interest on the part of the students

Teacher preparation

One can think of several reasons for the shortage of texts and references on housing at the secondary level. Inevitably, since publishers must eat, the fewer students enrolled in a given subject, the fewer the texts available. We are told that the book most used in Illinois high schools is Homes With Character by Mrs. Hazel Thompson Craig and the late Mrs. Ola Day Rush, published by D. C. Heath and Company in 1952. A recent announcement from this company indicates that a revision is in preparation. The 1952 book devotes less than one-fourth of its space to what, by the most generous interpretation, could be classified as housing. Many thoughtful observers believe that the revised version might well devote at least 50 percent of its space to the increasingly important aspects of housing.

Quite obviously, the last three difficulties are within the control of the teacher if she herself sufficiently values the study of housing. A study of current college programs for teacher education in home economics indicates that, even now, graduates may be beginning teaching with little, if any, formal instruction in housing. Seemingly such instruction is more frequently available at the graduate level.

Certainly somehow, somewhere, every modern home economist urgently needs to acquire a substantial background of subject matter in the area of housing. Continuous self-education through newspapers, periodicals, interviews, and field trips is far more meaningful if preceded by at least a measure of organized study.

First things first

Many areas of subject matter are competing for the time of students in senior high schools. Both students and parents recognize perhaps more than ever before the enormous importance of every class hour. In Tips and Topics from Texas Tech, Vol. 1, No. 1, Fall, 1960 one "topic" asks, "Shall We Teach about the Wedding?" Let us quote the first paragraph.

"What is the difference between teaching about 'The Wedding' and teaching about 'Getting Married'? Any informed ready-to-wear salesperson or department store bridal consultant probably can do a better job than most homemaking teachers in teaching about the wedding. But homemaking teachers have the background for giving depth and meaning to teaching about getting married. What is the difference?"

Is this rank heresy? We cannot think so. We believe it applies equally well to a teacher's choice of teaching furniture selection and arrangement versus teaching housing. If time is only sufficient for the necessarily thorough treatment of housing, that time should be spent in housing, not interior decoration. Moreover, the concepts in housing seem to be unknown to most students, but the subject matter learned in related art, textiles, and homemaking units can be readily applied to home furnishing. In these days, first things must come first. Probably students enjoy making "dream home" scrapbooks just as they love to plan glamorous weddings. But relatively few actually experience either an elaborate wedding or a dream home!

Student motivation in teaching housing

Do students lack interest? Apparently the prospects of early marriage have greatly enhanced their appreciation of this area. And realism has been substituted for the romantic approach of yesteryear. For example, one group viewed almost unbelievably a huge yellow poster, "How to Buy a New House, Six Simple Steps," then burst into scornful laughter. The National Association of Home Builders had prepared it as a motivation device; about half of the space was devoted to a gallant groom carrying his bride over the threshold. The other "steps" were equally sentimentalized and superficial, although the photographs were smaller. Life was real, life was earnest to these students! They had discovered that young families in their community were almost forced to buy if they were to have decent housing; they realized, also, the long years of sacrifice such a purchase could entail.

One teacher has appealed to another major interest of today's older adolescents. She repeatedly points up the career opportunities for girls in the various aspects of the housing business. One example may be cited as it appears in the April, 1961 issue of Living for Young Homemakers. The article, "How to Get Out of Your House and into Another," describes the way a pent-up young housewife utilized her housing know-how by studying for, passing the examinations, and becoming a real-estate broker in her home town. She is photographed entertaining weary house hunters in her own attractive living room.

Sources of help in keeping abreast of housing developments

The two main sources of help in keeping up-to-date are persons and print. Occasionally you will even find an article that combines both! An example is "How to Get the Low-Down on New Materials," one of the special series entitled "You and Your Architect" appearing in 1961 issues of House and Garden. Carl Koch and Leonard Haeger are the architects writing the April article in the concise form of questions and answers.

Of course, in selecting a person an architect comes to mind first. But perhaps he is too busy to talk to either an individual or a class until later. Respected builders and members of the housing trades are available in every community and in today's competitive business are usually well informed, each about his own part of the construction. Representatives of the many government agencies and other organizations concerned with housing are willing and able to inform you about recent developments in their areas. Remember, housing is "Big Business" today in every man's language.

But before you approach such busy people, do secure as much as you can find available in print. Limit your requests to persons to contradictory statements in print which you have no background for evaluating, to some code or other factual material which you know exists but cannot locate, or to any object which you must see to understand.

Periodicals

There is no way of forecasting excellent articles on housing which may appear in the most unlikely periodicals. Here is the necessary information

on the more likely sources. Subscription prices are listed, but if your school enjoys the privilege of having a petty cash fund, examination of each issue before buying may save you money in the end.

- Better Homes and Gardens. 12 issues, \$3.00. Meredith Publishing Company, 1716 Locust Street, Des Moines 3, Iowa.
- House Beautiful. 12 issues, \$6.00. Hearst Corporation, 572 Madison Avenue, New York 22, N. Y.
- House and Garden. 12 issues, \$5.00. Conde Nast Publications, Inc., Boulder, Colorado.
- House and Home. 12 issues, \$6.00. Time, Inc., Rockefeller Center, New York 20, N. Y.
- Living for Young Homemakers. 12 issues, \$4.00. Street & Smith Publications, Inc., Boulder, Colorado.
- The American Home. 12 issues, \$3.00. The Curtis Publishing Company, Forest Hills 75, New York.

The first three of the periodicals listed publish each spring and fall a "manual" on building. These appear on your newsstands and the cost this year is \$1.25 for each. The value of each manual varies from issue to issue and should be determined before investing. Caution: there are also manuals on home furnishing which should not be confused with the desired manuals on building.

Booklets and circulars

Examination of advertisements in almost any woman's magazine, not just those focused upon home building and decoration, will offer booklets free or for a small charge. These are prepared by commercial companies but, assessed as such, provide much valuable information on recent developments in building. Students are able and interested in locating suitable booklets and writing for them.

Teachers can collect government publications at the local offices of the respective agencies described earlier, or get on their Washington, D. C. mailing list. This applies to the many publications of the United States Department of Agriculture; in each county seat an Extension Office will be glad to provide one copy of both national and state bulletins related to housing. Examination of bulletins with "rural" or "farm" in their titles will quickly distinguish those that are too predominantly rural for urban communities. Many apply equally to both types of communities.

Most states cannot furnish Extension bulletins outside their own state. Luckily the two state universities where the most extensive research in housing is being done offer their publications for sale at very nominal cost. You will need to write to the Extension Office of Publications, Cornell University, Ithaca, New York for a complete catalogue of all the bulletins they have available for sale. For bulletins from our University, address Small Homes Council-Building Research Council, University of Illinois, Urbana, Illinois. You may request a complete list of publications or order only those ten directly related to the basic concepts developed in this issue. Please send fifteen cents for each circular with your order.

- D9.0 Plastics as Building Materials
- F6.0 Insulation
- F6.2 Moisture Condensations
- F7.0 Chimneys and Fireplaces
- F11.2 Insulating--Windows and Screens
- G3.1 Heating the Home
- G3.2 Controls for Central Heating Systems
- G3.5 Fuels and Burners
- G5.0 Plumbing
- G5.5 Septic-Tank Systems

Books--texts and references

The manufacture and distribution of books is a lengthy process. Consequently, most books, outside of furnishing basic concepts and structure, have to be read with a wary eye for details that have been recently changed. There is no thought here of rejecting the use of a text; every course in senior high school should make good use of the best one available. We only wish that we might have more and better ones for both teachers and students! We are hopeful that the revision of Homes With Character may provide just what we need.

One book that was revised in 1956, Tessie Agan's The House: Its Plan and Use, J. B. Lippincott Company, is listed as a college text but experience indicates that it is suitable also for average seniors in high school. The price of the revised volume is \$6.50. A second older book with limited content is Housing and Home Management by Dora Lewis, Jean Burns, and Esther Segner, Macmillan Company, 1953, \$4.20.

The following books are excellent references for teachers and academically talented students in high school classes. Certainly at least one copy should be in every library collection on housing.

- Beyer, Glenn. Housing: A Factual Analysis. New York: The Macmillan Company. 1958. \$6.75 text edition.
- Carter, D. and Hinchcliff, K. Family Housing. New York: John Wiley and Sons, Inc. 1954. \$5.00.
- Faulkner, Ray. Inside Today's Home. New York: Holt, Rinehart & Winston. 1960. \$7.50.

Use of "current-topics folders"

This technique is introduced at the very beginning of a course or unit in housing. The following guide sheets are handed out for the guidance and stimulation of the students.

The Press Will Help You Understand Housing

Housing is a complex construction product, an economic and a social process. To the U. S. economy, the house is the focal center of a multi-billion-dollar industry, the bedrock of a mountain of investment, the livelihood of millions in the building trade and its suppliers. Indeed,

residential construction accounts for 30 percent of all private investment. The 18 percent reduction in houses started last year cost one in every six construction workers his job, giving construction the highest unemployment rate in any major U. S. industry.

You may add to your knowledge and increase your awareness of the magnitude of the problem through consistent reading of current periodicals and newspapers. Reading widely will help you to learn about present practices and alert you to developing trends.

This is your over-all assignment throughout the course.

Read and clip articles related to the questions listed. In each article underline the phrases or sentences that develop the main idea(s). Articles should show a range of topics.

Mount the article on standard size notebook paper. The name of the publication, date, issue and page should be given to identify each article. At least one article is required each week. Keep in your cumulative folder.

Here are questions to stimulate and guide your search.

- * Do people in the United States have a housing problem? If so, what is the nature and scope of the problem?
- * What is the influence of geographic location on the developing patterns in housing?
- * Who publish housing statistics? Who carry on housing research?
- * How many houses will be needed to meet the demands of the foreseeable future?
- * What evidence is there of discrimination against minority groups in housing?
- * What trends are developing in providing housing for senior citizens?
- * What patterns are developing in low cost housing for low income families?
- * What evidence is there to indicate we are moving toward national building codes?
- * What relationships exist between land and cost of housing? Is a problem developing?
- * How is movement of population affecting housing?

- * What technological developments are being used in the housing field?
- * Some people say housing is a status symbol. What appeals in advertising would seem to reinforce this opinion?
- * What Federal, State and local agencies are planning, constructing or operating projects in our area at this time?
- * To what extent is the private citizen affected by public housing programs?
- * What is the scope of activity of planning commissions?
- * How extensive is pre-fabrication? What is its effect on the housing market?
- * How extensive is the mobile home market?
- * What legislation affects local housing?
- * What programs are affecting real estate taxes?
- * What trends are developing in community planning?
- * What are advantages or disadvantages of industry in or near residential areas?
- * What is industry doing to become compatible with residential planning?
- * What re-development programs are under way or being considered for our region?
- * What conservation programs are under way or being considered for this area?
- * What re-habilitation projects are under way or being considered for this region?
- * What community facilities projects are under way or being considered for this region?
- * To what extent is the public accepting tract or development housing? What does this method offer in advantages? In disadvantages?
- * What is the present status and probable future for the custom builder?
- * Is home-ownership on the increase? Who is buying?

- * What financing programs are offered to home buyers?
- * How important are the relationships between schools and housing? Churches? Shopping centers? Fire and police protection?
- * What problems are peculiar to unincorporated areas?
- * When does the problem of providing housing change from a private problem to a public responsibility?
- * Is there a trend to home ownership? By what age groups?
- * What social and economic forces account for the increase in home ownership?
- * What attractive features are offered by rental housing? What housing demand is satisfied by rental units?
- * Are there some people who should never own real estate?
- * When is real estate an investment?
- * What changes are taking place in the building industry? How does it affect labor? How does it affect the product?
- * What role do public utilities play in developing housing in an area?
- * What factors influence house design?
- * Who are present day architects who are influencing the style of houses being built?
- * Are many housing units being remodeled?
- * When is remodeling a good investment?
- * What legal transactions and responsibilities should be general knowledge?
- * What are building and loan associations? How extensive is their role in housing?
- * To what extent do insurance companies invest in housing?

Maximum utilization of clippings

Students thoroughly enjoy reading their co-workers' "finds." In order to maintain high standards, the instructor must examine critically samples, at least, of each student's selection and analysis of the important ideas as evidenced by the underlining. To save time, she

regularly schedules "class-analysis" sessions. A short clipping may be duplicated for each student. At first she also hands out guide questions; later she tries to depend upon the students to ask analytical questions or make constructive suggestions. Since this is a vital technique for developing a permanent interest as well as clear thinking, a real example is offered. The newspaper article below is an exact and recent clipping.

MANY WOULD DO WITHOUT LIVING ROOM

By Joyce Schuller

CHICAGO (UPI) —Many prospective home buyers would consider going without a living room, a recent survey indicates. Local homebuilders, Housing Market Research, and Better Homes & Gardens magazine conducted the survey through housing forums in 15 cities. The survey showed the living room took last place among the eight most preferred rooms in the house.

Top preference was for a second bathroom. Family rooms ran a close second in popularity, and homes with both looked like sure sellers.

Colored bathroom fixtures were among the few strictly luxury "extras" sought. More often, the preferred "extras" were real-value ones, like more eating area and space for waste baskets and towel racks in the kitchen. Built-ins no longer had the magic sales appeal of a decade ago, the survey showed. Most of the homeowners took built-ins for granted.

Architecturally, the survey indicated that the ranch type house was still a favorite, but that the split-level was gaining on it. While most prospective home buyers preferred ranch homes, they still wanted individuality through varied exterior treatment to relieve unbroken lines of the usual ranch house.

Across the country, most people liked the idea of a picture window--in the back of the house. They preferred the living room to be in the front and the kitchen in the rear. This suggested that many wanted a picture window in the kitchen to allow mothers to keep an eye on children in the yard.

Questions suggested for students' consideration

- * To give a completely accurate picture of the survey results, what else should the reporter have given? Why?
- * Where might complete survey facts possibly be found? How would you go about securing these facts?

- * What seems to be the difference between "extras" and "real-value" choices? Would all families look at these choices in the same way? Should they?
- * Is the conclusion suggested in the last paragraph warranted in light of the facts given? Why or why not?
- * Upon what basis do reporters select a "headline" for an article? To what extent does this headline truly represent the content of the article? What better one would you suggest?
- * What does "UPI" mean? How dependable is this organization considered to be? Why is this important to you?

"Eggheads" are becoming respectable

"Well at last," a talented senior exclaimed, "I'm learning something new in home economics"! "Yes, isn't it fun?" agreed a less able friend. Their housing instructor, overhearing this little exchange, felt a quick flash of resentment. It did, however, stimulate her to look more closely at her next class where girls were happily constructing new Easter frocks. "Just how many of these students' learnings really are new, and are recognized as such by the girls?" she asked herself.

Believe it or not, the material that was so approved by the housing students was vocabulary study. "That will be the day when my students are willing to learn definitions!" you may be thinking. No one would contend that a burning interest in semantics springs full-blown the moment students start a study of housing. Youth will always be loathe to study what "doesn't make any sense." By that phrase they are asking why study this?

Teachers have utilized a variety of devices for getting students to accept vocabulary study as a must in housing. Naturally the choice depends on the particular motivation that is most promising for various types of students.

- * One teacher of average students acceded to the student planning of first visiting a house in process of construction which a popular young coach was known to be building for his June bride. Realizing how futile such premature field trips can be, she decided to use it to "sell" the need for a new vocabulary. Before the visit she arranged with the builder on the job to move the class rapidly over all aspects of construction introducing every single technical term that he could use in his descriptions. The builder, eager to reduce the time he had to spend in explanation to his customers, was only too glad to comply. The group returned to the classroom in total agreement that "I didn't know hardly a thing he was talking about"!
- * Many teachers have discovered the truth of the cliché, "Money talks." One student brought to class a contract for a new roof

which her family was considering for the home. The fact that the price to be paid was \$675. was impressive. But they, too, were unable to interpret the roofing terms in the contract. Brainstorming on what one should really investigate before paying out all that money, they constantly ran into the problem of not understanding the words used in bulletins, circulars, even advertisements. A roofing committee settled down to find out "what all this is about."

Because definitions are being stressed in most classes in senior high school today, students accept their academic respectability, if nothing else. But some classes of limited ability will have to be faced more gradually with the need for extending their vocabularies. This is recognized by writers in popular magazines; they try to challenge their readers again and again with a few items at one time.

A touch of humor helps

A pre-test, short or long, on important but technical terms commonly used in housing is always a challenge. It assumes a bit more glamour if the instructor can show students clippings from adult magazines where readers are asked to test their own knowledge under some such title as "How's Your I.Q. on . . . ?"

Back issues of housing magazines can almost always be found in public libraries. However, henceforth teachers will be well advised to clip and file the school's or their own copies because the mounting interest in housing is beginning to use up libraries' current copies. For example, in one city library, the issues of a certain housing magazine are so often stolen, mutilated or worn out that the librarians are forced to purchase three subscriptions each year.

The "light touch" is often difficult to use with such grim matters as tests. In House and Garden, May, 1957 may be found some delightful suggestions. The article is titled, "What's Your Building I.Q.?" The introduction to the questions makes students feel a sense of belonging with other young people interested in marriage and a home. It states:

"Building has a language of its own. To the uninitiated, and this will include many young couples building or buying their first house, it may sound like jabberwocky, for things are seldom what they seem. Is a saddle, for instance, something you sit in or step over? What, in the builder's lexicon, is a shoe? In quiz form, here is a short dictionary of architects' and builders' favorite terms. You won't win \$129,000 for correct answers, but it may help you to understand the structure of your house."

The questions themselves continue in this light vein. They are followed by rather complete explanations in the simplest language possible. Here are two examples from the article cited. As students advance in their study, they can add to those already used with them by the teacher.

"Does 'furring' keep houses warm"?

"Covering concrete basement walls or plaster walls with plywood or wallboard panels frequently calls for 'furring strips.' Panels can be nailed onto 1/2 inch x 1 inch strips. The air space between them helps to warm cold walls, dry damp or wet walls."

"Are 'sleepers' animate or inanimate"?

"Concrete floor slabs of houses need a nailing surface to which wood sub-flooring can be attached. Sleepers are the wood members laid in concrete floors for this purpose."

Some of the articles use illustrations to arouse interest or to clarify a concept beyond the word-picture. As an example of the first purpose, the above question on "sleepers" is illustrated by a sketch of a fat man in bed. As an example of a drawing being used for clarification of an idea, the question on "furring" is accompanied by a sketch of a wall partially cut away to show the furring strips. Another example of the worth of an accompanying illustration is the sketch of a hip roof in answer to the question, "Where in a house's anatomy is its "hip?"

Two problems in teaching vocabulary in housing

Because housing is a comparatively new aspect of formal study in home economics, definitions are difficult to find. A few texts on housing at the college level, such as Beyer's Housing: A Factual Analysis, offer a limited glossary of terms. One of the most urgent needs for high school teachers is a reasonably complete list of commonly used terms with simple definitions. A definition that employs half a dozen unknown words is obviously not a satisfactory explanation for secondary students! So far as we know, at the present time a satisfactory glossary has to be gradually compiled by students and teachers in housing classes.

The second problem is shared by almost all teachers. This is the problem of convincing students that sloppy, inaccurate memorizing is not "good enough." We home economists may have done our share in letting students get by with partial or inaccurate memorizing, but precision in learning has become so vital a part of our automated world that we dare not continue to do so. The fact that practically all teachers are fully aware of this need may be a pretty sudden change for students to take, but anything less is unfair to them in the sixties.

So great is this need that methods books are including, even featuring, the old-fashioned idea of drill. We must first be sure that the words being used, the concept in the definition, are fully understood by the students. But we can no longer stop there. Remember those spell-downs, tugs-of-war, word-meaning and other card games that you experienced in public schools? One of the most recent publications for secondary techniques of teaching discusses the relative merits of these, and offers many acceptable versions of card games, in particular.

Helpful hints toward more permanent learning

From many sources in general education, as well as experience, have come a host of suggestions for successful drill. But first let us define "drill" since we are urging the use of precise definitions in all thinking. Because review must always precede drill in the sequence of learning precisely, we should agree upon the meaning of this word first. Are you willing to accept that "review is a reconsideration of learning to deepen understanding of relationships"? For instance, the necessity of a student understanding the meaning of the words and of the concepts before learning can be satisfactorily reinforced through drill, is an example of the "relationships" mentioned. Drill can then be understood as the provision of intensive repetition of the separate elements in such relationships to ensure swift, accurate response.

In their Modern Methods in Secondary Education, Grambs and Iverson suggest a few guides worth remembering about drill. They are based upon modern principles of learning, especially the desirability of reinforcement and even over-learning on occasion. The following statements are adapted from their suggestions.

- * Select only an absolute minimum of definitions and concepts for drill; this should be material so vital that not to learn it will seriously handicap students. In housing this will be very nominal, largely made up of essential definitions and basic concepts.
- * Provide drill periods in line with demonstrated individual needs and abilities. If some students have already grasped the material, they may enjoy the time for free reading. If some learn very slowly they may be given individual or small-group drill by the teacher or volunteers among the abler students.
- * Be sure that all students realize the function of the drill procedure, and why this particular material is necessary for future understanding and use. Note: be sure of this for yourself, too!
- * Observe individuals' study habits when preparing for an oral drill. Identify weaknesses and help students put into practice such constructive techniques as:

Have at hand an accurate copy of what is to be learned.
Set a specific goal of what is to be achieved in a given time.

Figure out for self best ways to reduce distractions.
Study a single definition, fact or principle, close book and try to reproduce accurately; repeat this restudy and retest until the material is learned "for keeps," as children say.

- * Space drill periods in line with research findings that indicate that shorter periods of drill, spaced regularly over a period of time, are more effective than longer drill periods with longer intervals of time between them.
- * Provide a setting for oral group drill that reduces the monotony of the situation. Games are excellent for this providing that slow students are not threatened by being the last ones to be chosen in a "team" game and that bright students do not get most of the practice when others need it.

If some or all students are encouraged to review the material to be learned to prepare the content of quiz games and then are alerted to see that correct answers are provided, extensive inquiry into subject matter is involved. While the more competent are engaged in this preparation, the teacher will have time to give the less competent some sorely needed extra drill. Here are a few suggestions that can be varied according to the type of content and the level of the students.

"Fishing with a game warden" - questions are written on cards; cards are placed face down on a table. Only the "warden" can indicate whether the answer given by the individual drawing the question is satisfactory. Small groups of slow learners enjoy shuffling and drawing these cards as long as the drill period lasts.

"What is this?" - students sketch freehand or trace drawings of construction elements in housing onto cards and write an explanation on the other side of the card. Small groups gathered around a table take turns in identifying and describing what the picture represents. After students have mastered one "set" of cards, they exchange for another set since every class member has selected a different element to sketch. Another version of this game is to place sketches and explanations on separate cards, and match the two in the way that the old game of "Authors" was played.

"Quiz Kids" or whatever term is in vogue with teen-agers at the moment - about four students take seats in front of the class in orderly rotation. From a stack of cards prepared by all the students, with the teacher helping the less creative, a leader writes on the chalkboard so that the audience can see but the four "quiz kids" cannot, the initials of a government agency concerned with housing. The four students together can ask only twenty questions, all of which must be framed so that they can be answered directly by "yes" or "no." The audience, of course, gets deeply involved because they have to answer the "kids'" questions accurately. Four other students and a new leader take the places of the first group at an appropriate break in the proceedings.

An imaginative teacher and his students can make up their own games. And an almost infinite number of variations can be developed on the old standby games of Twenty Questions, Bingo, Anagrams, etc. So pull out of your memory and dust off old favorites that you can adapt to drill. Your students, in turn, can bring you up-to-date on the recent games they play. All of them can be fun--and profitable, too.

Seeing is believing

In spite of a wealth of excellent reading materials, many unfamiliar construction features require detailed classroom teaching in order to be fully understood. Illustrations in any publication can be enlarged through the use of an opaque projector or ceiling projector, or made into slides or even into filmstrips. Using these, the teacher can point out details and clarify misconceptions through group discussion. If you are not familiar with the simple techniques of using these visual aids, bring yourself up-to-date by learning them.

Often older students who know how to photograph and prepare slides can be located. Ask your colleague in charge of audio-visual education to recommend a producer for assembling your pictures and typed explanations into filmstrips. Often, since these cost a bit more, several teachers can cooperate in collecting and financing an educational filmstrip on housing construction. In your public library you will undoubtedly find earlier publications with excellent black-and-white illustrations that will photograph admirably. For instance, on pages 160 and 161, House Beautiful's Building Manual, Spring-Summer, 1960, there are twelve pictures presenting the correct application of insulation in different areas of the home.

Both reading and class discussion should usually precede a field trip, or students may return from a visit to a noisy construction project only with a headache! If the instructor informs herself about the local seasonal practices in construction, houses at every stage of development can be located by her and/or her students. Builders and specialists in plumbing, heating and other aspects are usually glad to show and explain whatever features are requested if arrangements are made well in advance. Students take great pride in using their recently acquired technical vocabularies in understanding the specialist and asking additional questions.

Not only should students know for what they are looking, they should also have some organized way of recording their learnings. After return to the classroom, students often feel a need to view again some of the related illustrations, as well as reviewing the correct spelling, pronunciation, and use of technical terms employed. Together in the summary basic concepts are formulated.

How can information learned be used to solve problems?

Next a class in housing faces the problem of discovering how a collection of facts can be most effectively utilized in achieving permanent learnings. Functional problem solving is, of course, the answer. As home economists know so well, there are certain steps identifiable in solving every problem.

In actual practice, since high school students cannot build houses they must find the interest and imagination to think through the building problems of some hypothetical situation. Those short on creativity may select some one aspect, collect additional facts, list the difficulties, locate proposals for overcoming these, try out these possibilities, and ultimately draw some conclusions that they can formulate into concepts or generalizations. Moreover, in trying out possibilities, individuals may develop some know-how that others will be delighted to add to their "idea-kit."

Space permits only one example of such student thinking. Class discussions had raised a question in the mind of one student whose family was considering the purchase of new heating and cooling facilities. She took as her problem, "Should some form of insulation be applied to our house before installing these improvements?" She located a wealth of information from which to choose the type of insulation best suited to their residence, the places and techniques of applying the selected type, the best local value for money expended. But the \$64 question remained--would savings from the insulating eventually justify the expenditure?

Somewhere she ran across the following cost comparison with and without insulation. She assumed that these represented average costs for a house of medium size.

<u>Location</u>	<u>Heating</u>	<u>Cooling</u>	<u>Total</u>
<u>Detroit, Michigan</u>			
Without insulation	\$216.73	\$ 40.06	\$256.79
With insulation	83.60	15.00	<u>98.60</u>
			\$158.19 difference
<u>Yuma, Arizona</u>			
Without insulation	\$ 34.92	\$435.18	\$470.10
With insulation	13.89	147.31	<u>161.20</u>
			\$308.90 difference
<u>Wichita, Kansas</u>			
Without insulation	\$158.34	\$172.64	\$326.07
With insulation	59.18	57.89	<u>117.07</u>
			\$209.00 difference

As often happens, concrete data raised another question. "What kind of fuel was used for heating?" She suspected that might make a difference in the cases cited. Under the guidance of the teacher, she identified the information she needed for her own home in the Chicago area and computed the cost of heating by coal, oil, and gas with and without insulation. Using in her problem a new frame house instead of the rather complicated and unique description of her home, she provided her fellow students with the following example to share with them the know-how of discovering relative costs of different fuels with and without insulation.

Description of home: For the purpose of calculating heating requirements and estimating costs with different types of fuels,

I have chosen a new home of frame construction, in which an inside temperature of 72 is maintained day and night. The house has an area of 1500 square feet on the first floor, total window area of 253 square feet, full basement, storm windows throughout, and four inches of insulation in walls and ceiling.

The calculated heat loss for this house is 70,569 BTUs, which will require a furnace having an input capacity of 100,000 BTUs and an output capacity of 80,000 BTUs. The same house without insulation and storm windows has a heat loss of 135,101 BTUs and will require a heating unit having an input capacity of 175,000 BTUs and an output capacity of 140,000 BTUs.

The average cost of fuel per BTUs in this area in 1961 is:

A pound of coal has 11,000 BTUs and costs approximately \$1.08.

A gallon of oil has 140,000 BTUs and costs approximately 17 cents.

100 cubic feet of natural gas (therm) has 100,000 BTUs at a cost of 9 1/2 cents.

Figure and compare the cost of heating the above house based on the prices given. Gas and oil are figured at 78 percent, coal at 65 percent of combustion efficiency.

<u>Answer:</u>		<u>Insulated</u>	<u>Not Insulated</u>
	Coal	\$189.00	\$364.50
	Oil	178.50	344.25
	Gas	133.00	256.50

Other students may select more extensive topics for their course projects. For example, have you observed that "remodeling" appears as a feature in a high proportion of our April, 1961 magazines? In the American Home nine case histories are given in considerable detail. In House and Garden, Living for Young Homemakers, and other popular periodicals the same theme is stressed. But in "Will It Pay to Fix Up the House?" Changing Times, April, 1961, the reader is led to think more deeply concerning hidden motivations, family goals, and the value of a house above and beyond the monetary one. Thinking along these lines, a talented student might prepare a group of case histories from homes familiar to her, not only figuring out desirable improvements with cost estimates but also exploring searching questions concerning family goals and relative values.

Some other student who likes to work with her hands (and/or has a cooperative boy friend) may choose to prepare educational materials for a school exhibit. Often such materials require working space in the shop of the teacher of Agriculture or Industrial Arts. With adequate pre-planning many times a cooperative project of this type may promote interest in several other classes in the school. One example consists of (1) the stud,

interior and exterior wall of a house of the early twentieth century without insulation, (2) of a conventionally built home of the sixties, and (3) of a house partially constructed in the factory. Of course, the 1960 houses have insulation of adequate thickness and correctly placed.

To give you some idea of the cost of constructing such exhibit material, for two dollars the following supplies were purchased.

- Sheathing - white pine boards or other material
celotex or 3/4" plywood, 3/4" x 9" x 20"
- Studding - three pieces, 2" x 4" x 20-1/2"
- Siding - one piece 1/2" x 8" x 6 feet
- Laths - any type soft wood boards cut into strips 1/4" x
1-1/4" x 6"; 1/4" plywood 6" x 20"
- Insulation- batt type

To achieve real depth and quality in course projects

If a course in home economics is to receive the same credit as does any academic offering in senior high school, the same standards must be maintained. As an outgrowth of their practice in observing, reasoning, thinking critically and creatively, each at her own level, students should be able to achieve the quality desired in a term report. College bound girls particularly need the "tender, loving care" of an interested and competent critic of their ability to organize their materials and to communicate them in writing.

Such writing, however, demands a lot of time. We would like to urge you to consider seriously the possibility of cooperating with teachers of English and Social Studies. Guide each student to write one paper of depth and quality and use it for credit in each class by pre-arrangement with these teachers. The English teacher may grade it for grammar, construction, and other standards of good rhetoric; the Social Studies teacher for understanding of the sociological and economic implications of the content. You, of course, will judge it on the criteria set up with your class when the subject of term projects is first broached. Evidences of creativity, logical reasoning, and clear insight into the values involved should rate your particular approval.

The next question that arises is "How can the total group profit from each class member's explorations and discoveries, the know-how they have developed, the basic concepts they have formulated?" Inevitably answers to this question will vary widely, ranging from the student whose best may be a brief and somewhat halting summary to an imaginative "production" put on by a lively group whose projects have some integrating element that makes a joint presentation possible.

During these presentations excellent opportunities for improving students' listening occur. Again, for the college bound girl, the ability to listen with more than a 25 percent level of efficiency can be crucial. But everyone needs increased ability in this respect, no matter what the future may hold. If you demonstrate keen attention yourself and if you specify beforehand that, for instance, major points in each presentation

will be included in the end test, you will be able to see some gains. Further improvements can be sought by taking time to actually teach the techniques of listening, as suggested on pages 329 and 330 of Volume III, No. 7 of the Illinois Teacher.

To Teach Or Not To Teach Controversial Issues

Early in this article you will have read the sentence, "The role of the federal government has always been and is today controversial." Just what do we mean by a "controversial issue"? A bulletin of the Junior Town Meeting League concerned with the teaching of such issues offers this definition. "An issue is controversial when some of its proposed solutions conflict with the cherished interests, beliefs, or group affiliations of a section of citizens."

Of the many issues raised by our changing contemporary society, there is only one type the study of which is clearly beyond the legal mandate of the public school. The teaching of sectarian religious beliefs is not the function of a public school, as our Constitution is now interpreted.

"Any democracy, if it is to remain a democracy, must expect, anticipate, and welcome orderly change--political, social, and economic," continues the bulletin. "History has shown that, if such change is not possible through the processes of open discussion and free ballot, it will then come by violent revolution. Democracy, therefore, must recognize that controversy regarding proposed or developing changes will arise and it must provide the skills and machinery for the people to think intelligently on controversial issues, and to express their collective judgment." Perhaps never in our nation's history has the skill of objectively thinking through controversial issues been more urgently needed.

Why so little teaching of controversial issues?

In these days of early marriages, no one can say that the government's role in housing lacks timeliness or is outside the interests and experiences of the students. Sooner or later--probably sooner--the life of every class member will be affected by the agencies concerned with housing. Consequently, the topic would appear to be an essential part of the curriculum, aside from the value of gaining practice in discussing controversial issues.

Why, then, do some teachers hesitate to introduce this aspect of housing? According to several recent investigations of social science teachers, they fear they cannot cope with the divergent thinking which is almost certain to arise when a problem is of vital contemporary concern to students. Teachers of home economics are more used to differences of opinion in every area of homemaking and family living, but even they might be interested in the following recommendations for reducing teachers' fears.

- * Discuss with the principal the school policy about teaching controversial issues, present the material you would like to teach, and follow any suggestions he may offer, such as a point which he feels the local community is not yet ready to face.

- * Prepare your teaching more thoroughly than usual in order to gain that inner security which will enable you to present a calm, dispassionate attitude in class.
- * Identify and abandon your personal prejudices. Partisanship and propaganda on the part of a teacher must be reduced to the irreducible minimum.
- * Make sure that adequate information may be secured by students. It is unwise to open up debate upon a question of importance in order to encourage youth to get facts for testing, and then discover the necessary data are not available.

Creating a problematic situation

The assignment of contradictory references is a technique commonly employed by teachers of social studies for identifying conflicts. Rarely, however, do home economics teachers fail to have problems arise naturally out of the classroom situation. In the bulletin on Teaching Controversial Issues authored by the Junior Town Meeting League, a situation is described where one student reads that "solving the housing problem in the United States is impossible without aid from the Federal Government." But another speaks up: "Mr. B. of the Real Estate Board said the other day that private enterprise can furnish all the housing needed in this country."

A recent occurrence in a home economics class was somewhat similar. A girl who had been living in a region where pre-fab houses could be bought complete with all wiring and plumbing, was shocked to discover in her new location that local building codes and the determined opposition of plumbers, electricians, and other labor unions would not permit this decided saving to house purchasers. As she described her earlier experiences, class members easily recognized the conflict involved.

Steps and skills in studying controversial issues

The best material on these steps and skills that we have ever seen is in the aforementioned bulletin on pages 15 - 26. Moreover, all steps are illustrated with detailed instructions for studying the "federal government versus private enterprise" controversy described previously, accompanied by clear-cut analyses and reasons for each teaching recommendation. Indeed, the entire 32-page printed bulletin is a real find for every teacher. All this for one thin dime!

Of course, there is a reason for this tremendous bargain. The Junior Town Meeting League is an organization for the encouragement of discussion by youth. The League's activities are maintained by Wesleyan University as a service to American youth, and the University Department of School Services publishes its booklets. So we urge you to write to this Department of School Services, Wesleyan University, Middletown, Connecticut, and enclose ten cents for one copy of Teaching Controversial Issues by the Junior Town Meeting League.

To give you a pre-view of the steps and skills developed at length in this booklet for teaching the role of government in housing, here are the ways in which the League says students should be showing growth.

- * Ability to state issues in forms that make them sharp and clear.
- * Ability to find data adequate to the intelligent consideration of issues.
- * Ability to evaluate materials critically, using only those that are sound and rejecting what is suspect.
- * Ability to relate data to proposed solutions to the problem.
- * Ability to collect data that will support these solutions.
- * Ability to come to conclusions on the basis of available data.
- * Ability to recognize the possible validity of points of view at variance with their own. (Due to differing value patterns)
- * Ability to resolve issues in school and community situations.
(Most easily seen in resolving issues among their peers)

To be continued next year

As we explained earlier on page 248, we shall be back next year with the remaining major construction factors and the problems of financing housing. Mobile homes will be included under construction. We trust that before we again meet you in the pages of the Illinois Teacher of Home Economics you will have accomplished two goals for yourself.

The first is to have extended the quantity and the quality of your instruction in housing. Remember Churchill pointed out the vital importance of doing this when he warned, "We shape our buildings; thereafter they shape us."

The second is that you will have experienced the zest and satisfaction of trying to come to grips with some of the controversial issues that abound in every aspect of our field, not merely in housing. Send for that ten-cent booklet, experiment by introducing social dimensions into whatever problems they seem appropriate, and thereby greatly widen your own and your students' horizons.

IMPORTANT ANNOUNCEMENTS

VOLUMES I, II, AND III, ILLINOIS TEACHER

Only to school libraries or supervisors' offices for purposes of binding are complete volumes still available at \$2.00 per volume.

However, the following issues may be purchased by anyone at 35 cents per copy or \$2.00 for any nine copies selected so long as the supply lasts.

Toward More Satisfying Living Through Better Time Management
Teaching Foods and Nutrition in the Space Age
A Look to the Year Ahead
Adventuring in Human Relations

Let's Talk It Over
 Visual Aids Do Help
 Help Yourself to Success
 Toward Results that Count in Teaching Clothing
 Boys and the Homemaking Teacher
 Improving the Teaching of Money Management
 Teaching Clothing Selection
 Streamlined Teaching of Foods

VOLUME IV, ILLINOIS TEACHER OF HOME ECONOMICS

All nine issues of this volume can still be sold to anyone at the 1960-61 price of \$2.00; the additional cost for printing has not been made retroactive on this year's subscriptions.

Single copies of the printed and bound issues No. 4 - No. 9 of Volume IV can now be sold separately at 50 cents for one copy or \$3.00 for any nine copies. For example, a Head of a Home Economics Department ordered ten copies of No. 4; for nine of these the charge was \$3.00, for the additional one copy the charge was 50 cents, making the total \$3.50.

VOLUME V, ILLINOIS TEACHER OF HOME ECONOMICS

Printing and binding costs have forced us to increase the yearly subscription rate for next year to \$3.00 for the nine issues in 1961-62.

With this change you get the following advantages that you have long been requesting:

Copies that are far more durable and readable--even good looking enough to appear on your living room table.

Removal of all restrictions on subscribers and subscriptions:

Illinois subscriptions, previously rationed, will now be open to every home economist in the state.

Leaders in our field may now order as many subscriptions as they desire.

Teacher educators may now order yearly subscriptions for their college students.

City supervisors may now order as many subscriptions as they wish for their classroom teachers.

Freedom to order any number of copies of a single issue:

Charge will be 50 cents per copy in orders of one to nine; in orders of nine or more, the charge will be \$3.00 for each nine copies. For example, an order for 92 copies would total \$31.00. Large orders must arrive six weeks before they are needed in order to give ample time for printing and shipping.





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ILLINOIS TEACHER OF HOME ECONOMICS

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PLANNING HOMEMAKING DEPARTMENTS

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PLANNING HOMEMAKING DEPARTMENTS

Ruth Schooler, Supervisor, Homemaking Education
Gary, Indiana

Mary Mather, Home Economics Education, University
of Illinois

Are you one of the home economists faced with planning space and equipment for the education of today's and tomorrow's adolescents? If not right now, sooner or later you are certain to be in that extremely responsible yet rewarding position. To see the exciting promise of improved educational facilities is easy. Why then do many teachers, challenged with this opportunity, approach the planning with ambivalent feelings?

Since we have seen that "sweeping under the rug" the less pleasant aspects of any problem ultimately tends to increase its difficulty, let's look at some of the hard facts that face today's planners of school departments.

- * As is true of all schoolhouse building, the cost of home economics departments is not only the highest in history but will probably go still higher if and when inflation continues.
- * As practically all areas of high school subject matter move into the "machine era," the school's equipment dollar must be divided between the demands of many areas, not just the few previously asking for equipment.
- * Of necessity, practical-minded school board members and taxpayers are increasingly examining the student use of space and equipment during every hour not required for cleaning by custodians.
- * The purposes, content, and methods of instruction in public schools are being reassessed not only by critics but also by personnel and patrons of the schools; offerings will always, of course, be in a period of adjustment and change.
- * The bulk of home economics offerings may be taken by an increasing number of younger adolescents than heretofore.
- * The expectations in course results for younger students may shift from an exploratory, survey type of learning to a rigorous education that will include independent thinking and performance at desirable levels of difficulty.
- * The rapidly changing character of curriculum and teaching methods will make imperative great flexibility in every aspect of a school environment.
- * The necessity of students' making future decisions among unpredictable choices requires that school laboratories provide for much practice in the decision-making process.

- * The dynamics of today's technology suggests that ample space must be allowed for frequent changes in arrangement and choice of equipment and also additions that researchers have already developed and may soon be marketing in an economically practical form.

To summarize our dilemma, the only thing we can be absolutely sure of is CHANGE. From equipment manufacturers you get a vision of a house that is "thermoelectric, ultrasonic, and electronic." According to specialists in the textile field, almost no fabric now on the market will be there in the same form in ten years. Cleaning and laundering practices will be changed accordingly. And reputable scientists report that, in the language of the street, we "haven't seen anything yet!"

Sharing Is the Keynote to Successful Planning

In the face of sharp competition for the education dollar and the uncertainties about future curriculums to meet unforeseeable needs, how does a school go about planning and equipping a home economics department in a high school? Financial support by Gary citizens for home economics space and equipment has been generous and consistent. The freedom for instructional innovations and experimental programs by administrators and parents has likewise been generous.

How have these admirable results been achieved? To many members of the school personnel must go much credit, but the fundamental strength back of such achievements comes from informed and cooperative community effort. We tell here the details of the home economics story in Gary in the hope that other school systems, large and small, may find some helpful suggestions from the Gary experiences.

Problems of homemaking education

All thinking citizens are facing three facts: there are more children to educate; more knowledge is needed to meet the demands of tomorrow's living; and more years of education are sought by each generation. Citizens are realizing the serious implications of these facts.

There is a lack of public understanding that homemaking education contributes to the students' ability to think scientifically and creatively, and that education in human values is a function of the school. These limited horizons are of critical importance and must be broadened.

Homemaking educators, too, have their limitations. They are facing the problems of rapid economic and technical changes affecting homes, of teen-age marriages, of increasing numbers of mothers in the labor force, of care of children while parents are at work, and of less differentiation in the roles of men and women in the home. Realistic preparation of students to cope with all these problems in a rapidly changing world poses judgments and decisions that are tremendously difficult.

Enter: the Advisory Council

For several years a Homemaking Education Parents' Council, made up of two representatives from each of Gary's secondary schools, has met four or

five times each year to study and advise on problems of the homemaking department. Teachers' responsibilities are primarily to insure that "cooperative planning and sharing" become key words to all members of the Council.

Speaking of "sharing," we wish that we might send each of our readers a copy of the 1960-61 "yearbook" of this Council. A word description will have to suffice, but you'll miss the gaiety of the pink cover, the dignity and importance of the title, "You Are an Advisory Council Member of the Gary Public Schools." Inside this "Foreword" appears:

"This leaflet is written especially for you, an Advisory Council member. It has been prepared to help you see what you can do to provide a worthwhile homemaking program in your community."

This Foreword is signed in longhand by the supervisor of homemaking education.

Turn the page and you will find four questions mimeographed in longhand, and answers to these in typing. In this description, the longhand questions are underlined.

"Why do we have homemaking education in our school program?"

"Homemaking education is concerned with improving home and family life in the community. The goals in our curriculum materials will tell you more about the values toward which we work."

"What are my responsibilities as an Advisory Council member?"

"Interpret what is being done in homemaking education to the school and to the community.

"Help the homemaking staff to better understand the needs of the community.

"Help the staff to do creative thinking about the total home-making program.

"Serve as a committee for action, such as promoting interest in better space and equipment."

"What are the homemaking teachers' responsibilities for the program?"

"Making plans for Advisory Council meetings.

"Presenting selected aspects of the curriculum and facilities to the Council to help every member understand the program.

"Make final decision, upon the advice of the Council, on what is to be included in the school program."

"How should new Council members be selected"?

"The homemaking teachers of each school and their principal shall appoint two parents (mothers and fathers). Each member shall serve two years with one replacement from each school each year.

"A member who wishes to withdraw from the Council should notify her principal in order that another representative may be appointed.

"A member who cannot attend a meeting shall send a substitute.

"A member who is absent two consecutive times without a legitimate cause will be dropped from the roll."

On the last page of the leaflet appear the dates and high schools where the meetings of the Advisory Council will take place during 1960-61. The choice of location is usually related to some problem that is coming up for discussion.

Teachers share their graduate studies

Whenever teachers in Gary return from graduate study, they are warmly encouraged to share their recent learnings with others in the homemaking education program. These are thoroughly studied and the implications for local problems discussed. Often two or more teachers with common interests develop together some innovations in what is taught or how it is taught on an experimental basis, try out and revise these, and later report conclusions.

A specific example is the fact that, when Miss Kathryn Dougherty moved into an all-purpose room she decided to take as a part of her master's degree study the problem of developing a junior high school homemaking curriculum that would meet the needs of students to be served in Gary and which could be adapted to an all-purpose teaching situation. Staff growth, of course, is stimulated by such curriculum revisions.

Homemaking teachers and students learn from each other

A review of staff goals over the past several years indicates a steady push in the direction of:

- * Revising curriculum guides continuously
- * Making the teaching family centered
- * Using a greater variety of methods, techniques, and materials in teaching
- * Budgeting wisely for both large and small equipment, keeping the department up to date
- * Seeking information about and learning to use the new equipment on the market

- * Continuing to work to create modern, artistic, and efficient places for students to live and learn

Much, also, can be learned by cooperative planning with students. Such planning is always important in attaining the objectives of homemaking education but is essential to the success of a program in an all-purpose room. Where students work independently or in small groups in a variety of projects, their planning and measuring of progress make them increasingly aware of (or lack of) the facilities of a room. Often some of a department's soundest ideas about space and equipment have originated in students' suggestions.

School personnel work together

In Gary Dr. Alden H. Blankenship, superintendent of schools, has attempted to encourage creative thinking on the part of as many people as are concerned with the space and equipment aspect of the school program. Thorough investigations are constantly being made in regard to present school population, estimated increases over the years, and projected space assignments.

When a need for one or more new buildings is identified in rapidly growing school communities, high school principals in these areas and the supervisors in charge of instruction are invited to participate as a steering committee. As an outgrowth of committee discussions, sub-committees are organized for each area of student experience. These sub-committees are challenged to make recommendations to the steering committee and the architect. The work of the homemaking education sub-committee is organized around:

- * The over-all purposes of the homemaking education department
- * Principles basic to the organization of the school program
- * Modern trends as to types of laboratories
- * Basic equipment for each type of room.

When group thinking on these aspects has been clarified and some consensus reached, the report is compiled under the title, "Planning Space and Equipment for Junior (or Senior) High School Programs in Homemaking Education." Copies are given to administrators and to the architect to serve as his guide in building planning.

The community helps to decide

This past year new junior high schools were to be built. At the point where the architect had general ideas about two types of buildings which would meet the requirements of the sub-committees, the steering group was called together to consider a conditioned-air building versus a low, rambling type structure with many windows. Actually, cost was not a deciding factor here but rather a break with tradition.

Then the superintendent did a thing which seems to us very American, an attempt was made to take the decision to the people--parents, students, community groups. In a series of meetings and through the local press, the community was asked to look at the advantages and disadvantages of the very new development in schoolhouse building, the conditioned-air building with a minimum of windows. Since this democratic approach to informing the public of educational innovations is representative of techniques that will probably be widely used for meeting innumerable future changes, we have chosen to develop at some length the problem-solving steps taken by Gary on this one important decision.

To build or not to build a conditioned-air schoolhouse

Administrators and the architect reviewed the research literature and investigated the reactions of school administrators and teachers who were actually using conditioned-air rooms. Members of the Gary School Board investigated schools presently operating in buildings in which light, temperature, humidity, ventilation, air purity and circulation were controlled at optimum levels according to the needs of students and teachers.

Although results reported from different schools in various parts of the country did not entirely agree, as might be expected in so recent and radical a development, the advantages in general appeared to be worth considering.

- * A climate conducive to learning is achieved through control of artificial light, air, and sound. Scientific sight and sound specifications are designed to help students with seeing and hearing handicaps. Control of ventilation and temperature should reduce absenteeism, such as that caused by colds.
- * Industrial air-conditioning engineers have long used the rule of thumb that for each one degree F above 70 degrees F, human efficiency and productivity decreases approximately one per cent. Applying this control to schools should tend to reduce discipline problems and improve study conditions.
- * With conditioned-air, summer schools for remedial and accelerated study and for courses in homemaking education which college-bound and other students may be unable to take during the regular school year will become more generally available. Already some school systems enroll one-third or more of their regular students in such summer schools.
- * Classrooms placed back to back inside the building, a reduction of corridor space, a lowering of ceilings provide for great flexibility within instructional spaces, a tremendous asset when curriculums are in so fluid a state.
- * Where exterior classrooms will have only 60 feet of window space and interior classrooms none, windows will no longer prohibit an ideal arrangement of centers in unit kitchens and other

furniture arrangements will be equally unhampered. Chalkboard and tackboard space can be increased substantially. New kitchen appliances as well as the trend toward open planning call for some changes in designing kitchens.

- * Compact conditioned-air schools occupy less acreage, allowing the building to be oriented on the site in a way to make maximum use of land. Nor do the semi-windowless buildings need to look like factories if skillful landscaping is employed.
- * Construction costs may be reduced by the elimination of costly window-walls and window screens; later there is a saving in window breakage.
- * Other construction costs that may be less in a conditioned-air building are due to compact electrical, water, sanitary, and storm systems, a heating plant of reduced capacity, simplified temperature controls, and a reduction in the structural steel necessary.

Disadvantages appear to be two items of additional expense; these are the costs of refrigeration and dehumidifying equipment. Generally, bids on conditioned-air buildings have been lower than for conventional schoolhouses with the same classroom space, however. Maintenance costs are sometimes reported as higher, sometimes lower than in the conventional building. Perhaps getting used to the absence of windows may bother some teachers and students until the feeling of claustrophobia wears off.

Alton, Illinois has been operating an elementary conditioned-air school and is about to complete another. Dr. J. B. Johnson, superintendent of Alton schools, reports that the town's experience with conditioned-air schools has been so satisfactory that probably no conventional buildings will be built henceforth. He figures that these modern schoolhouses have cost about five per cent more to build than the conventional type, but points out that "For this money we are getting at least twenty per cent more use out of the conditioned-air space."

R. Guild Gray of Clark County, Nevada, where a conditioned-air junior high school was completed last year, reports, "Our Hyde Park School cost \$11.35 per square foot to build. This is the cheapest we have been able to build any comparable facility and we think the most important reason for this was conditioned-air. With conditioned-air, we didn't have to worry about breeze ventilation and other factors which complicate school layout. We were able to build a good deal more compactly and that meant a school that not only was cheap to build but we're finding it a lot cheaper to maintain as well."

What are the reactions of teachers in conditioned-air schools?

Mrs. Eva McDonald, a teacher in Alton's conditioned-air Eunice Smith School, interviewed some 150 teachers, administrators, supervisors and Board members in Alton; San Angelo, Texas; and Hobbs and Roswell, New Mexico concerning their experience with conditioned-air. She reported her findings last summer at a New York City seminar on "Improving the Learning Environment."

In general, reactions were favorable. Conditioned-air buildings, she was told, allow comfortable and varied seating arrangements in rooms of satisfactory sizes and shapes, economical adaptability to the use of audio-visual aids, and attractive color schemes free from shadows, glare, and alteration under different kinds of lighting. The teachers appreciated the controlled thermal environment and the cleanliness of the air. They rejoiced in the large amount of wall space and the free space around chalkboards. They thought that a regulated building climate kept displays and other supplies in better condition, ended insect invasions, and eased the teacher's problems from drafts and blowing papers.

Outside distractions, especially in the spring and fall, have always posed problems for teachers. Mrs. McDonald's respondents felt that conditioned-air schools result in virtually sound-proof rooms with no sources of distraction. As a result students and teachers get less fatigued and are more agreeable in the classroom. Attention spans seem to be longer. Attentiveness seems to increase; the weather outside does not affect students psychologically because they are unaware of it. Work and grades seem to improve. To summarize the reactions, teachers generally believe that students' attendance, behavior, and performance improve.

The final decisions

Ultimately, the superintendent of schools had to make his recommendation as to the choice of conventional or conditioned-air buildings for the two new junior high schools to be build in Gary. Members of the School Board then had to decide whether to give the green light to the architect, and very recently they did so with only one man still a bit dubious. Dr. Blankenship now hopes that these buildings will be ready by September, 1962.

Already the sub-committee has been called to view the architect's plans for the homemaking education department. This committee will make final decisions as to whether or not all important phases of student experience have been given adequate attention in the plans. Now that the homemaking facilities are to be in a conditioned-air building, detailed planning can go forward on changes that will take maximum advantage of such new and promising possibilities.

In a smaller school system the problem of adequate sharing is considerably easier but follows much the same pattern. Instead of a city supervisor, the teacher can request the services of a state supervisor. The latter will be able to give maximum help if she is contacted as early as possible. Drawings for the building should be only in the first preliminary stage when the state supervisor arrives. Radical innovations in the type of a building will obviously require new and creative thinking on homemaking laboratories and equipment. The supervisor can discuss with the teacher the purposes, principles, types of laboratories and basic equipment which the local committee has prepared.

Planning for remodeling

When a homemaking department is being remodeled, much the same procedures are followed. Room sizes and locations within the school are

considered in light of the administrator's projection of future needs. A meeting is then called of the director of buildings, his carpenter foreman, his plumber foreman, the supervisor of homemaking education. Often the services of a planning consultant from a manufacturing company equipping school kitchens is available without obligation.

Ideas are discussed with regard to locations of kitchen centers, laundry areas, sewing areas, etc. The various tradesmen are consulted with regard to mechanical outlets and locations so all these may be incorporated into the master plan. After rough-in mechanical outlets are determined, each room is measured in detail and final planning begins. Details such as cabinet locations, cooking centers, clean-up centers, etc., are outlined, and the scale plans may be developed by the selected factory representative.

Upon completion of these plans, they are thoroughly discussed by all the persons concerned, and any necessary changes are made. When the plans are satisfactory, they are taken to the purchasing agent and detailed specifications are prepared for bidding purposes.

Remodeling in small school systems requires as painstaking and orderly procedures but contacts are more direct. Again, state supervisors can offer excellent help both before and during planning meetings. The mechanical work in a small school may be done by a local contractor or even, in part, by the custodian. If the remodeling is fairly extensive, the expert planning services of a company representative can be available. Usually the school superintendent serves as the purchasing agent and the teacher sets up the specifications for the equipment to be purchased.

Flexibility Is Imperative

Dr. Johnie Christian of the Office of Education, talking informally at a recent Teacher Education Conference in Illinois, pointed out how great was the danger that today's schools would spend large amounts on homemaking space and equipment, only to be "stuck with" obsolete facilities in an appallingly short time. With no crystal ball, all teachers are deeply concerned with this danger. The authors and editors of this issue of the Illinois Teacher felt particular trepidation!

Deciding to "live dangerously," we are offering in this issue some facts and figures, some general guides and trends that may be helpful in summarizing present thinking on facilities appropriate in conventional buildings. As has been previously suggested, families, homes, curriculums, teaching methods, designs of school buildings, homemaking education facilities--all are changing. But we hope that the ideas provided in this issue will help a teacher to more readily adapt to whatever new problems her local school poses.

However, before presenting what seems to represent consensus among experienced planners, we would like to suggest ways in which even conventional planning may provide greater flexibility than we have had heretofore. In a follow-up issue next year we hope to develop in considerable detail the choice and arrangement of homemaking facilities in some of the most

advanced "frontier" schools. Although we may not yet have many of these types in Illinois today, these experimental efforts already give us pre-views of the future. Obviously, conditioned-air buildings will be one type for which changes and adjustments in planning will be provided.

Families and homes are changing rapidly

The January, 1961 issues of many periodicals, such as Reader's Digest and Changing Times, featured changes in living that were confidently predicted for the next decade or so. Indeed, every publication today is likely to have some such information in it. Perhaps the most startling reading is to be found in research journals of technology and science. A few changes that appear to come from authoritative sources are listed briefly below.

- * In 10 - 15 years technological advances in textiles will make an iron or ironer almost unnecessary in laundering.
- * In 25 - 50 years ready-made clothing of materials not yet perfected will greatly reduce, if not entirely eliminate, the number of sewing machines in homes.
- * Due to the increasing complexity of all textiles, the buying and maintenance of clothing will demand increasing thought and care.
- * Houses, continuing to seek the functional, will assume many unfamiliar shapes, utilize many new types of heating, lighting, and air conditioning, and evolve ingenious ways of increasing or decreasing their size and room arrangements.
- * Architects' use of translucent glass walls instead of windows and other imaginative uses of new materials will alter the decoration of interiors markedly.
- * Electronic thermostatically-controlled cooking appliances will greatly reduce the time required for food preparation, even when ready-prepared or frozen dishes are not used.
- * Atomic-radiated foods will need no refrigeration; "freeze-dried" foods will keep for years in air-tight cans.
- * Ultrasonic sound waves will wash dishes and possibly clothes.
- * Buying on credit will double in the next 15 years; more teen-agers will marry and at earlier ages, partly because of the free-wheeling credit.
- * Over half of the women ages 35 - 65 are expected to be at work; the average length of every woman's gainful employment will be 25 years.

Teaching content and methods also must change rapidly

A national survey of homemaking teaching in grades 7 - 12 of the public schools was made in 1939 and repeated in 1951. Miss Beulah Coon of

the Office of Education, who directed the study, has reported that in both investigations the major part of the time was devoted to foods and clothing. And in these two areas the learning activities were largely food preparation and clothing construction. Yet today's homemakers consistently advise that emphases in homemaking education should be much greater on other areas of homemaking and family living.

One trend in secondary schools that should enable more girls and boys to enjoy and profit from homemaking offerings is the lengthening of the educational period. Many schools are extending the supervised attendance of students to four o'clock, thus giving them a longer day in which to secure a broad education. As has been already mentioned, most city schools, both elementary and secondary, have well-attended summer sessions. College-bound students, who are unable to elect homemaking and family living offerings during the school year as a fifth subject, can work at an accelerated pace in a concentrated and rewarding summer session. Moreover, the thirteenth and fourteenth years provided by an increasing number of public school systems will probably offer both technical and general education courses in our field to terminal students in junior colleges. All these rather recent developments will demand different and more varied course offerings than we now have in most communities.

No longer can teaching methods remain "product oriented." New dimensions in quality teaching are achieved through both laboratory and non-laboratory study with such teaching techniques as:

- * Experimentation and discovery to develop logical and critical thinking.
- * Introspection and articulate analysis of values held by self and others.
- * Free and imaginative self-expression to foster creativity.
- * Realistic problem solving to develop managerial abilities.

Desirable balances are sought between thinking and doing, independent and cooperative learnings, individual and group methods. Instructional materials run the gamut of printed materials, tapes, slides, films and filmstrips, audio-visual machines, teaching machines, television kinescopes, and "scrambled" self-teaching books.

The shape of things to come in schools

John Cameron of the Office of Education, writing an article on new trends in schools and schoolhouses, suggests that in the enlarged community units of tomorrow, students living at a distance will be transported to centrally located high schools in helicopters. Fantastic if not impossible as this idea may seem, it is actually the product of informed, balanced, intelligent thought. Think how recently you have learned to know the word "astronaut"! Youth "take in their stride" orbital flights of man and all the other wonders of this space age. As teachers, we shall have to do the same when we encounter the new and strange in schoolhouses!

For example, Pontiac, Illinois has on the drawing boards right now a completely round building for their new high school. Again, Cameron reports

that large schools are designing campus plans around the periphery of a hub with circular walks connecting the various buildings. Sometimes the areas serving all students, such as the library, the cafeteria, the auditorium, and the gymnasiums are grouped in the center with wings devoted to different subject matter areas extending out from this center like spokes in a wheel.

However, such schools require more acreage than cities can usually command. And our present urban population of about 130 million will increase by 40 per cent in the next ten years. Most of this growth is expected in about 200 urban centers. City schools are likely to have to build more compact structures with interior classrooms placed back to back. Some of these will have to be so large that the concept of "schools within a school" will be introduced to further complicate planning.

Interesting and colorful as are all these experimental types of schoolhouses, utilizing materials in new and startling ways, inevitably some designs and materials will prove to be more satisfactory than others. At this particular point of development, "ours not to reason why, ours but to try and try" seems to state our responsibility in cooperation. Adventurous experiments are essential for progress. And even the high school "in the round" may hold pleasing surprises for homemaking teachers!

Some ways of achieving flexibility through planning

Although every school will pose individual problems for which different solutions will have to be developed, all authorities unite on one prediction concerning the schoolhouse of the future. That prediction is that high schools must and will be larger. Cameron reports that in 1954 there were 63,000 school districts; in 1958 there were only 48,000. The National Association of Secondary School Principals of the NEA has recently employed the former State Superintendent of Iowa Schools to work on the urgent problem of still further reducing this number. In a recent issue of an Illinois Education magazine, the high school of 500-700 was designated as "small" for the sixties.

With such greatly improved facilities for educating adolescents in comprehensive high schools available, total costs of a "Place for Learning" are rising to heights never before provided by taxpayers. The only possible solution seems to be increasing the tax base for each school. Since homemaking education facilities must provide for adequate experimental use and wise decision making concerning home equipment, the need for keeping laboratories technologically up to date is very evident. Even when using a most conventional design, architects are now developing innumerable ways of letting a "woman change her mind" as new technological advances occur.

* Partitions will be movable.

The need for this has been long evident. But only recently have sliding or folding walls been perfected to the point where sound is not carried through such partitions. All dividers can be pushed back to form one large lecture, TV-viewing, or demonstration room. Smaller discussion groups can be accommodated by

breaking up this space with movable walls. Individual experimentation and other projects can be provided for by isolating single study units by means of dividers.

- * Electrical outlets will be far more numerous and widely distributed than at present.

While some plug-in gas appliances will be available, electrical service would seem to be the major concern for future schools. Extensive rewiring is complicated and expensive. The use of a continuous wiring system or "raceway" is recommended to take care of changes in the location of some appliances and to accommodate additional appliances which may be acquired later. One architect suggests, "Provide for two or three times as much current as it now seems you would ever use"!

- * Plumbing to meet future demands merits special attention.

Relocating or adding to plumbing is likewise complicated and expensive. Hence the maximum in number and flexibility of plumbing installations should also be provided. Extravagant as this may at first appear, we are assured that considerable money will almost certainly be saved in the end.

- * Lighting should be adequate for close work anywhere in the room.

Lighting can be rendered flexible through the use of fluorescent panels flush with the ceiling which can be regulated as to position and intensity of candle power by push button controls. With increasingly less dependence on natural lighting, more freedom in all room arrangements is made possible.

- * Facilities for heating, cooling, filtering, and dehumidifying air now save working space.

Only a few years ago getting radiators recessed in walls was hard to "sell." Now thermal facilities in the ceilings, baseboards, with occasional wall-mounted devices for meeting specific small needs, encourage open-space planning in laboratories as well as in homes. Thermopane glass, exhaust fans to remove excess moisture from kitchen and laundry units, and insulation of the right type and the right amount help to keep modern facilities economical. However, Cameron warns that it may not be wise to equip new buildings with ducts for future installation of air conditioning, since before long such ducts may not be used for air conditioning.

- * Free-standing, movable large equipment will increase freedom of room arrangement.

Built-in cabinets have always represented the most concentrated area of cost in homemaking laboratories. Now commercial companies, through mass production, have reduced the cost and

increased the variety in size and type available. Some specialists suggest that purchases be made from one company so that all large equipment will be interchangeable, but this is unnecessary if detailed specifications for all possible arrangements are set up before buying. More aluminum and plastics are likely to be used to combine durability with light weight. Furnishings mounted on casters provide for easy moving. Pieces of equipment will have locks to hold them in a permanent position for as long as desired. Screens, bookcases, and many types of storage cabinets will also be equipped for easy mobility.

* Movable small parts of large equipment will increase flexibility.

Arrangements can be provided for adjustable shelves almost everywhere. Examples are pull-out shelves and "lazy-Susan" turn-about shelves for maximum use of corner space, adjustable drawer dividers, movable "grooves" or separators for vertical files of trays, pans.

* Push-buttons will provide quick and easy adjustments.

Heights of working surfaces may be adjustable; this is receiving increasing attention because heights of today's students make the usual 30" heights less efficient than 36" - 38" might be. Study tables in small "seminar" or discussion rooms may come out of the walls and be adjustable in both height and size. Sinks may have only one faucet which will operate by push-button control for cold, warm, hot, fast or slow water.

* Multiple-purpose furnishings may be of help to small schools.

Clothing tables will not only contain space for tote trays but possibly for a sewing machine and pressing equipment, yet be useable for writing and for discussions. Serving tables should have square corners so that several can be pushed together to form a solid seminar area when desired. A "corridor" type of multi-purpose table in a unit kitchen might house a bunsen burner and other facilities for experiments or demonstrations in applied chemistry--even a small sink--and yet have an over-all folding or sliding table top which would cover these facilities, thus converting into a flat cutting surface appropriate for the use of clothing construction. Additional cutting surfaces can be provided if tote tray cabinets are kept to table height.

* Bulletin boards, tack boards, peg boards, and chalkboards can be interchangeable.

Such interchangeability by boards set one behind the other can be achieved by arranging them to move up or down electronically. The bulletin boards may be electrostatic to provide instantaneous adhesiveness of paper materials to avoid the bother of using pins or thumb tacks and to permit quick removal.

- * Walls of clear glass within a laboratory will facilitate teacher supervision.

Behavior and progress of the various small groups will be visible to the teacher, even when she may be having a private conference in her own glass-walled office. In turn, students can observe difficulties and achievements of others in individual cubicles which should contribute to much cross-fertilization of ideas in senior high schools.

- * Accessibility of reference materials will contribute to flexibility.

Since the trend seems to be in the direction of increased non-laboratory learning experiences, library facilities in each classroom will almost certainly be enlarged. These will consist of books, pamphlets, periodicals, dictionaries, file folders of clippings, consumer product illustrations, evaluation devices and process models for student use, self-teaching books, filmstrips, films, slides, tapes, teaching machine programs. Storage space for the last five mentioned will be highly organized into small partitioned compartments. Charts and posters will have their own convenient storage spaces. Reference materials may be changed periodically to reduce storage space since instructional materials centers are on the increase in urban school systems.

- * Storage space for instructional materials in areas other than food preparation and clothing construction will need to be greatly increased.

Because most investigations indicate a demand for more extensive teaching of housing, home furnishings and equipment, clothing selection and care, nutrition and food buying, family economics, and preparation for marriage and parenthood, teaching aids in these areas will need to be collected and stored for quick use. If an instructional materials center is not provided, movable storage cabinets have been suggested in order that, once a given unit is completed, that cabinet can be rolled into some general work and storage room until it is again needed, and the aids for a new unit moved out into the classroom.

- * Audio-visual and teaching machines will be right in the classroom.

As every teacher now recognizes, much time would be saved and more independent student use made possible if all audio-visual facilities, except the expensive movie camera, were available in each school department. An opaque projector on an easily moved swivel base, one or two viewing screens that pull down from the ceiling, an over-head projector, a filmstrip projector, a television console and portable radio increase the opportunities for quality teaching and learning. The automatic teaching devices and the television will, of course, require a communications cable running into each laboratory.

* A large and open layout will facilitate flexible and varied use of equipment.

First of all, this means that "islands" or peninsulas in unit kitchens should never project far into the room and should be movable, if possible. Activities related to the homemaking program should find adequate meeting room within the central discussion space of all laboratories. Adults' needs should be met efficiently within this flexible teaching-learning workroom. The facilities may be freely used by classes in other areas of subject matter, ranging from science classes to Latin classes preparing and serving a Roman banquet. Team teaching in consumer problems, family economics, human relations, etc., would be facilitated by such space for large group instruction.

A selfish Utopian dream?

Do these ideas seem too good to be true? Teachers have come a long way since they were expected to double as janitors and water boys. And over the years homemaking teachers have been particularly fortunate in the proud support that administrators and lay folk have given to introducing the latest in ranges, sewing machines, and other facilities. Our requests for increased expenditures for instructional aids and facilities in the less tangible aspects of our field will require some re-education on teaching goals and values. But Dean William Sanford of this University, a shrewd judge of citizens' reactions, has always declared that parents tend to precede teachers in their determination to have the best for their children and in their recognition of technological advances.

The National Council on Schoolhouse Construction has recently been laying particular stress upon the need for increased space in academic classrooms, due to the need for large work surfaces, flexible seating arrangements, individual and group planning, and study centers. The individual cubicles in the modern language classrooms, the elaborate layouts for demonstration and experimentation in the new science and mathematics laboratories, the rows of teaching machines are a far cry from Mark Hopkins and his log! But still the demand continues for better teaching for more students in every field! Alert home economists, with all the cooperative help they can mobilize, will be willing to do the extra study and planning involved because they know so well the fundamental importance of their field.

"No one escapes limitations....We are all limited and must accept ourselves with limitations, and so will recognize how variable and flexible our lives can be. The great thing is that as long as we live we have the privilege of growing." So wrote Joshua Loth Liebman in his book, Peace of Mind. In our next section we are offering you materials for your "growing." Do send for all that seem promising to you; they are like flower and shrubbery catalogues in their enticing illustrations and ideas. "Dreaming big" costs very little! But haven't you noticed how often a fully developed dream can become reality?

Some Resources for Planning Home Economics Departments

While there are basic requirements for a home economics department, specific space and equipment will vary with the finances, the architecture of the building, the program needs and the community conditions in each location, even in the same city. The highly individual character of all planning may be one reason for the meager and not too up-to-date literature on the subject.

However, lists of educational publications from which aid has been gained and a list of some free commercial catalogues seemed worth providing. Periodical references have been utilized but are not included because few if any of them would probably now be available to most readers.

Of prime importance, moreover, is keeping up with the current developments in the fields of housing and equipment. In filing catalogues, periodical references, educational bulletins, etc., the trick of always putting the most recent materials in the front of each folder can save time and reduce frustrations. For example, perhaps you decide to clip an excellent article from Consumers' Report on an appliance that the school will be needing to purchase in the future. Unless this clipping is readily located and utilized within a reasonable time, the information may easily become obsolete because the manufacturers will have brought out new and different models.

Household Equipment Handbook

The professional periodicals in the field of home economics as well as the popular women's magazines are constantly providing articles dealing with space and equipment for the home. Much of this material can be adapted to department planning in schools.

One magazine in particular provides a unique contribution in its annual Household Equipment Handbook. Beginning in 1953, each April issue of What's New in Home Economics has provided a concise yet comprehensive review of the latest in household equipment. This survey gives an accurate picture of the current achievements of industry. From these pages one can learn both the long-term and the short-term trends in equipment design. One also gets a good idea of which features are in the "trial balloon" stage, which represent a trend that is taking hold or is in full swing, and which ones may be on their way out.

In addition to this market information, each April issue has a teaching point of view. One year the issue paralleled homemaking problems with equipment answers. Another year, very helpful what-to-look-for suggestions were given in every area of equipment. In still another, the relation of equipment to problems in housing and storage was highlighted.

No single teacher or supervisor has time to collect, organize, and interpret the wealth of information given by Mrs. Amber Ludwig, equipment editor, in this yearly issue. Every teacher will find these Handbooks valuable and worth keeping on file because the teaching emphases vary from year to year. Administrators will appreciate the format and content when they are approving orders. Indeed, some of the most enthusiastic students of the current Handbook are administrators' wives and their friends!

General bulletins

Any teacher planning a new or remodeled department will find much valuable general information in the following publications. Obviously reading these before meeting with architects and administrators would be advisable.

American Vocational Association. Developing Educational Specifications for Vocational and Practical Arts Facilities. AVA, 1010 Vermont Ave., N.W., Washington 5, D.C. 1959. \$1.00.

U. S. Department of Health, Education and Welfare, Office of Education. The Secondary School Plant, An Approach to Planning Functional Facilities. U. S. Government Printing Office, Washington 25, D.C. \$.45.

Homemaking planning bulletins that ARE available

With so very few publications specifically focused upon planning and equipping home economics departments, purchase of these few would seem to be worthwhile for every school system, regardless of whether new building or remodeling is imminent. Replacements and additions are always being made in school departments receiving hard use.

The 72-page U. S. Department of Health, Education, and Welfare publication, Space and Equipment for Homemaking Programs, has always been looked upon as the "Planning Bible," so comprehensive is its scope. Although it is now over ten years old, the variety and wisdom of its suggestions make it still invaluable. The 13-page Iowa bulletin is addressed specifically to that state's problems. In spite of an active consolidation program there, high schools still tend to be rather small. The Utah and NEA bulletins are concerned with specific aspects, as the titles indicate. Both, however, include some teaching ideas about using equipment. The Consumer Speaks bulletins, likewise, are useful for both planning the selection of articles for school and for teaching consumer buying of these same articles.

American Home Economics Association. Consumer Speaks Buying Guides. Four illustrated folders describing points to consider in buying straight chairs, sheets, rayon and acetate, and cooking and baking utensils. 1600 Twentieth Street, N.W., Washington 9, D.C. Set of four \$.25.

Engineering Extension Service. A Guide for Planning Specialized Departments for High Schools in Iowa. Bulletin No. 127-1. Iowa State College, Ames, Iowa. 1955. \$.10 per copy.

National Education Association, Department of Home Economics. Planning and Using Storage for Effective Teaching in Homemaking. 1210 Sixteenth Street, N.W., Washington 6, D.C. 1956. \$.50.

U. S. Department of Health, Education and Welfare, Office of Education. Space and Equipment for Homemaking Programs. Misc. No. 9, U. S. Government Printing Office, Washington 25, D.C. 1950. \$.50.

Research publications now available

Since so very little research on school space and equipment for home economics has been carried on and published in bulletins now available, educators must seek reliable information from research on home space and equipment. General principles and recommendations resulting from house-oriented research must then be reinterpreted to meet educational needs and conditions. Clues to student experiments concerning space requirements are readily identified in this kind of literature.

McCullough, H. and Farnham, M., "Kitchens to Date," Reprint Illinois Research, Illinois Agricultural Experiment Station, Urbana, Illinois, Winter 1961. Single copy free.

New York State College of Home Economics, The Cornell Kitchen. Cornell University Housing Research Center, Ithaca, New York. 1952. \$1.00.

Pennsylvania State University, Space for Home Sewing, Research Publication 138. Agricultural Experiment Station, University Park, Pennsylvania, 1957. Single copy free.

Small Homes Council-Building Research Council, Mumford House, University of Illinois, Urbana, Illinois.

<u>Household Storage Units</u> , C5.1	\$.15
<u>Cabinet Space for the Kitchen</u> , C5.31	.15
<u>Kitchen Planning Standards</u> , C5.32	.15
<u>Separate Ovens</u> , C5.33	.15

University of Illinois, A Storage Wall for Kitchen-Dining Areas, Circular 807, Agricultural Experiment Station, University of Illinois, Urbana, Illinois. Single copy free.

University of Illinois, Space and Design for Household Storage, Bulletin 557. Agricultural Experiment Station, University of Illinois, Urbana, Illinois, 1952. \$1.25.

U. S. Department of Agriculture, Beltsville Energy-Saving Kitchen, Leaflet No. 418. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C., 1957. \$.05.

Commercial catalogues and materials helpful to teachers

Logically enough, most commercial companies concentrate their research on improving individual products since these represent the bulk of their business and competition in the appliance field is keen. However, such companies try to keep informed of USDA and Land Grant College research findings and utilize them in ways that are economically sound in terms of profit. The question as to whether this profit has been unduly high has been recently answered in the affirmative by courts trying some of the largest companies. Whether this decision portends somewhat lower prices in the future is problematic. The practice of "shopping around" for school purchases may pay greater dividends than has been the case lately.

A few of these commercial companies have prepared well-illustrated bulletins on the selection and arrangement of equipment in one or more aspects of homemaking teaching. Others offer illustrations of home arrangements from which many suggestions for school planning can be gained. Almost any magazine catering to the needs of homemakers will offer a wealth of addresses for brochures on the products of specific companies. For example, the J. R. Clark Company, Spring Park, Minnesota manufactures the "Rid Jid Adjustable All-Steel Ironing Table" and sends out a free catalogue upon request. Such addresses and publications have not been included in our list.

Nor is this list complete nor highly selective. It is designed to suggest the types of help available from commercial companies. A recent check has shown that these typical publications are currently obtainable upon request. Of course, such a list needs to be checked periodically to be kept up-to-date.

American Gas Association, 420 Lexington Ave., New York 17, N. Y.
Modern Kitchens for Homemaking Programs, 1954. \$.15.

Bavinco Manufacturing Corporation, 1210 E. Ferry St., Buffalo 11, New York.
Bavinco Homemaking Equipment Catalog No. 60
Bavinco Arts and Crafts Catalog No. 59

General Electric Company, Consumers Institute, Appliance Park, Louisville 1, Kentucky.
News from Consumers Institute (A mailing list for periodical releases),
 five times per year

Geneva Modern Kitchens, Geneva, Illinois
Geneva Home Arts Equipment
Geneva Arts and Crafts Casework
Geneva Food Laboratory Casework

Hamilton Manufacturing Company, Two Rivers, Wisconsin
The Self-Contained Sewing Unit, Catalog AL476

Hotpoint, A Division of General Electric Company, 5600 West Taylor Street, Chicago 44, Illinois
Your Next Kitchen-Laundry, H-9005CL, \$.12
Kitchen-Laundry Planning Guide, H-9006CL, \$.10
Plan Your Next Kitchen-Laundry with Hotpoint Appliances, K9800AD,
 \$.05

Kitchen Corporation, Andrews, Indiana
Catalog and Planning Guide for Homemaking Teachers, 1960. Free if
 requested on school stationery, otherwise \$.50

Mutschler Brothers Company, Nappanee, Indiana
How to Improve Homemaking in Schools and Colleges

Singer Sewing Machine Company, Educational Department, 149 Broadway, New York 6, N. Y.
School Supplies and Services for Teachers, Students, Classrooms
Singer Sewing Equipment for Schools and Colleges

Sheldon Equipment Company, Muskegon, Michigan
Sheldon Homemaking Equipment Catalog, 1960

St. Charles Manufacturing Company, St. Charles, Illinois
Custom School Storage Furniture, 1958

Westinghouse Home Economics Institute, Westinghouse Electric Corporation,
 Mansfield, Ohio

Eight Principles of Kitchen Planning

Electric Household Refrigeration

Household Electric Ranges

Modern Home Laundering

Electric Home Appliances

Some General Guides for Planning Conventional Departments

We have prepared these "General Guides" as a sort of summary of the present consensus. The examples, however, are specific in nature and in no way "models" for anyone to copy exactly. For instance, every school has a different statement of philosophy--and should have.

The over-all purposes of the homemaking department

Clarity of goals is essential in your personal lives and equally so in your professional decisions. Statements of the latter on paper will be of help to architects and planning committees. For example, the homemaking sub-committee in Gary provided the following statement of purposes from the homemaking education department for guidance in planning two new junior high schools.

- * To provide an education program particularly designed to meet the interests, needs and abilities of students during their early adolescent years.
- * To provide opportunities for meeting individual needs, interests and abilities through educational and social experiences.
- * To guide students in exploratory experiences, in solving problems, and in making decisions and adjustments.
- * To bring about better articulation and integration of learning outcomes in all phases of education.

Principles basic to the organization of the homemaking program

A second statement, entitled "Principles," designed to clarify some not-always-recognized aspects of homemaking education may be provided for those attempting to reach decisions about space and facilities for many different areas of subject matter. Always consistent with the philosophy expressed, these principles will vary in each school and with the identified needs of those who are to use them. Obviously, an architect with extensive experience in planning a city's schools will need less enlightenment than will one who is unfamiliar with local conditions. For the planning of the two new junior high schools in Gary, the principles on the following page were suggested as reminders.

- * The school environment should help to create the atmosphere and facilities necessary to implement effective home and family living.
- * There should be flexibility which will permit changing patterns in scheduling, learning experiences, and subject matter offerings.
- * There should be opportunities for boys and girls to receive instruction together in Home Living courses.
- * There should be opportunities for girls to receive more specialized instruction in separate classes, including both individual and group projects.
- * There should be opportunities for slow learners and possible school "drop outs" to devote longer periods of time to homemaking activities.
- * Suggested class sizes range from twelve to thirty; the best learning environment is found where classes are small, part of the time.

Modern trends in types of homemaking laboratories.

In Gary these "purposes" and "principles" were combined with a lengthier statement about modern trends in laboratories and suggestions for basic equipment in each type of room into a mimeographed bulletin with an attractive, colored cover and distributed to the administration, the architect, and all members of the over-all steering committee as well as to all homemaking staff. These specific suggestions meet the needs in Gary and serve as an example of communication with planning personnel. The ideas of other schools will be offered later in this section.

- * Homemaking education, industrial arts and fine arts areas of student experience should be located together on the first floor for convenience in group planning, and for delivery of supplies and disposal of waste.
- * Because students at the junior high school age mature both emotionally and socially at different rates, it is important that equipment be arranged flexibly so as to provide readily for both group and individual work.
- * A mutual interchange between school and community is highly desirable. Community resources should be used and provision should be made for parents to come to school to contribute to education and to learn to understand their teen-age youth. Hence the homemaking department must provide facilities for discussion groups, open-house programs, teas and luncheons, including provisions for younger children while parents participate in such activities.
- * The 1200-student school should have two classrooms devoted to homemaking education; the 1500-student school should have three rooms.

* The department space should include:

- Two multi-purpose rooms, each approximately 1500 square feet, one for emphasis on foods, health, safety, management, laundry, one for emphasis on clothing, child care, personal development
- One or two all-purpose rooms, approximately 1800 square feet; a room 30' x 60' is a desirable size and shape
- A general area or "homemaking center" 600 - 800 square feet in size
- A student-project room
- A fitting room for a clothing laboratory
- A pantry for the foods laboratory
- General storage space for equipment not in continuous use
- A teachers' supply and workroom.

* Construction features for each classroom should include:

- Chalkboard, eight to ten linear feet
- Tackboard, eight to ten linear feet
- Chart rail above chalk and tackboard
- Pegboard for unit kitchens and grooming area.

* Each classroom should provide a work center for the teachers, including:

- Desk and two chairs, one for desk and one extra
- Drawers and shelves, and one four-drawer steel file cabinet
- Storage space for school records
- A place for teachers' possessions.

To have or not to have an all-purpose homemaking room?

The "all-purpose" room appears to be one of the most controversial topics in the recent literature on homemaking space and equipment. For example, one state is inclined to favor this type as a good way for city schools to save money. Another state agrees that providing an all-purpose room for every teacher would please the instructors because there would be no need for exchange of laboratories. But the Iowa bulletin states flatly that "It would be the more expensive plan."

Kathryn Dougherty, as a part of her study at Purdue University, developed from the professional literature a detailed statement of the advantages and disadvantages of this arrangement. Her conclusions are offered here as points for our readers to give some consideration when attempting to reach a decision.

Reasons given for the construction of an all-purpose room

The following statements were found in the literature. Obviously, they can be taken only as opinions because they are in no way based on research.

1. It allows instruction in all areas of homemaking with a minimum amount of floor space and less duplication of equipment.
2. It permits continuous and maximum use of space.
3. It is desirable for a one-teacher school.
4. It is a desirable addition to balancing teaching loads and to simplifying scheduling in larger schools.
5. It may be used for flexibility in meeting temporary expansion needs.
6. It serves an exploratory purpose and as a broad foundation to homemaking in the high school.
7. This type of department provides facilities which reflect an atmosphere of hospitality and good management and which give evidence of the kind of family living going on in a class at a given time.
8. This arrangement can meet the individual differences of the slow learners and the talented.
9. The small student groups are more comparable to family units, hence they provide insight to family understanding.
10. The flexibility of these rooms is unlimited; they could suitably be used for special education, activity rooms, or in social situations.

The advantages of the all-purpose program

The statements about the advantages of the all-purpose program, again, are largely based upon teachers' judgments and opinions. Some of the statements, while not debatable in themselves, are based upon assumptions of the superiority of the all-purpose plan that have never been established by research. Other statements appear to be definitely controversial.

1. The variety of learning experiences provided for is appropriate for the junior high school student.
2. The short units provide for the short interest span characteristic of the age group in junior high school.
3. Because of the number of units being taught at the same time, interest is aroused in the other areas of learning.
4. The relaxed situation helps to develop leadership and self-reliance, and lends itself to guiding students in developing self-dependence.
5. There is opportunity for more students to assume an active part in student-teaching planning.
6. Since there are fewer students within a group, all of the group can see demonstrations and other techniques.
7. It encourages the timid and the average students to participate in discussions and activities they ordinarily would avoid.
8. The students are more likely to share with each other, thus enabling them to learn from each other; consequently, they also learn to get along with each other.
9. There is greater opportunity to develop mechanical skills because there is varied equipment.
10. This situation can meet the individual differences more effectively since the teacher has greater opportunity to analyze the students.

11. The teacher and student are able to get better acquainted in the informal discussions.
12. Emphasis is placed on creativity of the student because of free use of materials being encouraged.
13. It offers assistance in the development of personal attitudes, values, and habits that make one successful in social situations.
14. There are many possibilities for including units for boys and girls together in satisfying learning experiences.
15. The program provides excellent opportunity to enlist the aid of senior girls as assistants.
16. These short, well-planned, and carefully evaluated activities provide ample insight for establishing a desire in students to continue the study of homemaking.
17. The opportunities for the teacher to create and experiment are unlimited, and her own mental growth is inevitable.
18. Through the use of all-purpose programs and suitable teaching materials and methods, the teacher is able to handle the same size classes that any other type of room would accommodate.
19. The program provides opportunity for more thorough evaluation of individual growth.
20. The program forces the teacher to make extremely careful preparation.

Limitations of the all-purpose program

Much as we in homemaking education adhere to a positive approach and incline to the publishing of mostly "success stories," Miss Dougherty did discover that some statements in the literature were at great variance with the aforementioned optimism. Such statements follow.

1. There is an increased number of daily lesson plans for the teacher to prepare.
2. Many guided activities must be carefully designed for the students to follow or much student time can be wasted. Suggested aids are: guide questions, work forms, progress sheets, evaluation devices, charts of samples, and garments in progress.
3. The teacher needs to be well-trained and intensely alert, and to be aware of all the learnings being achieved.
4. Because of the number of activities being carried on, student distraction is increased and discipline problems are more likely to arise.
5. Unless the plans are detailed and generously "speckled" with flexibility, they are not workable.
6. There should be duplication of classes to decrease daily preparation, so this plan may not be practical in small-school situations unless a daily planning period is provided.
7. Available planning time is vital for top-rate teaching in all situations.
8. If careful observation and guidance are not carried through, some students may dominate the groups, others learn little.

9. Field trips are difficult, obviously, because the teacher is needed on both sites.
10. Since there is demand for considerable typed materials, clerical assistance is required.
11. Equipment used for more than one purpose may not serve every one of these purposes effectively.
12. Unless careful thought is given to the arrangement of equipment, the room may appear crowded and cluttered when in use.
13. It is difficult to provide necessary storage space because there is not sufficient wall space for cabinets and cupboards needed.
14. Frequent shifting of equipment necessitates extra work, and may decrease the service life of some pieces.
15. This type of classroom is more expensive to build than a multi-purpose room.
16. If the learnings are not well planned, properly carried through, and well evaluated, they may have breadth without depth.

Sources of general suggestions

Copies of a few publications by State Departments have been made available to us that cannot be secured by others because of local regulations against general distribution, just as our small "Guide" in Illinois is sent only to Illinois teachers. Since the publishing dates of these guides range from 1945 to 1958, personal judgment in light of research on home kitchens and sewing rooms has had to influence somewhat our statements in this section.

The suggestions have also been read critically by a few people representing the viewpoints of State Department personnel, school administrators, and specialists in planning and equipping schoolhouses. However, so rapid are the changes in both education and technology, each new or remodeled department poses an individual set of problems which only local and State personnel can solve in detail. Nevertheless, it would seem that the following general ideas might serve the purpose of orienting teachers to the problems involved.

Windows

Some of the most beautiful buildings in the country are schoolhouses with window walls for both the outside and inside of buildings. A book prepared by an architect for the Libby-Owens-Ford Glass Company, Work Place for Learning by Lawrence Perkins, Reinhold Publishing Corp., New York City, 1957, illustrates this beauty superbly in color. But as planners are being forced increasingly to place quantity of space before qualities like beauty, the high cost of purchasing, replacement and maintenance is markedly reducing the number of communities that feel they can afford the luxury of so much window space.

A few suggestions concerning windows in a conventionally built schoolhouse follow. These are recommendations from the state publications mentioned previously.

- * Wherever possible, natural light should fall over the left shoulders of students; they should never be asked to face the light directly.

- * Windows may well be on only one side of a room. Blinds should be included in the building plan.
- * A northern exposure insures the most uniform light throughout a room, but does not furnish the warmth and animation of a southern exposure. East and west exposures tend to produce a glaring light which is difficult to control, even with venetian blinds.
- * Window sills should be placed a minimum of 37 inches from the floor to provide for placing equipment under them.
- * Windows easy to open and close are sometimes convenient although windows are no longer relied upon for ventilation.
- * Windows should be of the type to screen satisfactorily if they are ever to be opened.
- * Aluminum screens of fine mesh are recommended because they will not rust or stain.

Artificial lighting

Artificial as well as natural lighting is essential no matter how large the window space. Obviously, the less the window space, the more important the artificial light becomes.

- * Light meters are readily available and can be used to measure the "candle power" of light at any given time or place. Specialists recommend as an absolute minimum an illumination level of 50-foot candles. For fine work and sewing on dark materials, more light is essential.
- * Proper placement and type of lights should insure an even distribution of light throughout every classroom or flexible arrangements may be hampered.
- * The distribution of lights should also keep glare or shadows at a minimum. Dull rather than shiny surfaces will help to minimize glare.
- * The general lighting from the ceiling has often been supplemented by fixtures at work centers; with increasing need for flexibility and the use of more free-standing, plug-in equipment, location of such fixtures becomes a challenging problem for architects and teachers.

Electrical service

All architects of schoolhouses insure that the building is wired to take care of the number and type of circuits needed for large and small equipment so that sufficient power for maximum efficiency of lighting fixtures and equipment will be available for future as well as present loads. They provide for wiring that will conform with the National

Electrical Code and with state and local regulations. Materials used should meet the approval of the Underwriters Laboratories. For safety's sake, circuits in the homemaking department should be controlled by circuit breakers.

The location of electrical outlets is an individual problem for each workroom in terms of the purposes served, the shape and other architectural features of the room, the flexibility of equipment anticipated, and the kind of teaching planned. In most instances duplex outlets are desirable. The height of outlets is determined by the use to be made of these; in general, outlets are usually considered most convenient 10 - 12 inches above the work surface. Outlets in floors are possible and may have to be adopted more commonly as movable equipment replaces built-ins pretty much arranged along the walls.

Someone has said that no woman ever had enough closets! This might also be said of electrical outlets in homemaking rooms! Increasing automation in household equipment makes the total number needed in a homemaking department seem fantastic, no matter how strategically they may be placed. Moreover, teaching machines, machines for showing the many types of audio-visual aids, radios and television sets in classrooms add to the need for electrical current.

Heating

Today heating systems are planned to leave free the maximum amount of wall and floor space for equipment and furnishings. Radiant heating or radiators recessed in walls contribute to this. Wall or ceiling-hung heaters may be satisfactory if they are noiseless, but the control of heat is usually less easy.

In new buildings the heating pipes are concealed. In remodeling, pipes that are necessarily visible may be painted the same color as the walls or ceiling since research shows that radiators painted with such colors are more efficient than those painted with aluminum paint.

Floors

Floors and soundproofing of walls are two general considerations usually provided for in terms of the building as a whole. Architects are well aware that not only the initial cost of the floor but also the cost of care and maintenance over a period of years must be considered.

However, rooms where food preparation and laundering are to occur require special consideration. More and more floors are being covered by some form of the many plastics that are available under different trade names. Suffice it to say here that a covering in a food laboratory must defy grease, dirt and stains and not show indentures. The exact type and brand should be selected from the best and most economical choices in today's and tomorrow's market. The fact that good quality asphalt tile and plastic floor coverings can be satisfactorily laid directly on concrete floors also may enter into the consideration of a "best buy."

Color in the homemaking department

Everyone would probably agree that the homemaking department should be as attractive and homelike as possible without sacrificing efficiency or a workmanlike atmosphere. Just as in a home, all colors should be planned as an ensemble in order to insure harmony. The same art principles can be applied concerning large and small, dark and light rooms, warm and cool exposures, background and accent colors.

Any perusal of articles written by and for architects, however, indicates clearly that harmony within a single department is not a sufficiently broad way of looking at the color problem in school buildings. In the first place, architects contend that the color plan for any department should be selected in accord with the general character of the building. They believe that "good architecture and good color are inseparable."

Instead of following the personal preference of one or two individuals, an architect may ask you what is the spirit desired in the color of the department, such as neutral and quiet or lively and gay. He will then choose colors that will develop the "theme" you may have suggested and that are also harmonious with the architecture as he has envisioned it. Occasionally some architect may offer a choice of two or three color combinations that he feels are appropriate from which individuals or committees may make a selection.

The subtle relationships of hue, chroma, value and reflectance call for an architect's professional skill. The results should help students and teachers using the rooms to grow in the finer appreciation of color. As time moves on and some redecorating is possible, architects plead that mere whims not be allowed to spoil the harmonious over-all effect they have achieved. Granting this policy is wise, students may still have rich experiences in learning how to introduce small variations into the color scheme, much as they would have to operate in redecorating their own homes. Since all departments are planned for both daytime and evening use, colors should be tried out in advance under both lighting conditions in order to observe the effect.

Space needed

In 1944 a University of Illinois bulletin recommended for an all-purpose laboratory a room only 22 feet wide but 64 feet long. Today, as was recommended in Gary, 30 or more feet are considered a desirable width. In 1947 the specialists on school buildings were suggesting a unit kitchen of 9 x 7 feet as a minimum. Today one unit kitchen is thought to require as a minimum 100 square feet of floor space in order to place equipment efficiently. In trying to arrange for free passage between units but no traffic lanes through work areas, additional aisle space will be needed. As Moore's research in 1952 demonstrated, habits of good management can be taught (or mistaught) according to a school's facilities.

Arrangement of space available

The arrangement of the physical environment obviously affects the functional quality of the homemaking program. Just as obviously future

trends in the curriculum, insofar as they can be identified, must be the major deciding factors in planning use of space. In the most recent State bulletin studied, Planning Space, Equipment, Storage for Teaching Homemaking in High School, Olympia, Washington, 1958 (and not available for distribution), this statement is made. "Homemaking Departments which provide space and equipment primarily for teaching foods and clothing skills may handicap the teaching of other equally important aspects of homemaking."

A thorough analysis of the many combinations of work and study centers recommended in State bulletins provided no single pattern that appeared to predominate. All publications pointed up the absolute necessity of each department being planned in terms of its own needs and for future flexibility. Consequently, the most helpful ideas to offer our readers seemed to be a list of work and study centers adapted from a California bulletin.

- * Child study and guidance--a size adequate to accommodate an entire class and a small group of children in a play group.
- * Clothing and textiles--unit arrangements of equipment needed for clothing selection, construction and care, well-located area for teaching fitting but provision for privacy in dressing, arrangements for textile experimenting.
- * Foods and nutrition--unit-type kitchens and sufficient work area for family groups, tables and chairs for meal service and study.
- * General storage room large enough to accommodate shifts in equipment needed for teaching various aspects of homemaking.
- * Grooming--in clothing room or other suitable place.
- * Home care of sick--space for class around large equipment such as a bed.
- * Home furnishing--individual and group project space for experimenting with selection and arrangement, renovation and repair.
- * Laundry--accessible to other work centers.
- * Living-dining room--part of or conveniently located near other centers--adequate size for experimenting in house care, hospitality, etc.
- * Out-of-door education center for teaching outdoor recreation, backyard cookery, shelter for family hiking and camping.
- * Planning centers for individual and group conferences, department business.
- * Workroom for experimenting with problems of consumer buying, hobby centers in weaving, and other recent developments in homemaking programs.

A "family life" classroom

If any trend could be discerned, it was an apparently growing opinion that the functional value of a small apartment or living-dining room does not warrant the cost. As early as 1956, an investigator discovered that in many cases they are not used as intended and are converted to other activities of an entirely different character.

Today, so costly is space in school buildings, only almost constant use justifies a large "family life" room. In a city high school, the minimum size of such a room should be 450 square feet to accommodate large non-laboratory classes. Such a room may contain a fireplace with a long seating extension that is cushioned, other multiple seating devices and chairs so constructed that they can be slipcovered easily, a refectory or drop-leaf table and matching straight chairs, possibly a large, low, round coffee table for use with children. Extra folding chairs stored in storage walls in the room may be needed for student seating. If the room is sufficiently large, many teachers like to store card tables in these closets for occasional use. Earlier, rugs and even wall-to-wall carpeting appeared in these rooms, but the practice apparently is being discontinued.

Such wall closets with sliding doors are handsome adjuncts to a room. The space should be planned in light of the different types of storage expected, and appropriate partitions should be built in each closet. Functional pieces of furniture, such as open bookshelves, a secretary, a desk, a hutch, a chest or other storage pieces also offer space for materials that must be readily available. Less frequently used materials may be kept out of sight in the wall closets. Publications of the Small Homes Council of the University of Illinois offer many suggestions derived from research on planning such storage space.

To facilitate integration with other subject matter areas

No longer are separate cottages or special wings in a school building being advocated for homemaking departments. Instead, a location adjacent to rooms housing other related areas is heartily recommended. The local curriculum and the school's philosophy of integrated teaching will determine such related areas. A few alternatives follow.

- * If science principles are to be intensively integrated with many homemaking units, the laboratories for teaching biology, physiology, chemistry, and physics might be conveniently near.
- * If family life and homemaking education are to be tied closely to social studies, the two departments might be adjacent.
- * Where the emphasis in foods, at least for some students, is vocational, accessibility to the school's cafeteria and kitchen is important.
- * Where the departments of art and home economics work together frequently, adjacent locations prove to be both stimulating and economical of steps.

- * Where adult classes also use the department facilities, a separate outside entrance and a first floor location are ideal. Other school and community organizations may also be served by the department at times.

Pleasant reciprocal arrangements with other groups of students demand that at times non-home economics enrollees may use the rooms assigned to homemaking. Sometimes a flexible homemaking laboratory is able to best accommodate one or more additional classes from other areas that wish to view and discuss an audio-visual aid of common interest. Occasionally the small "seminar" or discussion rooms are made available for use by other class groups if entrances from the corridor can be arranged.

Some general suggestions on which there seems to be agreement

The following miscellaneous considerations are quite generally agreed upon by most authors of recent publications.

- * Each classroom should provide a teacher with a desk and two chairs, a file for the detailed records on each student and her personal teaching plans and correspondence, a cabinet that provides a hanging space for her own and guests' wraps, and shelves for her books and other personal articles.
- * Every classroom should have a minimum of 8 - 10 linear feet of chalkboard and 6 - 8 linear feet of tackboard. Increasingly pegboard is being used to provide convenient display areas. Location of these should permit all students in a discussion group to see the displays readily if they are to be used for teaching.
- * A track along an upper wall allows a channel chalkboard to be hung when and where it is needed. This track may also be used for bulletin boards and posters. A sliding chalkboard on a built-in cabinet may be raised to reveal books and bulletins on shelves. Doors of storage cabinets may offer satisfactory backgrounds for tackboards and pegboards.
- * Display cases of glass with sliding doors to give easy access should be provided in the classroom where out of the way of traffic, in the foyer at the entrance of the department (if you have one), and especially in the corridor near the department, sometimes recessed at both sides of each door leading into a laboratory.
- * Glass in the doors into classrooms also assures that the work of the department may be easily observed by the whole school to the end that the homemaking program may appear to be an integral part of the total school curriculum.
- * With large classes and short periods, congestion can become a serious problem. To avoid arrangements that invite students to congregate, two mixing centers in unit kitchens are essential,

two or more apron and book centers for students, two tote tray centers for clothing construction materials, and ironing centers near each clothing unit arrangement are very much worth the extra cost.

- * Library centers in all classrooms and laboratories are due to be greatly expanded as teaching makes increasing use of books, bulletins, films, slides, posters, mounted models, charts, tapes, and such reference books as dictionaries, books on technical terminology in textiles, foods, equipment, and the like. Cabinets with adjustable shelves and/or drawers, display arrangements, and files are usually used for storage. If bookshelves are built under windows or chalkboards, shelves nine inches in depth are recommended.
- * In addition, shelves for textbooks and drawers for aprons may be incorporated into each food or clothing unit, providing they are placed so they do not interfere with cooking or sewing activities.
- * Since home economics classes are usually not excessively large, one television set strategically placed is adequate, as is one large movie screen.

Equipment for learning activities in clothing and home furnishings

Methods of teaching determine the choice of this equipment. If all students in a class engage in the same or similar activities at the same time, as in clothing construction, the maximum amount of individual equipment is required. Closely planned related activities, as one group studying labels, another comparative size of ready-mades, and a third relative values in the workmanship of a collection of blouses of the same price, will demand variety, not duplication of learning equipment and supplies. With the latter type of teaching, a greatly increased amount of general storage space is necessary for teaching materials. Because of the very necessary emphasis being given to flexibility, "self-contained" clothing units are now rarely used since their disadvantages so outweigh the advantages.

Clothing tables average about 30 inches in height, but must provide ample knee space even with tote trays in place. There should be a minimum of five feet between tables to permit students to pull out chairs and be seated without bumping into each other. Each sewing machine with a chair will require a minimum of three feet of space. Auxiliary cutting surfaces are available for occasional use through tote drawer cabinets 36 inches high, portable tops stored elsewhere and placed over machines, kitchen surfaces, and dining tables where space is very limited in all-purpose rooms.

Plastic tote trays which fit into especially designed storage cabinets and into work tables are satisfactory. Generous space in each tray facilitates the establishment of neat habits of storage. The number of trays needed can be estimated from the number of students likely to be engaged in clothing construction at one time, plus the number of textile or consumer buying projects requiring storage by individuals at the same time.

Since storage space should be placed near where materials are to be used, room cabinets with narrow doors are needed for adequate storage of garments in the process of construction. One rod placed at a minimum height of five feet above the bottom of the cabinet will be required for dresses not to touch the floor. If rods are adjustable, two may be used for storing blouses, skirts, and other short garments like the wraps of children when a play group is in session. Many teachers believe that mirrors on the doors of cabinets encourage students to keep the doors closed.

With the trend toward less clothing construction and more examination and experimentation with the textile, art, and economic problems of clothing, a greatly increased amount of general storage space is necessary. This is especially true if housing and home furnishings are also taught in this classroom. At least one sink impervious to chemicals is called for. Steel drawers, known as architects' files, shallow sliding trays or other pull-out arrangements should be provided in abundance to store illustrative materials, both large and small. These shallow receptacles seem to be more used than the former "cabinet for charts." There should be at least some lockable drawers, compartments or cabinets for school supplies. For example, many embarrassments with other teachers as well as students can be avoided if the department's roll of paper on its stand is in a locked cabinet rather than open to all.

Pressing equipment requires storage that is carefully planned for the folding ironing boards and other pressing tools and materials. Unless this storage is included in individual clothing units, it should be placed strategically near work tables in cabinets distributed around the room. The compartments for storing irons should be lined with asbestos. Pilot lights and thermostatic controls should be provided for the steam-dry irons.

The ideal arrangement for undressing, fitting garments, and re-dressing still seems to elude the best of planners. Most people subscribe to the educational theory that at least a certain measure of privacy for dressing is desirable, while fitting is a learning activity that should occur in the classroom so that it can be easily supervised by the teacher and shared with other students. Mirrors distributed around the classroom on doors of storage cabinets or triple mirrors on casters facilitate such learning. Care must be taken, however, that girls being fitted cannot be seen by passersby in the corridor. Provisions for hanging up own garments during a fitting that have been removed help to establish good student habits for care of clothing.

To have or not to have a grooming center?

This question has apparently become increasingly controversial. What are its advantages? Its disadvantages? In what place in the department is it best located? How large and "decorative" should it be?

Some realists are contending that a toilet room placed near the department and large enough to take care of students washing hands in preparation for cooking or sewing is the best solution. Whether such a location of a

girls' toilet room is feasible depends upon the total planning of the building. At the other extreme is the elaborate, frilly arrangement of a single lavatory 18 x 16 inches set in a "vanity" extending along one home economics wall and with a large plate glass mirror above. Girls often crowded around this enticing spot easily may give a totally erroneous impression of the serious goals and achievements of a department. Some teachers compromise by providing a lavatory, a liquid soap dispenser, a wall cabinet for dispensing paper towels, and a large waste basket behind a folding screen in opposite corners of a food or clothing room if there is no space available outside these areas.

A demonstration mirror with the tilt adjustable is excellent for showing the effect of lines, color, texture, etc., upon individuals in teaching clothing selection. It can also be used for showing the sewing machine, for demonstrating the steps in a process, the solving of fitting problems, the results of laundry experiments. Such a mirror is so easily moved on casters that teachers who use them declare that they could not teach without one. For grooming demonstrations it can accommodate a whole class far more effectively than can even a large "grooming center."

The laundry center

With the dramatic increase in man-made fibers in clothing and household textiles, laundering has assumed greatly increased importance. Most schools include some such equipment but there seems at present to be no discernible trend in the location of such equipment. In some schools it is a part of a large clothing or foods laboratory, providing space for demonstrations to an entire class. In other plans a separate laundry room is provided, often between the food and clothing laboratories so that it is accessible to both. However, few of these rooms offer adequate space for class demonstrations. There appears to be more agreement upon the following aspects:

- * Some bulletins recommended that a separate room for laundering should have a minimum of 250 square feet of floor space, with a tile or other type of floor particularly adapted to the needs of a laundry.
- * There should be four work centers within the laundry unit-- preparation, washing, drying, and ironing. Both for efficiency and teaching students how to arrange home laundries, these centers should be arranged with the parts related so as to form a continuous "production line," if possible.
- * The preparation center is usually at a sink with counters where clothes are sorted and stains removed before being placed in the washing machine. This center may also provide facilities for hand washing.
- * Storage of laundry supplies and small equipment is usually found in base or wall cabinets. If continuous counter space is adequate, a work table is unnecessary. A laundry cart with two or three shelves is a convenience.

- * The most essential equipment for a laundry center is an automatic washer and automatic dryer. Separated, these require considerable space; combined, they reduce the speed with which kitchen towels can be dried for the next class.
- * In remodeling, additional plumbing pipes and electrical wiring may be required. In new buildings, the architect should be told early of these needs, as well as of the need for a floor drain.
- * The amount of water pressure and the adequacy of the supply of hot water should be determined before the automatic washer is selected.
- * A choice must be made between a machine that opens at the top and one which opens at the front, but there are also many other criteria to be weighed.
- * The dryer, too, is selected in terms of criteria but one "tricky" choice may fail to be recognized and that is the direction in which the dryer door opens. It should not be necessary to reach around a door to shift clothes from washer to dryer.
- * Equipment for ironing as well as hanging drip-dry garments should be provided. An ironer, an ironing board, a dry and a steam iron are recommended.
- * Since service for equipment on which students are learning poses an important problem, the dealer from whom equipment is purchased should be near enough, sufficiently competent, and willing to agree to service it.

Equipment for learning activities in foods and health

Most plans for teaching foods are based upon the premise of four students working in each unit kitchen. Size of classes will, therefore, determine the number of units needed. One unit should be deliberately planned for demonstrations with a refrigerator, a chalkboard, a tackboard, and the teacher's desk nearby. The free-standing demonstration table, complete with an adjustable mirror, serves as an adequate work counter and there is storage space in the base cabinets below this counter. Such a demonstration unit may or may not have a plug-in sink.

The furnishings and equipment, in general, should reflect the various economic levels of homes in the community. Variety in qualities and types of materials, structures, and finishes can furnish a basis for developing judgment in making selections for the home by both in- and out-of-school groups. In today's homes an especially high priority is assigned to ease of care and repair. If flexibility permits, experimentation in the arrangement and use of equipment is highly desirable at every level of high school.

All authorities agree that five centers are needed in every school unit kitchen--refrigerator, sink, stove, and two mixing centers at either side of the sink. McCullough has discovered that in home kitchens workers

at a mix center between sink and range take more steps than do those working at a mix center between the refrigerator and sink, hence it may be advisable to give the slower workers the preferred mix center. From her research Moore concluded that a minimum of 42 inches to accommodate one base cabinet of 24 inches and one of 18 inches was essential in each mixing center. If the mix center is to serve an adjacent appliance or if wall cabinets are lacking, 48-54 inches in cabinets are desirable.

One or two refrigerators and an upright freezer should be placed to serve conveniently the needs of the unit kitchens. A minimum of 30 inches will be needed for each refrigerator; 30 - 36 inches for an upright freezer. The chest type of freezer is no longer recommended for schools since it requires four to seven feet of wall space and is less convenient when packing or removing foods. About 18 inches of counter space on the latch side of a refrigerator or freezer is highly desirable for setting out supplies.

In setting up a sink center a two-bowl sink is considered preferable, a partition sink is next best; one sink 30 inches long so that two dishpans may be used is less desirable. If a front opening dishwasher is at left of bowl, the counter width of the dishwasher may be adequate for stacking clean dishes. Moore recommended an 18-inch base cabinet at the right of sink and a 24-inch one at the left for storage of dishwashing supplies and equipment, small pieces of equipment for preparation of vegetables and other jobs usually performed at a sink. Provision for garbage disposal and for washing and drying towels is expected to be in separate centers in a laboratory.

Cooking centers have shown more variety than any others in recent years. A 24-inch apartment type with table top and one oven or a home-type range with one or two ovens and two storage drawers below the surface cooking unit may be used. One version of a range center has two ovens above counter level, with the top stove burners or elements on a pull-out shelf below them. The original concept of an electric appliance center, as used at Gary, plus an electric oven on a base cabinet is still another version.

Several recent publications have emphasized one surface cooking unit above a base cabinet and one or two separate wall ovens elsewhere. This scheme is known as a "divided range"; each part requires individual gas or electric connections and sometimes separate ventilating systems. Cabinets, either ready-made or built-in, to enclose both the top-stove units and the oven, and usually a heat-proof countertop to fit the arrangement, are necessary. While these cabinets provide generous space for storing utensils and supplies, McCullough discovered that a divided range in a home kitchen added 16 per cent more travel to the homemaker's work.

A variety of types of cooking centers will provide the opportunity to teach selection, use, and care in an experimental manner. Concrete details on how experimentation is carried out in the appliance centers at Gary are offered in "Gary Students Compare Conventional and Appliance-Center Kitchens," What's New in Home Economics, September, 1960. Most writers pointed out the desirability of placing a conventional home range at the left end of a unit kitchen to give maximum space for several students to

work at the stove and to provide for ease of replacement when a new model arrives. A cabinet of 18 - 24 inches with a heat-proof top is recommended as a servicing center only if there is no counter top available on an adjacent center.

Storage for Effective Teaching

The 1956 bulletin, Planning and Using Storage for Effective Teaching in Homemaking from the Department of Home Economics of the National Education Association is based on a fine educational philosophy and boasts large sketches that offer specific suggestions for making the most of every inch of storage space in all aspects of homemaking teaching. Because of the superior drawings in this bulletin, which is so readily available, previously considered sketches have been removed from this bulletin. Many of the "word pictures" provided in our descriptions will be illustrated in satisfying detail in this NEA bulletin by Una Dowds Fowler.

Although costs of built-in cabinets vary widely, one can usually count on spending substantially more for these than for free-standing commercial units. If carefully selected, mostly from one company, commercial units can provide the desired continuity in counter space or can be readily maneuvered on casters to experiment with a variety of arrangements. New and additional units or appliances can be fitted easily into such flexible arrangements. A greater variety of cabinets is possible in a U-shaped kitchen, including Lazy Susan shelves in corner cupboards to make efficient use of space.

Each base cabinet should be planned as a part of a work center. Drawers of proper height for what is to be stored are the most functional arrangement; sliding or pull-out shelves rank second. Doors should not be more than 14 inches wide to avoid having them extend too far beyond the base cabinet when open, thus handicapping work and becoming a safety hazard. The standard depth of cabinets is 22 - 24 inches, the height 36 inches. However, for some activities such as mixing or kneading and/or for students below average height, a pull-out board in the cabinet can provide a working surface 32 inches in height.

Materials in commercial cabinets are usually steel or wood. In one successful Illinois laboratory, the two have been used, thereby expanding learning possibilities and achieving an especially handsome effect. Each cabinet should have its own back and floor, rather than using the room wall and floor. Hardware inside and outside the cabinets should be appropriate and durable. Equipment specialists estimate that the wear in one year in school is roughly equivalent to that in twenty years in a home.

Dividers in cabinet drawers, separators designed to create a vertical file in a compartment for storage of trays, cookie sheets and other such utensils, and all "step-shelves" of different heights should be built into well-fitted frames so that they can be removed for easy cleaning. Shelves just deep enough for a single row of articles facilitate finding and removing what is needed. Adjustable shelves on a metal track eliminate the need for stacking unlike articles as well as waste space between shelves. A distance of 15 inches between a base and wall cabinet is ample for the work done and the equipment used on the counters, and will bring wall cabinet space within easy reach.

The continuous working surface in each unit kitchen should have counter tops of material that is easy to clean, durable and heat and stain resistant. Colors should be selected in relation to the architect's color plan for the room. A back splash above all counter and sink work space should be four inches high; the toe space at the floor should be 4-1/2 inches high and three inches deep.

Serving tables in a food laboratory are used for so many purposes in addition to eating that compromises may be necessary in their selection. Many recommend a table 25 inches high, 36 inches wide and 60 inches long as the most useful size. Straight chairs to match the tables should be comfortable for long periods of quiet study.

Miscellaneous storage areas

With the increasing demand for flexibility in using the same costly floor space, the old-fashioned "pantry" or large storage room appears to be making a strong comeback. Such a room is practically a "must" if teaching in an all-purpose room is to be efficient. One state published a bulletin (now out of print) in space and equipment for use in play schools, and recommended that the sand box, orange crates for storing toys, steps for adjusting adult toilet facilities to pre-schoolers, a portable clothes rack, low tables and chairs, etc., should be stored from year to year in such a room. Storage walls in classrooms are handsome but only efficient for small and medium-sized furnishings that are frequently used.

In the NEA bulletin mentioned earlier are pictured well-planned cabinets for storing:

- The many small articles useful in teaching child care
- Home nursing supplies and equipment, including a folding bed
- Cleaning supplies and equipment
- Food staples, including seldom used or very large cooking equipment
- General storage for students' needs
- General storage for teaching aids.

Almost any of the research bulletins concerned with meeting home storage needs, such as McCullough's A Storage Wall for Kitchen-Dining Areas, will clarify the method of dividing space and determining widths and heights of shelves by measuring the exact sizes of articles to be stored in each spot. Professor Ailsie Stevenson of Washington State University determined the best arrangement in cabinet drawers and shelves by using brown paper layouts and actual equipment, a convenient plan when the cabinets are not yet available. Una Dowds Fowler emphasized "Today production methods permit a wide range of versatility in cases and cabinets. Stock units of various sizes make it possible to combine almost any type of storage within a single cabinet." This trend appears to be on the increase; manufacturers are assuring us now that refrigerator and freezer drawers may soon be scattered about each unit kitchen at points of greatest use.

A safety center may help to make carefree adolescents more conscious of the hazards in a homemaking department. A home-type medicine cabinet for storage of first aid supplies, a fire blanket, suitable fire

extinguishers, master cut-offs for gas and electricity can make quite an impressive display when gathered in one place. That location, of course, should be readily available to all students and teachers. Posters, made by younger adolescents from facts provided by the publications of the National Safety Council and occasionally displayed at strategic points, will further help to reduce accidents.

Each School MUST Make Its Own Decisions

You will have to do so; Gary had to do so. However, we thought the "general considerations" in the preceding section might become more meaningful if we offered you the exact materials prepared for the architect in Gary, not as a model, just as an example of the way Gary applied "what the books said." You will find similarities, but you will also note differences. Watch for them! Remember, too, all of these plans are designed for junior high school students.

Gary's recommended basic equipment for one all-purpose room

Four unit kitchens and one appliance center
 Counter unit with eight sewing machines and two to four portable units
 Tables, chairs, and upholstered stools for the sewing machines
 Grooming unit
 Bed storage unit
 Books, magazines, and chart storage units
 Child care storage unit
 Mobile demonstration and storage unit
 General storage facilities
 Living-dining area
 Laundry area
 Storage space for articles students carry into the room
 Storage space for articles students leave in the room

Gary's recommended basic equipment for one multi-purpose food and health room

Each of four unit kitchens will include

Counter space: 8 - 10 linear feet

Two mixing centers, each with:
 one drawer and a pull-out board
 one cabinet 18 inches in width

One range center, including:		Or:
one drawer and pull-out board)	one conventional range
one cabinet, 18 inches in width)	one oven for two
one 30-inch wall oven unit)	kitchens, if electric
three or four surface cooking units)		

One sink or clean-up center, including:
 one double-bowl sink or one large bowl with drain board
 storage for cleaning supplies

One serving center, including:
 18-inch cabinet for table service storage
 one drawer in base for linens

The one appliance center will include:

A control panel installed on one of two 36-inch cabinets with pull-out shelves and top drawer

A single cabinet sink between the two 36-inch cabinets

The following electrical appliances operated from the control panel:

One fry pan
 One sauce pan
 One portable oven
 One portable dishwasher

The laboratory shall include in one of its unit kitchens or in a general location:

A washer-dryer to improve management practices
 A cabinet for storage of laundry supplies and clean linens
 A garbage disposal unit
 A general storage cabinet
 Two refrigerators, 11 - 12 cubic feet
 Book storage
 Magazine, pamphlet and chart storage
 One cabinet for cleaning equipment
 One divider-tray cabinet compartment in each unit kitchen
 One hand washing unit
 Storage space for articles students carry into the room
 Storage space for articles students leave in the room
 A portable steel cart for delivering supplies
 A demonstration kitchen of the portable type

Gary's recommended basic equipment for one multi-purpose room for clothing, child care, and personal development

Tables for work and storage of tote drawers
 One tote drawer for each student
 Tote-drawer cabinets for storage of tote drawers
 One sewing machine for each two students
 Facilities for fitting--mirror, provision for privacy in changing
 Counter cabinet space for cutting
 Chairs for use at tables and stools at machines

Gary's guide for storage of equipment in the four conventional kitchens

In each mixing center

baking sheet	grater	pie pan
cake pan	lemon reamer	rolling pin
casserole	measuring cup set	sifter
cookie cutter	measuring spoons	spatula
cookie sheet	mixing bowls	tablespoon
egg beater	mixing spoon	teaspoon
glass measuring cup	muffin pan	whip
	pastry blender	wooden spoon

In each sink or clean-up center

These articles should be placed on a tray which can be placed on the counter when in use:

can opener	mixing bowl	slicing knife
cleaning supplies	paring knife	vegetable brush
double boiler	rubber scraper	
kitchen shears	sink strainer	

These articles should be placed on another tray and stored here: a cannister set for staples; a set of refrigerator dishes

In each range center

blending fork	salt container	teaspoon
cooking fork	sauce pan	tongs
cooling rack	skillet	turner
hot potholder	tablespoon	wooden spoon

In each serving center

6 luncheon plates	6 water glasses	6 knives
6 salad plates	6 juice glasses	6 forks
6 bread and butter plates	6 custard cups	6 salad forks
6 sauce dishes	1 salt and pepper	6 teaspoons
6 cups and saucers		(all in a self-stacking tray)
1 cream and sugar		

Gary's guide for storage of equipment in the one appliance kitchen

The work centers in the appliance kitchen are: two mixing centers and a serving center identical to those in the conventional kitchens. In place of the conventional range center, an appliance cabinet, an electrical sauce pan, a fry pan, and a portable oven are provided. An electric dishwasher substitutes for the conventional clean-up center and an adjacent cabinet provides storage for the small equipment needed.

Gary's suggestions for additional equipment

Depending upon the learning experiences of the students, some of the following equipment might be considered. Such additions usually are placed in some form of general storage.

electric can opener	casseroles of various sizes
assorted cookie cutters	coffee maker
cake decorating set	cookie press
cake pans--	kettles, larger than 3 quart
tubular, 8" x 12" loaf	kitchen tool set
tiered 9" round	knife sharpener
carving set	meat chopper

meat hammer
 mixing bowls, over 3 quart
 pressure sauce pan
 punch bowl, cups, serving
 plates
 roasting pans of various
 sizes

screw driver, bottle opener,
 pliers
 serving dishes
 serving silver
 sets of knives
 wire bleaching basket

Gary's guide for the small equipment necessary for clothing

cutting shears
 ironing boards, portable
 irons, steam and dry
 oil cans

pressing hams, point presser
 sleeve boards
 tool kits
 yardsticks

Gary's guide for the supplies stored in the laundry unit

bleaches
 detergents

soaps
 stain removers

Gary's guide for supplies and equipment stored in the cleaning cabinet

attachments for electric
 cleaner
 broom, corn or fiber
 cellulose sponges
 cleaning and polishing cloths
 cleaning basket
 drain solvent
 dust pan
 furniture polish
 glass cleaner
 metal cleaner

paint cleaner
 paper towels
 rubber gloves
 saddle soap
 scouring pads
 scratch remover
 silver polish
 tool kit
 wax
 wet mop
 wood cleaner

Gary's guide for supplies and equipment to be stored in home nursing cabinet

bed pan
 bed pan cover
 bed tray
 compress wringers of denim,
 two
 enema equipment
 fever thermometers, oral,
 rectal
 hand roll
 hot water bag

large basin for bath
 oil for bath tray
 safety pins
 small basin for hand washing
 straight pins
 tray cover
 triangular bandages
 urinal
 wool or flannel squares for
 compresses: two

Gary's guide for storage in the child care cabinet

In this cabinet are stored the doll and the equipment needed in teaching bathing and feeding of the infant. Most equipment needed when small children are brought into the department for observation or when a play school is planned is borrowed. Also usually borrowed are exhibit materials, but some of these can be produced as class projects. Exhibit materials include play materials, books, records, pictures, and suitable clothing for small children.

Living and Learning in New Rooms

Classes will be enthusiastic about new rooms and approach the problems related to them with zest. Teachers must plan experiences which allow for getting acquainted with the new facilities and for their future utilization in line with educational goals for the various classes in the program. Just as sharing with community members, administrators, and other school personnel is a keynote to successful planning for homemaking departments, sharing with students is essential for the use of the homemaking rooms. The steps in learning to manage time and equipment in each work area need cooperative planning with each new group of students. It isn't wise to impose someone else's rules on students without letting them consider other possibilities, also.

The young adolescent is curious and will want to explore new facilities. Questions such as "What's this for?" and "Why?" may be frequently asked by younger students, but the stage may need to be set to get similar questions from some of the older students. Enthusiasm for new rooms can help students be creative in planning for decorative touches to make rooms cheerful, livable, and interesting, and in seeing possible ways to carry on varieties of activities in the different centers.

Planning for the decoration of new homemaking rooms can be done in different ways. The teacher could do it all, but involving the students stimulates their pride and pleasure in the new room. In exploring many possibilities, you may discover hidden and unknown talents. The experience should help all those involved to be more creative in the end than they were at the beginning.

Beginning with a pink, white, and gray color scheme, one Gary teacher involved her students in decorating the six unit kitchens, each in a unique way. The floor in the room was pearl gray, cabinets shell-pink, with white pegboard on several walls. Artistic arrangements of useful cooking equipment were made in each kitchen.

Kitchen I had an interesting arrangement of copper salad molds on its pegboard.

Kitchen II had a wooden salad bowl decorated with greens, the wooden serving implements, and a shelf with interesting bottles for oil and vinegar; all were hung on the pegboard background.

Kitchen III used a framed spice chart and shelves of spice jars.

Kitchen IV featured four inexpensive black picture frames, 8" x 11", with magazine pictures of attractive foods to be changed with the seasons.

Kitchen V used a case of knives and interesting pink and white plaques which could become hot dish mats.

Kitchen VI had perhaps the most unusual arrangement. A branch was taken from a tree in the school yard and painted flaming pink. Fastened to the white pegboard, it became the gadget tree for small kitchen gadgets, or decorated Christmas cookies, Easter eggs, or other small objects appropriate to the season.

On the counters in these kitchens were wrought iron bookracks with attractive cookbooks, recipe holders fashioned from black wire coat hangers, along with fry pans, sauce pans, and other interesting electrical cooking appliances.

Basic art principles were kept in mind as these useful decorative pieces were arranged with the result that students, school administrators, parents, and other people of the community commented as they came into the room for the first time, "This is lovely." As the students showed visitors about their new room, they become aware that the room was simply furnished with useful items and that other classes could change the kitchens by arranging other useful items on the pegboard backgrounds and on the counters.

The young adolescent is likely to focus her concern more on "What are we going to do?" than on "What are we going to learn?" To satisfy curiosity as well as to help all students see possible scope for their learning, an exploration and analysis of the various work centers in the department may be made. This could be done by individuals or small groups visiting each area. Since the peer group is of such importance to adolescents, more ideas may be stimulated if they work together rather than separately.

A device to help in this exploration could be a list of the various work centers (such as: living area, clothing area, unit kitchens, laundry area, display area, storage area, discussion center, grooming area) with a parallel column to note ideas on "How we can use this center." Suggestions could then be pooled as organizational plans are made for the year's work.

As well as knowing possible activities for the work areas themselves, understandings about the equipment in each center is important. Adolescents need help in developing orderly habits and in the assumption of responsibility. The way they are taught to use and care for equipment can further these traits. The class may be divided into groups of two or three to study the equipment. Each group may study one specific piece, may become proficient in its use, and make an instruction guide if appropriate. The group may then demonstrate to the entire class the use and care of the particular piece of equipment it has been studying. The members of the group who make the special study are responsible for instructing other class members.

A variation of the above would be to have each student work at her own rate of speed in getting acquainted with the equipment. When she can demonstrate competency and knowledge of how to operate and care for a piece of equipment and awareness of its hazards, she is issued an "equipment license" for that particular thing. This license carries with it the right to teach others. Whether the getting acquainted with equipment is done individually or in groups, the students should be encouraged to study all labels and manufacturers' directions provided in manuals. The lack of this habit in adult homemakers is of serious proportions.

As well as knowing how mechanical and electrical equipment operates, recognition of and familiarity with all kinds of equipment needs to be taught. When students have choices to make are they in the habit of

choosing the best tool for the job? Selecting the most efficient tool for a specific process (for example, choosing the right knife, mixing spoon, bowl, saucepan or measuring cup) can be perplexing to the novice, or a continuation of poor habits for the more experienced. It may be that knowledge of appropriate tools is limited. If this is true, broader acquaintance is surely necessary before any degree of skill in use can be expected.

Exercises, drills, and even games can be developed to help students learn accurate terminology for all equipment, and to see possibilities for its use. Demonstrations showing the consequences of effective versus ineffective use, with the observers challenged to look for "what's wrong with this picture," can also aid in learning. The silent demonstration would serve well here since it forces the observers to be very alert.

Acquaintance with just the tools of "doing" is not enough; the tools for "thinking" to go along with the "doing" are just as important. Knowledge of all kinds of resource materials available in the homemaking rooms should belong to the students as well as to the teacher. Materials for reading, observation, illustration and analysis, such as books, magazines, pamphlets, bulletins, filmstrips, slides, pictures, charts, samples, and exhibits help to enrich student learning. When experiences are organized for independent study, it is especially important that students are acquainted with all these resources. In addition, the importance the teacher places on these tools for learning can help in interpreting what we are trying to accomplish in home economics. Unless the teacher puts as much emphasis on the tools for thinking and analysis as she does on other kinds of equipment, she may be giving a very one-sided picture of what is considered important in homemaking teaching and learning.

Good storage for the many items used in homemaking rooms is, of course, of utmost importance. But carefully planned storage areas will not function as well as they might unless students are helped to understand the principles of good storage and are motivated to practice these principles. Working with storage areas is another opportunity for students to develop basic habits which will be of value for future work at home and school. The fundamental ideas expressed by the phrases "easy to see," "easy to reach," and "easy to grasp" can serve as useful criteria in making decisions about where and how to store different pieces of small equipment.

An analysis of frequency of use can be made so choice space can be given to tools most used. Students can help make these decisions in relation to foods equipment by having a demonstration group prepare foods incorporating fairly typical processes. Other students can observe at which place in the kitchen each job seems to be logically done best, and what pieces of equipment the worker needs to have handy. Several different demonstrations may be necessary for various analyses, such as: one on quick breads or pastry, one on salads or fresh vegetables, one on meat cookery, one on a milk pudding or other dessert. Each teacher would decide in terms of the foods likely to be prepared by a given class.

No matter how up-to-date the homemaking department is when new, it soon becomes necessary to evaluate more new ideas and equipment. Each

season brings its new fabrics, household supplies, and equipment too varied and numerous for listing. A spirit of learning about, testing, and learning to use and care for must be maintained. The teacher and her students must constantly seek up-to-date information about new products. Like Alice in Wonderland, we must run to keep from standing still.

We have other excellent opportunities for decision-making experiences for students. As new equipment is needed for additions or replacements, students can help make the decisions. If the selection of equipment is made a class project, some objectives may be to:

Understand there are many good makes and types of equipment on the market.

Become familiar with some of them through:

Studying the variety of equipment in students' homes

Studying the variety in the school centers

Observing equipment in the store

Reading about equipment in books, magazines, and bulletins

Understand that the selection of equipment is based on:

The needs of the family or group for which purchased

Tastes of the purchaser

Money available.

Learn the facts to consider when buying equipment.

Students need to be kept up-to-date as to new equipment on the market. Use of the department, however, determines the need for equipment, and not all new products will be "needed" for use. Some knowledge about new items is desirable, nevertheless. Equipment may be borrowed for special study, or field trips may be taken to see it in stores or homes. Advertisements in newspapers and magazines can be a source of some information, but specification sheets about each piece of equipment (obtained from dealer or manufacturer) would be of even more value. Articles in newspapers can be very helpful. The study of new equipment and the exploration of new ideas about equipment are appropriate special projects for the more able student.

When something is being promoted as "new," it would be worthwhile to have the class analyze just what is new about it. Is it styling or trim alone? Is it a different material, size or shape? Does it perform any differently than other models? If so, what is the basis for the difference? Is it more or less satisfactory than equipment already on hand? In what way? Do the changes make a real difference to the person considering the purchase, or are the changes rather superficial? Because of the barrage of advertising to which consumers are subjected and the rapid development of new models of equipment, it behooves homemaking teachers to help students analyze bases for choices.

Pride in new homemaking rooms should include interest in and some feeling of responsibility for their care. But as every teacher knows, this needs planning and organization to function smoothly. Well-planned

storage, which students understand, will help keep things in order. Having spaces designated by labels and having items and spaces color-cued will aid in getting things back where they belong. Plastic-wrapped cards with typed lists of the contents taped to drawers and cupboards in all centers can also help in organization.

Student participation in the care and management of the department is essential. Understandings will need to be developed about the kind of housekeeping care suitable for various surfaces or areas. Decisions about the best kind of materials to use for cleaning can be made after experimentally trying different methods and materials. Specifications or instructions for certain jobs can be on cards in an accessible file box so that as students are assigned jobs they can independently check the directions and go about their work.

Everyday routine jobs need to be assigned by some rotation system. Other jobs which need occasional attention may be done by "odd-jobbers," the girls who finish early, who do not have appropriate supplies for participation in regular work, or who may not fit into group work if irregular attendance has changed the plan for organization of groups. Odd jobs need not be done every day, but over a period of time many can be cared for. As the teacher sees jobs that need doing, these tasks can be written on slips of paper and put on a spindle. As girls have opportunity they can take a slip, look up directions if necessary, do the job, sign the slip and return it so they receive recognition for the service. If the spindle gets too full at any one time, everyone can be an odd-jobber for part of a period.

If you wish to encourage distribution of these odd jobs, or to see that a particular student does not always end up with the same job, typical jobs can be listed across the top of a chart which also lists the students' names. Then each girl can check her name, or indicate the date when a job is done. Another way to encourage student responsibility for keeping supplies and equipment in order is to have small slates on each work area. Students can jot down items that need to be purchased or repaired, special jobs that need doing, or reminders about general care to other groups using the same area. If these slates can stand against counter ledges, the teacher can quickly survey the needs in several areas without having to go to each to investigate. A device such as this can serve as a quick means of communication between the teacher and the work groups as well as between students in successive classes.

NOW IT CAN BE TOLD

A letter of April 20 to Dr. Janice Smith, Head of the Department of Home Economics at the University of Illinois pleaded, "Is it possible for you to direct me to the source of information regarding a subscription to the Illinois Teacher? More than once I have heard of valuable information which has been published in it, but have never been able to see a copy or find the source for obtaining it."

We have long regretted our restricted subscription, and now rejoice that our change-over to printing permits us to serve every interested teacher. Please read Vol. IV, No. 6, then tell your friends.



ILLINOIS TEACHER OF HOME ECONOMICS

SPECIAL HOME ECONOMICS OFFERINGS FOR THE ACADEMICALLY TALENTED

THE
JUL 19 1961
UNIVERSITY OF ILLINOIS

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SPECIAL HOME ECONOMICS OFFERINGS FOR THE ACADEMICALLY TALENTED

Catherine Carter, State Supervisor,
State Board of Vocational Education
Doris Manning, Home Economics Education,
University of Illinois

Are you one of those lucky teachers whose administration and community has recognized the need of the academically talented for the substance offered in quality home economics classes? However the awareness of this need developed, it can be reinforced by the findings of no less an authority than Dr. Terman, reporting in The Gifted Group at Mid-Life, Volume V of "Genetic Studies of Genius."

The challenge of talented girls

"Our gifted women in the main...are housewives, and many who also work outside the home do so more to relieve the monotony of household duties or to supplement the family income rather than through a desire for a serious career. There are many intangible kinds of accomplishment and success open to the housewife, and it is debatable whether the fact that a majority of gifted women prefer housewifery to more intellectual pursuits represents a net waste of brainpower. Although it is possible by means of rating scales to measure with fair accuracy the achievement of a scientist or a professional or business man, no one has yet devised a way to measure the contribution of a woman who makes her marriage a success, inspires her husband, and sends forth well-trained children into the world."

Havighurst, in the March 1957 School Review substantiates the need for stimulating gifted girls. He states that girls, and children from families of low socio-economic status, form the two large groups of persons with potentially high ability whose environment has not provided stimulation for the development of talent. And in his discussion of developmental tasks he says the task of establishing a feminine role is the most difficult task for girls to achieve, and that the schools can and should help girls with this developmental task.

So you are deep in the problem of developing a compact but quality offering, either a composite or specialized course, for busy students engulfed by the demands and challenges of the program for the academically talented. The task is certainly a demanding one! "Major improvements in the quality of education can only be accomplished by making basic changes in present practices. The secondary school of tomorrow--if it is to be a markedly better school--must differ in many ways from the American high school of today." So says J. Lloyd Trump in his New Directions in Quality Education.

What is true of the American high school is not less true of our part in it, the home economics program. We are, in a sense, pioneering a new aspect in our field of specialization. In order to meet the challenge of working with this special group, as well as our other students, we may

need to freshen our point of view and "dare to be different." Let's take a look first at some of the facts about the academically talented which have been revealed through research, and at some of the opinions expressed by authorities in the field. Then later we can think about the implications for working with academically talented in special home economics classes.

Some issues involved in educating the academically talented

"What kinds of individuals would we like our gifted and talented children to be as a result of our educational efforts?" Herbert Klausmeier in the December, 1956, Phi Delta Kappan, defines this question by asking further questions.

"Do we want the gifted high school graduate to be very highly specialized in one or two areas such as mathematics, science, English, art, foreign languages, and business education? So we want a non-specialized individual with some competence in several subject-matter areas and in several expressive areas? For example, do we want the gifted graduate to have two years of work in several areas such as mathematics, science, language, English, and social studies and also some experiences in music, art, dramatics, homemaking, business education, agriculture, shop? Do we desire the gifted graduate to have quite high specialization in one or even two areas and also competence in several others?

"Do we want the gifted high school graduate to avoid others so that he may use his talents exclusively in individual efforts? Do we want the gifted student to be skilled only in working and living with others of similarly high achievement? Do we want the gifted person to find satisfactions in independent work and in communicating and living with others of many levels of competence and many areas of interest?

"Do we wish the gifted person to be unconcerned with the effects of his efforts on self and others? For example, do we want a person so strongly motivated for high achievement that he ruins his own health in the process or is unconcerned with producing a 'monster' product or idea that destroys the happiness or endangers the welfare of others? Should the gifted high school graduate use his talents for personal gain only, taking advantage of those of lesser abilities to achieve economic, social, or political mastery over them? Do we desire the gifted youth to use his talents in caring for his own needs and to be concerned with improving conditions for effective living for himself and others?"

The Academically Talented--What Are They Like?

There is an abundance of terms used to describe these special students about whom we are concerned in this article, and definitions for each term abound. Dr. Paul Witty, the most vocal spokesman for the gifted group, defines the "gifted" as "...one whose performance in a potentially valuable line of human activity is consistently remarkable." We have, however, chosen to use James B. Conant's broad term, the "academically talented student," and his description of that type of youth.

"...He is in the upper 15 to 20 per cent of the secondary students in the United States....He is usually a rapid learner, a good organizer, and a skillful thinker; as a rule he is above average in his use of vocabulary and in his reading skills. He is probably creative, curious, persevering, and capable of considerable independent study. He usually possesses more than the normal amount of stamina, is physically above average, and is fully capable of profiting by unusual academic challenges."

The Terman Study

More than thirty-five years ago Dr. Lewis Terman pioneered in the study of the "gifted child." In his comprehensive study of 1500 children, plus regular follow-ups of that study, he has concluded that these children have tremendous potential for making valuable contributions to our society. When compared with "average" children, those in Dr. Terman's study surpassed the latter in physique, as demonstrated by earlier walking and talking, above-average height, weight, coordination, endurance, and general health, and in social adjustment. Character tests showed their moral attitudes to be superior, and their academic records indicated they easily performed at least two grades above the one in which they were enrolled.

Some of Dr. Terman's other conclusions from his investigation of gifted children include:

- * No significant sex differences in intelligence were found.
- * They came mainly from urban professional, semi-professional, business and skilled families, but there were many others, too.
- * Their parents averaged four or five years more schooling than the average parents of their generation.
- * Their homes possessed more than the average number of books.
- * Their family incomes were above average.
- * The incidence of broken homes was below the average.
- * Nearly half learned to read before starting to school.
- * They were interested in large, scientific collections.
- * They read widely.
- * Their play performances showed interests two or three years beyond the age norm.

Summary of characteristics

Other authors, discussing the identifying characteristics of the academically talented, have included in their lists:

- * Persistence--a longer attention span.

- * Learns rapidly, easily, and with less repetition.

Teachers who have worked with academically talented youth report that they work at least twice as fast as the average student. Cutts, however, in her book Teaching the Bright and Gifted, reminds us that sometimes "...a very brilliant mind may work very slowly. The individual may be temperamentally cautious and have the habit of checking every detail. He may be aware of so many possibilities and implications that he needs extra time to choose the answer which he thinks exactly right."

- * Reads at a consistently more advanced level.
- * Exhibits maturity in expressing himself through the various communicative skills--has a sizeable vocabulary and uses words accurately.
- * Reaches higher levels of attentiveness to his environment; has insight into problems, sympathetic understanding; shows alertness and keenness of observation and responds quickly.
- * Asks more questions; really wants to know the causes and reasons for things.
- * Because he enjoys learning, likes to study some subjects that are difficult.
- * Spends time beyond the ordinary assignments or schedule on things that are of interest to him.
- * Knows about many things of which other children are unaware.
- * Is able to adapt learning to various situations somewhat unrelated in orientation; has ability to make generalizations; has foresight; can think abstractly.
- * Reasons out problems since he recognizes relationships and comprehends meanings; analyzes mechanical problems quickly since he recognizes relationships and comprehends meanings; performs difficult mental tasks; uses a great deal of common sense and practical knowledge.
- * Is original in his thinking; uses good but unusual methods or ideas; has creative ability.
- * Possesses one or more special talents.
- * Is adept in analyzing his own abilities, limitations, and problems.
- * Performs with poise beyond his chronological age and can take charge of a situation.

- * Failures do not easily discourage him.
- * Is more emotionally stable than the average child his age.
- * Can judge the abilities of others.
- * Has diverse, spontaneous, and frequently self-directed interests; shows initiative.
- * Has humor and wit.
- * Has a desire to be of service.

The teacher will want to remember that this list is not a prototype of the academically talented; these characteristics will not apply equally to all of the academically talented. Nor will, of course, any one individual exhibit all of these characteristics, but they are valuable as clues to identification.

What Kind of Teachers Do The Talented Need?

The Committee on Exceptional Children in New York states, "Gifted children need gifted teachers; all children do."

Ruth Strang's recommendations

Gifted children have had opportunity to observe many teachers in action, to study their teachers, and with their keen minds have described and interpreted their experiences. Ruth Strang reports that about fifty gifted students in grades six through twelve were asked to describe their best teachers. Their comments were summarized under the following general qualifications.

"Teachers of gifted children should be especially well informed about the subjects they teach and about local and world events.

"It is important that these teachers be creative and skillful in presenting information--not dull and boring. They should encourage pupil initiative and responsibility, offer ample opportunity for discussion, problem-solving, and finding answers to questions. Teachers who understand the psychology of learning will be able to give gifted children the guidance they need in the higher skills of critical thinking and appreciation. By helping them to work together in subgroups within a class, teachers provide many gifted children with the social experiences they need.

"Gifted pupils want a teacher to control his class, not let the pupils control him--to maintain order without arrogance. They realize that a chaotic classroom is not conducive to learning.

"The personal relationship between teachers and pupils should be friendly, understanding, helpful. In the framework of such a relationship, teachers can help pupils understand their potentialities and learn to solve

some of their emotional and social as well as intellectual and educational problems. This, of course, is true for all kinds of pupils. But sometimes teachers are unconsciously resentful or jealous of the superior ability of highly gifted pupils. More often, perhaps, they feel that the gifted pupils do not need their personal attention. This is not true. Many gifted pupils speak of the influence which friendly, understanding teachers have had on their lives. Accordingly, teachers should find time to talk with gifted children and help them use school and community resources to the best advantage.

"As persons, teachers should be sensitive to people, kind, fairminded, impartial, good-natured, 'human,' and should have a good sense of humor. They should be aware of the needs of all the children in their classes."

Recommendations from other studies

In a separate survey of large groups of high achieving students from a variety of high schools in two states which French reported, students chose the five most important traits in a list of twenty-six provided. While there was little unanimity in the selections, the most outstanding in order of preference were:

- Knows subject well.
- Encourages students to think.
- Makes the course interesting.
- Can get the point across.
- Makes the students want to learn.
- Keeps the class and course organized.
- Maintains the respect of the students.

Self examination questions listed by DeHaan and Kough include:

Are you interested in "gifted" children?

Are you concerned about their educational plight?

Can you understand their problems and can you get their points of view on things?

Do you like to ask stimulating questions of them to make them think or do you prefer to use the review questions at the end of the chapter?

Is it all right with you if you find children who can sometimes think faster than you or who can sometimes figure out a better way of doing a given job?

They suggest that questions like these might be effective in separating teachers the gifted deserve from the ones no child should have.

Perhaps the best summary of the qualifications of the teacher of the academically talented has been presented by Cutts and Moseley. "The teacher must have the standard attributes of good teachers everywhere.

He must like youngsters of the age he is to teach. He must have great vitality....A sense of humor is a priceless asset. He must be a well-adjusted person, able to accept his own feelings without undue worry and the children's feelings without undue antagonism.

"The teacher of the special class should be eager to teach the class, not as a matter of prestige, but because he believes that ability grouping ...offers the best means of serving the pupils and through them the community. But he must not have false ideas of the superiority of the bright and gifted. Rather he has to like them for the same reason he likes other children. He has to have a mind open to new methods, and he must be willing to experiment and to improvise in order to satisfy individual differences and needs. He must recognize that an individualized program requires more work, if perhaps less strain, than teaching a basal text. He must believe in democratic methods in the classroom, and particularly in pupils' sharing responsibility for planning. He should habitually speak and write excellent English. He should have a broad cultural background. He must be willing to learn with his pupils, but if he is teaching a special subject he must be a specialist in it and have great enthusiasm for it."

What Are the Talented Students' Needs and Interests?

It is now a matter of record that we are living in an age of accelerated change, and that the schools of today have an obligation to help students prepare for living in the world of tomorrow. And many are the prophets who have catalogued these changes.

The constants

Little has been said about those things which are less likely to change. Simpson, writing in the American Vocational Journal, November 1960, reminds us of the "Constants Affecting the Home Economics Program."

- * Our belief in the importance of home and family life.
- * The function of families to prepare children to establish their own homes and families.
- * The material constants--what family members eat and wear and what will shelter them from the elements and provide an outlet for their desires to create and express themselves.
- * The basic human needs for affection, security, independence, new experience, creative expression and a satisfying philosophy of life.
- * The character of the home as a collector and synthesizer of material, cultural, and spiritual goods.
- * The need to live together in human dignity and decency.

What are the implications of these constants, as well as social change, for the home economics teacher working with the academically talented? Let's explore these later when we think about course outlines and learning

experiences, turning our attention now to the manner in which we can determine the needs and interests of this special group.

The community

Being the alert teacher you are, you've probably already studied your community pretty thoroughly. So let's review what you found out in order to plan for that special class for the academically talented.

* Community facilities:

What types of stores and markets are available?

What service facilities, such as laundry, dry cleaning, household service, dairy, transportation, utilities, are available?

What recreation facilities are provided in the community for young people and for families?

What cultural facilities such as libraries and parks are there?

What health, child care, and welfare services are available?

* Community characteristics:

What are the factors in the community which help to stabilize the family and strengthen the community, such as length of residence, home-owned businesses, opportunities for employment, religion, pride in home ownership?

What kinds of responsibilities do students assume in their homes, in the community, in the church, for work outside the home?

At what type of jobs do boys and girls work?

To what extent is home sewing and food production done in the community?

* Characteristics of the economy:

What is the approximate range of income and what is the average income of families in the community? Of families whose children are enrolled in the class?

Which members of the family contribute to the income?

If the mother works, who cares for any children left at home?

What economic problems are the families in the community facing, such as seasonal employment?

* Housing facilities:

Is there adequate housing for families?

Does most of the housing provide for satisfactory sanitary conditions, such as screens, drainage, toilet facilities, running water, protection for foods?

What labor savers such as adequate storage space, modern appliances, both large and small, are widely used?

Is storage space and equipment arranged for efficient use?

* Family characteristics:

What kinds of family patterns, cultures, nationalities, and religions are represented in the community? In the class group?

What seem to be values which the families consider important, such as participation in social and community activities, education, hobbies, recreational and cultural activities?

What are family living practices in relation to the following:

- health practices?
- personal relations?
- educational practices?
- social activities?
- group traditions and customs?
- financial practices?
- working practices?

Concerns of academically talented adolescents

In 1956 Ruth Strang reported in Exceptional Children a study of the spontaneous responses of junior and senior high school students to the topic "How It Feels To Be Growing Up." This study seems to contribute much detail about the way in which the academically talented students perceive the growing-up process and ways in which they are alike or different from their not-so-talented age mates.

In many ways the two groups expressed similarities. Feelings of dissatisfaction with changes in body growth, functioning, and status were mentioned by about one-fourth of each group. While the "gifted," as Miss Strang called them, expressed satisfaction with their growth and status more frequently than the "average" student, this may be attributed to the general superiority of the gifted in physical development and health. The gifted expressed slightly more concern with clothes, make-up, and other details of personal appearance than those of average intelligence.

Certain references to family relations were common to both groups. Both groups mentioned satisfactions and problems in sibling relations. About half of both groups, but a larger percentage of the gifted, expressed satisfaction concerning relations with parents. "This apparently good relation is reinforced by the fact that less than ten percent mentioned problems of mother-father-child relationships, such as parental differences with respect to discipline or differences in their feelings toward the two parents." Despite this good report, one-fifth of the "gifted" group and six percent of the "average" group mentioned conflict or lack of closeness or rapport with parents. "Good relations with parents may be more difficult for the gifted to achieve in the lower socio-economic groups than in the middle or upper classes," reports Miss Strang.

Desire for a particular vocation was mentioned by about one-third of both groups. One-fifth to one-fourth expressed feelings or other indications of indecision about their vocation.

Approximately one-third of both the "average" and the "gifted" gave indications of self-acceptance. Strangely enough, the same proportion of both groups, approximately one-fifth, expressed concern with scholastic success or grades. One-tenth of the total sample expressed dissatisfaction with their school experiences.

An analysis of the responses also highlighted differences. Students of average intelligence mentioned more frequently than the gifted increasing independence and self-direction as an advantage of growing up. Twice as many average as bright students expressed a desire to own or operate a car. Less able students seem much more aware of increasing responsibilities.

In senior high school, the percentage of both groups referring to financial security and money problems was about the same. Very marked was the gifted student's social concern for world peace. Twenty-three percent of the average and thirty-one percent of the gifted made some reference to the enjoyment of reading. The bright students frequently expressed satisfaction in relations with their peers. Some mentioned their desire for greater acceptance with their peers, and almost half were concerned with boy-girl relationships.

Since we, as home economics teachers, are perhaps more concerned with the responses of the girls, which might have been obscured by being lumped into the total responses, let's ponder the differences evident between the responses of eleventh grade boys and girls. Brighter girls expressed the most dissatisfaction with physical development and fitness. Family relations were of more concern to girls than boys. Brighter girls mentioned having problems with brothers and sisters. It was the girls, though few in number, who more often complained of conflict or lack of closeness with parents. Girls mentioned broken homes and concern for the welfare of their families relatively more frequently than did boys. The desire for marriage and children was expressed by thirty-eight percent of the girls of over 100 IQ, as contrasted with eighteen percent of the boys in the same classes.

These girls seemed to be thinking about vocations slightly more than boys. Slightly more gifted girls than boys on the same level of intelligence expressed satisfaction with peer relationships. But the girls more often mentioned a desire for greater acceptance by peers and more concern with boy-girl relationships and in making friends and getting along with people in general. Thirty-seven percent of the brighter boys and girls accepted themselves. However, the girls more frequently mentioned a desire to improve their personality. Forty-one percent of the brighter girls read voluntarily. Both boys and girls in the upper IQ groups complained more about homework than those below average. Twenty-one percent of the girls showed concern with problems of morality and religion.

These, then, form a catalog of the concerns of our adolescent students. Terman was able to report from a later life-cycle period. In his most recently published follow-up study of the "gifted," he says that:

"The criterion of success used in this study reflects both the present-day social ideology and an avowed bias in favor of achievement that calls for the use of intelligence. It is concerned with vocational accomplishment rather than with the attainment of personal happiness...

"There are other criteria of success and other goals and satisfactions in life, however, and...the gifted men and women have expressed their own opinions on what constitutes life success.... The five most frequently given fall into five categories.

- * Realization of goals, vocational satisfaction, a sense of achievement
- * A happy marriage and home life, bringing up a family satisfactorily
- * Adequate income for comfortable living (but this was mentioned by only 20 percent of women)
- * Contributing to knowledge or welfare of mankind; helping others, leaving the world a better place
- * Peace of mind, well-adjusted personality, adaptability, emotional maturity"

What must be our aims?

As stated in Administration: Procedures and School Practices for the Academically Talented Student in the Secondary School, published in 1960 by the NEA and the National Association of Secondary-School Principals, objectives for the consideration of anyone working with the bright have been developed.

"It is a frequently repeated truism that gifted children are children first and gifted second. In other words, whatever is appropriate for children in general will to a great degree be appropriate for the gifted.

It is not necessary, therefore, to belabor the point that gifted children need to acquire those skills and understandings which form a basic part of the over-all educational program in America.

"...there is a second element in their definition. What must be done because of their giftedness? This question demands an answer before a concrete program can be undertaken.

"As is true for every child, then, the educational program must strive to meet the needs created by his own individual capacities and limitations. Because of the general abilities of most gifted children, ...certain basic aims must be kept constantly in sight. While by no means an exhaustive list, the following items represent goals toward which the efforts of educators could well be directed in approaching the complex problem of educating gifted children."

- * Foster the integration of knowledge, regardless of special interests of either the student or the teacher.
- * Develop the student's own broad cultural background.
- * Recognize the earmarks of intelligence and understand their implications for learning and teaching.
- * Realize that the intellectual qualities of giftedness render superfluous much of the traditional pattern of classroom instruction, and thus imply special methods such as problem-centered teaching and pupil-teacher planning.
- * Recognize the basic uniquenesses of the talented, understanding those who have been identified as talented.
- * Realize particularly the guidance needs of the talented.
- * Gain skill in providing a wide variety of learning activities, especially those which will bring about higher, broader, and deeper levels of experience.
- * Teach with the enthusiasm which transmits a love for learning.
- * Learn to guide, when to direct, when to "get out of the way."
- * Help students reach a self-satisfying degree of achievement commensurate with their ability.
- * Provide for young minds a new freedom of ideas and explorations.
- * Develop intrinsic rather than extrinsic motivation.

"These goals for the educator must be kept in mind in order to guarantee the education needed by the gifted members of our society. They should be supplemented, however, by student-related goals. Gifted students

must, through the enlightened programming and teaching which are the essence of special provisions for the gifted, be helped to achieve the following broad objectives.

- * Become intellectually curious, searching for meanings and seeking to find new relationships rather than old facts.
- * Improve the ability to do independent study and carry on research with attention to basic work habits, study skills, and methodology.
- * Learn to apply a wide range of knowledge and principles to the solution of many life problems.
- * Gain skill in self-evaluation.
- * Develop skills in critical thinking, gain a passion for truth, become open-minded with a sense of suspended judgment.
- * Realize the responsibilities as well as the power of knowledge.
- * Develop leadership ability including personal poise, respect for the worth of others, skill in group dynamics and person-to-person relationships.
- * Extend any tendency toward creativeness of various types.
- * Sense the implications of change.
- * Perfect skills in communication.
- * Develop the breadth of vision to see the possibilities of the future, the realities of the present, and the heritage of the past; to see in all this the continuing stream of man's ideas and questions and concerns."

Using an opinionnaire

The research reported here, plus our own community studies and background information about these students, have given us a broad look at the needs of academically talented adolescents. Now we need to tailor-make a program for those in our own school. Capitalizing on one of the implications of our findings, let's provide some opportunity for our potential students to help in the planning of the topics for the projected course.

The following questionnaire, developed by Mary Holmes and Lila Jean Eichelberger, Champaign, Illinois, was sent to 56 girls with a grade average of high C and above to the mothers of these girls. This instrument was also used with a sample of home economics teachers in the state and with students in Champaign who were just completing the one-semester course in Family Living.

	<u>Given Emphasis</u>	<u>Taught to Some Extent</u>	<u>Should Be Omitted</u>
12. Understanding older members of the family	_____	_____	_____
13. Caring for the sick in the home	_____	_____	_____
14. Understanding how the family is changing	_____	_____	_____
15. Developing a workable set of values for the individual and the family	_____	_____	_____
16. Understanding the responsibilities of each member of the family	_____	_____	_____
17. Understanding the homemaker's responsibilities as a citizen	_____	_____	_____
18. Understanding the responsibilities of each member to the community	_____	_____	_____
19. Planning interesting meals	_____	_____	_____
20. Planning entertainment in the home	_____	_____	_____

List below any other areas which you feel girls in this course should study.

Thirty-nine mothers returned the opinionnaire. Their comments, as well as their tabulated responses, were encouraging and enlightening.

"Many years ago I took such a course as you are planning. It was both interesting and valuable."

"With the view that the majority of the girls with a 3.75 in the junior and senior years are college material, it would seem to me that courses should be aimed at helping them to solve their immediate problems; i.e., their relationships with adults and the establishment of values and responsibility."

"We usually generalize about this age group and say that very soon the girls will be in one of three fields--homemaking, career-making, or college. More and more of the girls in this age group are combining two, sometimes three, of these fields. A girl may have help in certain areas of homemaking, but it is almost certain she

will have no help in caring for and repairing clothing; that is, her husband may help her dry the dishes or shop for a household appliance or 'baby-sit,' but will he change the hem-line of a garment or mend a shirt? Money management is extremely important. Such dull subjects as insurance and taxes ought to have consideration..."

"It seems to me that many girls in this age group are interested in their personal problems almost to the exclusion of the problems of any other age group. Letting them know where to find help in later life when confronted with special problems may be of great value."

From a tabulation of the answers, the teachers selected the following as units to be presented in the one-semester course:

Understanding the homemaker's responsibilities as a citizen, developing a workable set of values for the individual and the family.

Using money in today's world

Planning and selecting food for health; planning interesting meals.

Purchasing ready-made clothing intelligently; caring for and repairing clothing.

Using time, money, energy, and equipment efficiently.

Caring for babies and mothers; caring for and guiding young children.

Students in Family Living classes, who had completed a unit on the selection and care of household appliances and furnishings, checked this as a number one need, but prospective college-bound enrollees and their mothers did not recognize this as a need.

This same opinionnaire was given to fourth-year homemaking major seniors and to special problems seniors and their mothers in a neighboring town. Almost 100 percent of these students and mothers felt that the following topics should be given emphasis: planning and selecting food for good health, caring for babies and mothers, caring for and guiding young children. The topics which should be taught to some extent included: buying common goods economically, purchasing ready-made clothing intelligently and caring for and repairing clothing, using and caring for modern equipment efficiently, and understanding how the family is changing. Topics which should be omitted were: understanding older members of the family, understanding the homemaker's responsibilities as a citizen, and understanding the responsibilities of each member to the community. In keeping with tradition, the students added: clothing construction, marriage preparation, and food preservation with emphasis on freezing!

What Home Economics Courses Should Be Offered
For The Academically Talented?

Home economics courses designed for the academically talented vary in length. Some are offered for one semester, some for the entire year. A few schools are introducing summer school courses in home economics. In one Illinois school, the survey course may be taken without a laboratory period, one-half credit being earned, or with additional periods on alternate days for laboratory work, one full credit being earned. In the survey, no schools were found to have such courses scheduled for longer than 60 minutes. In another state, however, a program designed for as little as 40-minute periods was found. In all schools replying to the survey, classes were scheduled daily.

As you plan your program for your academically talented, keep in mind that it should be more than a "beefed-up" course. In a speech before the 1960 American Vocational Association convention, Mrs. Hardy said: "We must realize that parents may resent the schools teaching those subjects which society feels good parents should teach at home. Parents may feel now that because they do not teach these things at home that they will be regarded as poor parents. Many people now think of school and want what they remember best in their youth--the so-called 'solids.' We should ask ourselves, 'Do our programs hold standards or are they a relief from the tough courses?' Remember that children can enjoy themselves out of school....We can only justify our program if it is thorough, if it teaches the necessary skills, promotes competency, high standards and excellence. If none of these are achieved, then parents have a right to say, 'This is a goof-off course.'"

Each unit needs to be carefully grounded on available research, on the thinking of authorities, on scientific principles, and on experimentation, as well as on the thoughtful and creative contributions of your students. Each phase of the unit should be concluded by a summary of the generalizations developed and the development of a guide to the application of these generalizations.

In reviewing research, Fliegler and Bish found that four types of techniques seemed to be successful with the academically talented: individual studies and research activities, problem solving for purposes of developing critical thinking, discussion and group activities, and projects. Other authors have suggested that the academically talented have special needs for learning to cooperate in planning and carrying out plans, for training in self-evaluation, for experimentation, and for contacts with outstanding individuals. Most of the authorities in the field seem to agree that the development of creativity is the crux of educating the academically talented. (For 43 pages of the latest thinking on "Developing Creativity Through Home Economics Teaching" study the Illinois Teacher, Vol. IV, No. 4.)

According to Broadcorens, reporting in The Advisor, Spring, 1961, on her recent study of attitudes held toward home economics by college-preparatory girls in the sophomore year of high school in three dissimilar

Massachusetts communities, "The teaching of homemaking at the high school level needs to be as realistic as possible, especially if we are to meet the interests and needs of the college-bound girl. We must not fear a change from the traditional....As the American family has changed, so must our teaching change....Today the home is a place where goods and services purchased on the market are consumed. In realistic home economics courses now, our major responsibility is teaching students how to analyze and make wise decisions. We must give the students knowledge in order that they may distinguish between accurate information about a product and the emotional appeal and general claims of advertising. And since American life is changing so rapidly, we cannot teach isolated facts; we must teach basic principles which may be applied to a variety of situations. This means that provisions must be made in the curriculum to give students experience in the various aspects of problem solving.

"In the final analysis, it is the individual homemaking teacher who must plan for and challenge her students in terms of her own experience, the backgrounds of her pupils, and the community. She must make a constant effort to keep the course content up to date in regard to research, public affairs, the students' needs, and methods of teaching, and to convey to the college-preparatory student her enthusiasm and respect for home economics as an intellectually challenging subject."

Speaking to a group of Home Economics teachers at the 1960 American Vocational Association convention, Canon reported that researchers have discovered some interesting information about teen-agers.

"Teen-agers are very much concerned about their bodily development, family relationships, boy-girl relationships, school progress, social development, future careers, philosophy of life and religion, and how to prepare for marriage.

"They are confident in their ability to raise children, yet have little real knowledge in the matter.

"They have little concern for the larger problems of the world.

"They are very conservative in beliefs, following very largely the thinking of their families, but conforming very largely to the actions of the group.

"They are marrying much earlier than in former years."

"These facts, as well as many others, concerning the teen-ager can be basic guideposts in the consideration of curriculum, methods and techniques in Home Economics Education classes....For example, one would know from these facts that young people may need little motivation to study education for marriage, but have to be motivated to learn certain important guidance principles in child study.

"...Homemaking is the only field in high school which teaches child development. We should make full use of this tremendous opportunity...

"From facts concerning the adolescent it would also be evident that young people need encouragement in working out a set of values which can be their own and from which they can act independently and responsibly yet cooperatively in an atmosphere of freedom..."

Much of what one hears and reads today points up the fact that these academically talented young women need to be challenged. They need to be helped to recognize that in their roles as homemakers--though they are out of the competitive world of business or education--more lives, minds, and spirits are solely dependent on each one now than would ever have been true in the world at large. They need to grasp a clear understanding of their vital influence in the ever-widening circles of baby, home, school, community, nation and world.

Grumbach, in Commonweal, April 28, 1961, continues: "For years a mother has the terrible responsibility of almost the entire education of each human being she bears. If what psychology tells us is so, this is a far more complicated and more demanding activity than editing a magazine, selling a dress, meeting a business executive, doing research for an advertising agency or even writing a book or painting a picture. If the educated woman saw her role clearly, if education courses and child psychology courses and human relations courses, and even history and literature courses on the motives and minds behind human events, pointed out more clearly the pivotal importance of this early maternal instruction, her acceptance of the role would be easier. It is status and recognition she is missing; where, she should be made to ask, in the realm of human endeavor can she be more assured of lasting status than in the expanding mind of a young child. Where can she be guaranteed recognition more surely than in his enlightened eyes?"

"There is no waste in the process of educating women....The woman who retires from the business or college world brings her training and her knowledge into a new sphere, applies her techniques for knowing or learning to know in an organized fashion to new skills. The honest woman, truly educated to her historical role, will not feel 'too good' for it, but instead not good enough. She will need to read more widely and more acutely to understand her children and to help them, to bring sharpened powers of observation to bear upon the growth and development of young minds, to fill her free time (which grows with her children) more fruitfully and satisfyingly...."

"It is not only for her husband and her children that she is educated; it is as much for herself. With learning and understanding the educated woman will be far less bored with family life than the uneducated woman. If her mind has been well furnished during her years of education with multitudinous outlets for aesthetic and intellectual delight...she will be grateful for this interior decoration during the long stretches of routine that might otherwise overcome her..."

A course for the academically talented

From a study of many home economics courses for the academically talented in Illinois high schools and in high schools in other states, a composite has been designed to serve as a sort of "guide sheet" when you

are planning the course to be offered in your school. The materials are arranged so that one semester's work is designed as preparation for marriage and parenthood, and the other semester's work is largely concerned with managing family resources. The materials suggested under each unit will need to be evaluated for each school and for the classes to be taught. The suggestions are precisely that--suggestions--and should in no way be considered complete or an "ideal type" and a straight jacket.

Marriage and the Family

Unit 1. Personal Development

Understanding Human Relations

- * One way of creating interest in improving self-understanding might be to have the class members contribute their ideas of the meaning of the word "personality." This could be followed by an investigation to discover the definitions authorities give to "personality." Then the class would probably synthesize their own definition.
- * A bulletin board or flip chart might be prepared, using cartoons to illustrate different kinds of personalities. The class might then identify the personality types, going eventually to references to enrich their background with the thinking of authorities. (In order to make the cartoons large enough for effective classroom use, they may be projected with the opaque projector onto a large background, such as posterboard or newsprint, and traced.)
- * Since family backgrounds are influential in determining "why we behave as we do," a bulletin board might dramatize the variety of cultural backgrounds usually found in every classroom. On a map of the world, one home economics teacher had students place pennants, on which their names were lettered, representing the birthplaces of their parents, their grandparents, and their own birthplaces. The class then explored the ways in which these different cultures might have influenced family patterns and personalities of family members.
- * The role values play in "why we behave as we do" cannot be overlooked. Material to help the creative home economics teacher expand this important part of her unit is to be found in "Studying Values Through Home Economics," Vol. III, No. 7, and in "Developing Understanding about Values Through Films," Vol. IV, No. 5, of the Illinois Teacher.

Improving our personalities

- * Students may study great personalities in history. (Women in home economics might be included.) They might try to determine the personality characteristics which seemed to contribute to the success of these individuals and try to discover how these individuals worked for self-improvement.

- * Working with a counselor or psychologist, as well as the home economics teacher, students may develop plans for improving mental health. Each student may set a goal or goals. Progress may be recorded in the form of a personal log. Some of the questions which might be included are as follows:

My goal for personal improvement is:

These are the books, articles, etc., I have read this week to contribute to my thinking about my goal:

These are some of the things I heard or read which I liked, agreed with, thought reasonable:

These are some of the things I heard or read with which I disagree:

These are some of the things I did which contributed toward personal improvement:

These are things which I plan to do next week:

Individual students and the teacher will meet to evaluate the points disclosed by the log. The teacher will be competent to help with some problems; with others, the counselor may need to assume the responsibility of helping the student evaluate her growth.

Ways of increasing expression of appreciation and understanding of our families

Although students and parents in the Champaign survey rated this of little importance, many home economics teachers will feel this aspect of personal development worthy of time and effort.

- * Develop with students an understanding of how family life is changing. This might be done through discussion of excerpts from books or short stories which illustrate family life as it appears today, contrasted with excerpts which illustrate family life in the past and with excerpts which illustrate family life in science fiction. These images could be compared with facts from such reports as census reports, and with predictions made by authorities. Students might identify some of the apparent constants in family life, and develop ideas for coping with change.
- * Through a role-playing situation, students might become more sensitive to ways in which happiness at home is closely associated with happiness in other phases of life.
- * Students might--from experience, observation, and reading--investigate family practices or rituals that have strengthened family ties. In communities fortunate enough to include talented

individuals from other cultures, these individuals might serve as resource people, illustrating and explaining some of the family customs in their culture which strengthen family ties.

- * A study of the developmental tasks of family members in the different age groups might increase students' understanding of the responses of family members to daily activities. Some of these might be presented as what Mildred Weigley Wood dubbed "minute dramas":

12-year-old Johnnie: Look, Mom, at the swell rock I found for my collection.

Mother: After you have classified it, Johnnie, we could display it on the bookshelf in the recreation room for a while.

After some understanding of the developmental needs of family members has been gained, students might develop a guide for ways in which youth might help family members achieve their developmental tasks.

- * For more depth in the discussion, a third person might play the role of the "Alter Ego," expressing what one of the characters is really thinking but not saying. Arnold and Gleason in the May, 1959, Marriage and Family Living, suggest and illustrate how students may learn much, also, from writing such minute dramas illustrating situations which appear in family living.

Planning for living away from home for the first time

- * Invite successful career girls, college students, and others, to discuss this problem with class members. If it is not convenient for these individuals to come to school, they could be interviewed by class members, who in turn would report to the class. Class members could then develop a "Guide to Successful Living."
- * A respected community figure, such as a minister, might be invited to talk to students about individuals he has known who have made satisfactory adjustments away from home, and to share his beliefs about the keys to such successful living.

Unit 2. Planning for Marriage

Personal values in relation to marriage and family living

- * From research students might develop a list of the reasons for desiring marriage.
- * In considering the questions, "Should everyone marry?" and "Can individuals be happy without marriage?" students might study the case histories of such people as Jane Adams to see how people develop special interests which take the place of home responsibilities.

- * Students might interview married couples to learn personal characteristics considered desirable in a mate, as well as discovering through reading what authorities believe to be desirable characteristics. A checklist of the characteristics to be considered in selecting a life-mate might be developed from this activity.
- * A symposium might present papers on problems which couples have which arise from differences due to religion, education, age, social status, cultural backgrounds. The symposium might be adults invited to speak to the class, or the members of the symposium might be students who have done research and prepared papers on the topics. (Remember that a "panel" is a conversation where panel members exchange ideas or opinions on a topic; a symposium consists of the presentation of prepared papers reflecting the authors opinions.)

Being Mr. and Mrs.

- * Interview happily married couples on such topics as:
 - What things did you talk over before marriage?
 - What things do you wish you had talked over?
 - Did your viewpoint concerning married life change after you were married?
- * Girls might discuss the picture of homemaking and the roles of family members as portrayed in ads in popular magazines, comic strips, and in TV programs. Do these portray family life realistically? Do they give a fair picture of American family life? Are mothers and fathers really as depicted in these dramatizations? How are democratic family practices portrayed? Discuss the influence these have on attitudes toward marriage.
- * To be sure that students were thinking realistically about the problems of meeting the day-to-day routines of homemaking, one teacher was able to arrange for each member of her class to be completely responsible for one day for homes in which there were small children. In class, the girls were able from their real-life experiences to draw a more realistic picture of some of the problems to be encountered in adjusting to homemaking routines.
- * Opportunities like the one described above may not be readily available to classes, so the group may need to develop their concepts about the reality of homemaking through literature. For instance, the series in Redbook, beginning in September, 1960, with the article "Why Young Mothers Feel Trapped," followed by "Young Mother" stories, affords a wealth of material for developing a realistic picture of homemaking, together with the solutions some families have worked out.

- * Use a minute-drama or role-playing situation involving a married couple who differ over eating meals out one night a week. The wife feels that they should; the husband objects on the basis of expense. Play three ways of meeting the situation: an argument, a quarrel, a conference. Students could then be helped to distinguish between a discussion, a disagreement, an argument, and a quarrel.

How might arguing serve a good purpose?

How do couples resolve the differences that cause arguments?

Was the quarrel due to real differences in viewpoint on an important matter, tiredness, misunderstanding, irritation over something other than the quarrel, or other reasons?

In evaluating the conference, answer such questions as:

Did either show heated emotion?

Did you feel that one imposed his will on the other?

Was the outcome of the conference acceptable to both?

- * Students will want to learn how to use the problem-solving approach in solving marriage problems. Blood, Anticipating Your Marriage (Free Press), has an excellent chapter on this. This book, if acceptable to your community and your administration, would be a good text. If it cannot be used as a text, the teacher will probably want to use it as a teacher reference.
- * The home economics teacher might present an illustration like the following to the class. Then the class, in groups or singly, might develop other illustrations of the problem-solving approach, preferably from their own experiences. As the school year progresses, the teacher will need to review the steps in the process at intervals and help students see how they do and can use these steps for solving their own problems.

The Problem-Solving Approach

"How to Balance a Budget"

Dick and Jane are a young married couple. Dick, who has been teaching for two years, has received a fellowship which, while good, is not so large as his income from teaching. Dick is working for his advanced degree and Jane is enrolled in undergraduate work. They have been back in school for a little over three months, and Jane is concerned about the post-Christmas bills, etc.

Steps

Illustration

1. Recognizing that a problem exists.

Since both spouses and problem areas may be

StepsIllustration

sensitive, it may be advisable to use a round-about approach rather than a more objective approach which might be reacted to as a personal attack. The leading phrase is:

2. Defining the problem.

The main task in defining the problem is not in finding the culprit but to find the conditions which are causing the tension.

3. Proposing solutions

Marriage problems often involve tension between the partners, which usually means that there are "two sides to the question"-- and at least two alternative answers. Solution-listing, where evaluation (including moans and titters) is postponed, requires the participation of both spouses as well as hard thinking and open-mindedness if creative proposals are to emerge. The couple may need to try to find out what others have tried. It is likely that reduced expectations may provide some relief from the problem.

4. Evaluating the proposals

Evaluating the entire list of proposals before making a decision is vital to good relations between the partners. The first phase is a Pro-Con Listing. The purpose is to get all information and feelings out before reacting to the data.

"Dear, I have a problem."

Not, "You make too many long-distance calls."

But, "We don't have enough money to make ends meet."

During the solution-listing session, the couple made the following suggestions:

(a) Jane could quit school and go to work as a waitress.

(b) Dick could get a part-time job.

(c) They could both get part-time jobs.

(d) Jane has heard Sally say that she and Jim are buying less expensive but good-looking clothes than they were accustomed to buying.

Dick could get a part-time job.

ProCon

The added income would help pay the bills.

Dick would have less time for studying.

etc.

etc.

StepsIllustration

The second phase is research and experimentation. It is usually profitable to do more than thinking; reading on the subject, talking to others who have found the same problem, and consulting with experts may all be fruitful.

A study on the spending habits of students has been made at the university. Dick and Jane get a copy of the report of this research, looking for information which will help them evaluate their list of possible solutions.

Phase three consists of assessing the consequences. The pros and cons which both partners agree are unimportant can be crossed off. Some may be groundless fears and others may be unrealistic.

Dick and Jane cross off the possibilities of either or both of them going to work.

It is hoped that at the end of this evaluation process the partners will have come to agreement on the best answer to their problems (consensus), rather than that one will give up out of deference to the other or from weariness.

5. Making a decision.

A decision is made to reduce their expectations about clothing, use of the car, phone, recreation, etc.

If consensus does not result from evaluating the alternatives, the couple must choose. Putting off the decision may increase tension and reduce individual efficiency.

6. Carrying out the decision.

Dick and Jane decided to borrow books and records from the library and drop their membership in the book and record clubs to which they belonged. Each partner had \$1. each week for "frustration" money. Jane spent hers the first week on three carnations, because she was so frustrated about not

Further discussion may be necessary to reach the answers to such questions as:

- (a) What steps need to be taken?
- (b) Which of us shall do it?

<u>Steps</u>	<u>Illustration</u>
(c) When shall we get started?	having fresh flowers in the apartment. The next week she made an arrangement using vegetables which she had purchased for meal preparation.
(d) How shall we go about it?	
It takes time to learn new tasks. The trying-out phase requires patience and tolerance. Sometimes a plan of action can include a safety valve in the form of alternatives to be used in emergencies.	
7. Reviewing the decision in operation.	About two months later, Dick and Jane spent some time reviewing their budget. They found, indeed, that things were better. They decided that with Easter vacation so near, instead of buying Jane's folks an expensive anniversary present, they would do some of the redecorating which her parents wanted but were not strong enough to do themselves.
A solution may have unanticipated consequences, or changed circumstances may decrease the adequacy of the solution. Instead of leaving the review process up to "vague awareness," a specific review provides a check on the solution and may suggest possible improvements.	

The family life cycle

- * List the phases in the family life cycle. Student committees might explore the advantages and responsibilities of the different phases and report on these to the class.
- * The class might also discuss what Duvall has called the seasonal variations in family life, the weekly rhythms, and the daily tempos.

Houses divided

- * Students might list the reasons for which homes are broken temporarily (one mate is hospitalized, husband away in the armed forces, wife caring for sick relatives), and permanently (death, separation, divorce). They might then consider the problems families in "divided houses" face, and some ways of coping with these problems, particularly ways of avoiding divorce.
- * Students might visit a divorce court, noting particularly the causes given for seeking the divorce, the effect of the divorce upon the children, if they are present, who is given custody of the children, and what financial settlement is made.

Multiple roles for women

While it would probably not be practical to delve into this topic with the depth found in the course called "Woman in Contemporary Culture" offered at the University of Kansas, the class might select from the following headings around which the course is organized. As reported in the April, 1961, issue of the Journal of Home Economics, the headings are: "a capsule view of woman in American life today (including her place in family and society); women in other times and places; status, roles, and self-realization of women (preparation, achievement, and political rights); women and the work-home orbit (and women in political and public life); woman's education in relation to her life; the older woman; and summarizing references on related trends."

* Students might search out some of the facts about the lives of modern women, such as the fact that they are about 32 when their youngest children start to school and at that time modern women can look forward to 40 adult years more of life, etc. The class might draw implications about the possible roles of women in the light of these facts.

* One reference which might be useful in such a study is: Lee, Ann, "Homemaker, Teacher, Citizen: a triple role for the Homemaking Teacher," DHE Topics 14. Department of Home Economics, NEA, 1201 Sixteenth Street N.W., Washington 6, D.C. From this bulletin you can secure the names of references which can be used to supply the "statistics" for such a study as this.

* Especially good and worth taking the trouble to look up are:

Vincent, Clark E., "Role Clarification for the Contemporary College-educated Woman," Journal of Home Economics, October 1953, p. 567 ff.

Von Tungelin, Annie Laurie, "How to be Human though Single," Today's Health, January, 1955, p. 22 ff.

Community services available to the family

Since college-bound girls represent the potential leaders of the future, the home economics course must accept as a goal the development of a social conscience in relation to the welfare of all women and children. College courses might be expected to broaden and deepen this appreciation and attitude, but the foundation should be laid earlier.

Gentry found, in her study of ways in which education might be valued, that college home economics majors valued the "broadening-cultural-intellectual interests" the least of any major. Liberal Arts and Science students valued these interests highest, and majors in the School of Fine Arts and Music ranked second high. Since home economics professionals appear to be strongly "personal-practical-professional" oriented, the home economics teacher may need to be quite sure that she does not overlook the need students have for "broadening-cultural-intellectual interests."

- * Students might compile a list of public and private agencies which render assistance to families facing problems, describing the kind of assistance each renders. In some communities it might be appropriate to distribute this list to families in the community through the local newspaper, the PTA, or in some other manner. These might include such services as:

Maintenance of law and order, safety, fire protection
 Maintenance of health services such as inspection of public eating places, garbage collection, mental and physical health facilities.

Schools

Organized programs of recreation

Help for families in times of crisis through such agencies as the Red Cross, Family Welfare Society, Bureau of Public Welfare, visiting nurse care, visiting house-keeper service, day nurseries, traveler's aid, marriage counseling services

Services provided by religious groups

Services provided by commercial enterprises, such as diaper service, mobile clinics for minor home repairs, etc.

Keeping posted

It is quite likely that academically talented students will have little difficulty with college level references and periodicals. Forecast, May 1960, carried an article "Suggested Resources in Child Development," and in the same publication, January 1961, is the companion article "Suggested Resources for Teaching Marriage and Family Relations." These list standard textbooks for teaching college courses in the area, suggested visual aids, fiction and drama which might be useful, and articles, pamphlets, periodicals and services.

Since we have been told that academically talented students can cover in six weeks the material it takes other students a semester to cover, you may wonder how to gauge the amount of reading one might expect these students to do. One teacher of the academically talented reports these students read with comprehension college level materials at the rate of a little under two minutes to a page.

- * In order to orient the class to methodology used in exploring the field of marriage and family living, the class might read and review together early in the course "Some Recent Trends in Social Science Research Relevant to Parent Education," by LeShan and LeShan, published in Marriage and Family Living, February, 1961.

- * The class might prepare a list of periodicals which members might form the habit of reading in order to keep up-to-date in the field. Besides Marriage and Family Living, Exceptional Children has been recommended as a readable, but none-the-less authoritative, periodical.

Unit 3. Planning for Parenthood

"Today's teen-agers are getting married and becoming parents in larger numbers and at younger ages than have previous generations," reports Duvall in Marriage and Family Living, August, 1960. Yet, "Two recent surveys conclude that the majority of high school and college students today are not well informed about what is considered good child rearing practice. They want children (87 per cent want two, three, or four), but they are confused about parental roles, and the expectations they have of children and of themselves as parents tend to be unrealistic.

"...to take...examples of the discrepancy between competent opinion and student answers: ...It is well established that babies need tender, loving care and attention in order to develop confidence in their world and trust in human beings....Yet 74 per cent of today's teen-agers say that 'attention spoils babies,' and a full 77 per cent say that 'crying is good for babies.' ...It is hopeful that girls, who more than boys have had some family living emphasis in their home economics courses, score significantly better than boys in both surveys..."

Spurred by such evidence, the home economics teacher will plan carefully for motivating her academically talented students to want to be well informed about child rearing. She, herself, will be well-informed about the principles from both natural sciences and behavioral sciences which are fundamental in child rearing. She will think through carefully approaches for helping her students discover and apply these principles.

Preparing for the new baby

Louise Lemmon, at the American Vocational Association convention in 1960, identified the natural science principles in family relationships and child development. Genetic principles and physiological principles are involved in the study of heredity and uterine environment. Through the different stages of development from infancy through senility physiological and endocrinological principles are applicable.

The following list of facts and principles emerged as being basic in teaching genetics:

- "1. When reproducing cells divide each new cell takes on just half the number of chromosomes found in the parent cell. This is the sexual process, meiosis.
2. During reproduction the new human cell receives 23 chromosomes from the sperm cell and 23 chromosomes from the egg cell--46 in all and it is from the genes on the chromosomes that characters develop in the offspring.
3. Sex development at conception is governed by a balance between the maleness and femaleness genes, which are carried not only in the x chromosomes, but in many of the other chromosomes.
4. Immediately after fertilization the process of regeneration or mitosis starts.

5. The uniqueness of human beings is maintained by the process, "crossing over" plus recombination and mutation during the process of meiosis.
6. Genes do not "blend," but maintain their integrity, generation after generation and may express themselves as such entities whatever the form of mating.
7. Many and possibly all genes can change in several or in many different ways. These changes give rise to several alternative states or variants of the gene called multiple alleles.
8. The sex genes determine some specific characters other than sex.
9. A human being may inherit a character that is an abrupt departure from standard. This is caused by a change within a chromosome and is called mutation.
10. Every character is represented by two genes, one derived from each parent (except for sex linked genes). When these genes are different one may dominate over or cover up the other. This is the law of dominance and recessivity.
11. When one of the genes is dominant and the other recessive all the offspring of the first generation will be hybrids and will have characters of the dominant type.
12. When hybrids are mated with each other, the recessive character separates or segregates out again in some of the offsprings.
13. The human embryo is capable of being affected by environment and the fetus continues to be sensitive.
14. Because what we inherit is a range of reaction, the human child and adult continues to be sensitive to and affected by the environment.

Scheinfeld, The New You and Heredity, Lippincott, 1950, might be a reference which could be used in exploring this topic.

- * The school nurse or other professional person might explain pre-natal development to the students.
- * The school biology department may have models or specimen which could be used in explaining pre-natal development.
- * One homemaking teacher administers a pre-test called "What Does Heredity Mean to You?" in order to introduce the topic of heredity, emphasizing genetic principles. The results of this

pre-test indicate that there is little transfer from biology and general science courses to the child development unit. However, this might prove untrue of a group of academically talented-- in which case this topic need not be included in the unit.

- * The effects of pre-natal environment upon child development would include ways the diet of the mother during pregnancy affects her health and the health of the baby. Other environmental influences include the emotional well-being of the pregnant woman, the amount and kind of exercise she gets, etc. Working in committees, students could prepare reports on each of the selected topics.
- * Students would need to explore the costs connected with bearing children--medical and hospital expenses, the layette, etc.
- * After examining different types of infants' garments, students might prepare a check list to be used in selecting items for the layette.

Caring for the infant

As opposed to the new book by Fleming and Benson, Home Nursing Handbook, Heath, 1961, which is designed for younger students, Riehl's Family Nursing and Child Care, Bennett, 1961, is a reference book for the older adolescent.

- * A resource person, such as a young parent or nurse may demonstrate caring for the infant.
- * Many home economics departments have a baby doll so the students may practice infant care. Several home economics teachers have reported success in involving faculty fathers, such as the coach, in giving demonstration on infant care.

Community services

- * Review the list of public and private agencies which offer services to families for those which might be particularly helpful to parents of new babies--agencies offering classes for expectant parents, the visiting nurse service, etc.
- * Students may investigate commercial services available to parents of new babies, such as diaper service and housekeeping services. They can determine cost of services offered and consider the value of these services to a family. Case situations may be used as a basis for discussing the value of such commercial services to the family.

The child as an individual

- * Plan, carry out and evaluate play-group experiences with pre-school age children. The play group will need to meet over

excitement in living. Those who contemplate the beauty of the earth find reserves of strength that will endure as long as life lasts. There is symbolic as well as actual beauty in the migration of the birds, the ebb and flow of the tides, the folded bud ready for spring. There is something infinitely healing in the repeated refrains of nature--the assurance that dawn comes after night, and spring after winter."

* These students perhaps need to learn where to look for help in solving problems in child rearing beyond the pre-school age. They might develop lists of agencies interested in child development which might be expected to be a source of help over a period of years. This list should include descriptions of major activities of each agency.

* In order to develop an understanding of the continuing need for companionship between parents and youth, some of Jesse Stuart's thoughts in the November, 1959, National Parent-Teacher, might be used as a springboard for discussion.

"When my daughter wanted nothing more than to take a walk on a winter night with me, then I was going. What could be better than taking a walk together? The very idea meant a better understanding of each other. Now at the age of fifteen Jane needed her mother and me as much as she had ever needed us before."

"Daddy, I've been thinking we might go to Old Op's cabin and get him to raise the knocking spirits,' Jane said..."

"The knocking spirits had been in these hills as long as people had lived here. But in an era when jet planes thundered overhead and satellites were orbiting the earth, the last of our folklore might be on its way out of a world of new thought, a strange new civilization emerging from the fertility of the old. I wanted my daughter to have and hold onto some of her hill heritage."

"We'll need light here,' I said. 'We'll run into greenbriers.'

"How do you know, Daddy?' she asked me.

"Whenever one finds white oaks, he'll find greenbriers,' I said. 'Trees are like people. They too have their associates. White oaks associate with greenbriers.'"

"Daddy, I've often thought about animals like 'possums and flying squirrels that can see better at night,' Jane said. 'And rabbits, foxes, and groundhogs. They can see in the daytime as well as at night.'

"Jane was getting experiences she hadn't read in books. She was finding interests she hadn't found at school."

- * Duff, in her books Bequest of Wings and Longer Flight, the Viking Press, which you may be able to get from your library, shares her experiences about her family's pleasures with books, how they have grown together in sharing this fun, and how she and her husband have found the way to being better parents through the use of books.
- * Dorothy Keenan, "Enriching Homemaking Education Thru the Arts and Humanities," DHE Topics 13, Department of Home Economics, (NEA) 1201 Sixteenth Street, N.W., Washington, D.C., explores further our concern with the quality of living which goes on within a family, offering suggestions for class experiences to help in our search for values on which to base the good life.

Unit 4. Vocational Opportunities in the Areas of Family Relationships and Child Development

Dr. Havighurst, in Developmental Tasks and Education, says:

"...there is often much more hesitation among normally well-adjusted girls to assume the usual feminine expectations of becoming a wife and mother. This is especially true of girls in the upper middle class, where it is expected that the girls will go to college and prepare for a career outside the home."

He feels the school can help girls to think through the problem of accepting a feminine sex role by providing opportunity for girls to discuss the problem, and recommends that women who have been outstandingly successful in the feminine role of wife and mother and women who have been successful in other accepted feminine roles be available to lead such discussions.

- * Lee, "Homemaker, Teacher, Citizen: a triple role for the home-making teacher," cited earlier in this article, might be useful in understanding the responsibilities and advantages of teaching home economics.
- * Students might investigate professions in the areas of family relationships and child development which are open to women. They could compute the estimated cost of preparing for each profession. Students might prepare charts showing the responsibilities, advantages and disadvantages of the different professions. These might be useful beyond the classroom--through the counselor's office or the PTA. Some of these professions include teachers of pre-school, kindergarten, elementary school, junior and senior high school, family life classes for adults, college; working with children in the area of medicine and psychology; writing for children; entertainment for children, etc.

A team teaching approach

A pilot program in Home and Family Life Education is currently in progress at Linton High School, Schenectady, New York, according to information received from the Schenectady Public Schools. "In their study of personal and family living, the high school students have firsthand experiences with the pre-kindergarten children and opportunities for considering, with the children's parents, some of the problems and satisfactions in the lives of families today." The values of working with interrelated age groups (high school youth, adults, young children) as well as techniques for team teaching are to be identified.

"The pilot program..., in addition to the teachers of each group, involves three age level groups (high school students, pre-kindergarten children and their parents). Cooperative planning allows each group to function not only as a self-contained unit but also to work with every other group to enrich the experience of all.

"Particularly important is the teacher team work required to select, organize, and carry through ideas which lend themselves to group interaction. For example, as the pre-kindergarten teacher works with his children, one high school student from the practical nursing class and three students from the high school family life class in session at that time, assist. Through this young adult help, closer supervision and more individual attention are possible, thus improving the program for children. Students, while they are learning to know children, also make other valuable contributions by helping to prepare teaching materials, by collecting child study data, and carrying out routine duties.

"Each high school student participates with the pre-kindergarten program for a period of two weeks early in the year and an additional week later on. As a result, observations are shared and discussed with the family life class. Leaving the youngsters with another team member or parents, the pre-kindergarten teacher joins the high school class to interpret and clarify concepts and impressions gained. The teachers concerned with such cooperative activities are jointly responsible for providing types of experience which serve to enrich student understandings of areas required by the course content, such as behavior and its causes, family relationships, and the role of each member, etc.

"The parent phase of the pilot program is similarly organized so that it serves purposes established for itself as well as purposes which relate to strengthening the work of the other two groups. Under the guidance of their teacher leader, parents indicate aspects of family life they wish to investigate, and form study groups according to these interests and needs. Small groups meet for planning and study sessions. Individual conferences with the teacher are an integral part of the study. Total group meetings are held twice each month in the evening....

"In work with the pre-kindergarten group, parents are expected to participate in conferences related to their child's growth and needs, and to assist with enriched program procedures through telling stories, taking trips, demonstrating arts and crafts, building furniture and equipment, etc. In the high school classes, the parents of pre-kindergarten children are used along with a variety of other community resource people to make the approach to curriculum studies realistic and meaningful."

Managing Family Resources Second Semester

As homemaking teachers and homemakers we have all experienced the satisfaction which develops out of genuine competence in and real responsibility for homemaking. How do today's high school girls feel about homemaking tasks?

There is evidence suggesting that girls are not enthusiastic about helping out at home, even though the majority of them have some responsibilities at home. And, in research reported by Duvall, the older the girl, the more likely she is to have no home responsibility.

Johannis raises the question: "To what extent does the modern child substitute for the servant in the family?" The conclusion is:

"...the tasks which get little recognition value-wise for parents are early delegated to children, and parents reserve the right to do the more complex tasks or those which either bring them greater recognition for being well done or take considerable time and energy to teach the younger generation to do in a competent fashion."

Furthermore, teen-age girls do not generally have a part in the family's decision-making team.

We often hear it said that homemaking can not be satisfying for the academically talented. We have already explored ways to help our students face the challenge of child rearing. While the areas of housing, food, clothing, and finances may not be challenging in the same way, perhaps we can help our students find increased satisfaction in performing these tasks with a competence based on an awareness of their attitudes and values in action.

Unit 5. Housing and Furnishings for the Family

Volume IV, No. 6 of the Illinois Teacher will be of assistance to you in developing plans for teaching the economic, sociological, and psychological aspects of housing; the role of the government in housing; and basic construction factors. We have here tried to supplement this with ideas on topics of particular interest to the academically talented and on topics not included in this housing issue.

Making a "home away from home" attractive

- * Review the principles of color and design. Help students apply these principles in planning for selecting accessories--spreads, pillows, drapes, lamps, etc.--for their rooms at college. Filmstrips are available, or one might use the opaque projector or show pictures to illustrate the effects and illusions created by color and design in a room.
- * Students might demonstrate various housekeeping techniques.

Selecting furnishings and equipment for the home

- * Working in groups, the students may determine the minimum furnishings and equipment needed in order to set up housekeeping in a mobile home, a furnished apartment, an unfurnished apartment, and a house. Figure the current cost of items.
- * Students might determine the skill needed and time required to use so-called labor-saving equipment and gadgets such as mixers, blenders, vacuum sweepers, automatic sewing machines, egg separators, pastry blenders, etc. The class could develop a list of equipment and gadgets which it considered to be truly labor-saving. These might make interesting news releases, too.
- * Students might identify the science principles associated with small kitchen equipment--characteristics of the materials commonly used for pots and pans, suggestions for the care of small equipment, etc. The June, 1960, issue of What's New carried a one-page article, "Be Good to Your Pots and Pans," in which, reports Cross, there are 36 science principles listed.
- * In order to review the principles related to housing and furnishings, the home economics teacher and her students might review curriculum resource guides, professional periodicals, junior and senior high school science textbooks and home economics textbooks. Cross reports that the chapter, "Cleaning and Caring for the Home," in Management for You by Fitzsimmons and White, is full of science principles, as well as the chapters on "Your Future Home," in Housing and Home Management by Lewis, Burns, and Segner.
- * One home economics teacher purchased scaled models of furniture from the toy department in Marshall Fields, which the classes used in evaluating various plans of furniture arrangement on the basis of convenience, traffic patterns, family activities, and art principles.
- * Evaluate room arrangements and architects' plans found in popular magazines, using the same criteria developed above.

Vocational opportunities in the area of housing and home decoration

- * List some of the occupations open to women in this area. Determine the qualifications which would seem to assure success in the occupations, training required, approximate cost of training, etc.

Unit 6. Food for the Family

Nutritional needs of individuals in the family

- * Discussion of nutrients, their functions, their properties, their digestion and metabolism is drawn from science. Have students keep a record of the application of these scientific principles in selecting food to meet their nutritional needs.
- * The class might select some ads and articles on nutrition. All sorts of claims are made, such as that proteins do not provide calories, that our food is poor nutritionally if grown on "depleted soil," etc. Evaluate these for their accuracy, warranted conclusions, completeness and other criteria which the class may develop.
- * Students might select some particular food and write a TV, radio or magazine ad which promotes its nutritional qualities. We are told that one of the side effects of debating is that the debator often sells himself on his own arguments--might the writer sell herself on the foods she is promoting?
- * The class might conduct their own rat-feeding experiment, or study reports of such experiments as the one appearing in the February, 1961, Forecast.
- * One teacher reported her students were instructed to come to class without breakfast. A standardized test was given to them. Then class members drank some tomato juice, following which a second, comparable test was given to them. The students were astounded at the improvement in their scores in the post-tomato juice test as compared to pre-tomato juice test scores. The teacher, in a follow-up study of students' breakfast habits, found that many of the students who previous to the experiment were accustomed to coming to school breakfastless were confirmed breakfast eaters. It might be worthwhile for others of us to make similar experiments.
- * Compare the foods used by people in other cultures to meet their nutritional needs with the foods used by students to meet similar needs.

Planning and preparing nutritious meals

- * One of the processes of thinking is comprehending and using language for discriminating communication. Students will need to develop a dictionary of cooking terms. "The Language of Cooking," in the September, 1960, Forecast would be a helpful article to use here.
- * Usually it may be better to demonstrate the principles of food preparation rather than using time-consuming laboratory periods. Feature the creative aspects of food preparation.

- * Food preparation activities provide opportunities for the application of scientific principles. Campbell, speaking about the application of scientific principles in the teaching of food and nutrition, suggests that principles pertaining to heat transfer are among the most neglected. She illustrates her point by reminding us that students know that food is cooked more quickly in a pressure pan or that food is cooked more slowly in the mountains than at lower elevations, but that they often do not know why.
- * Arrange for a demonstration of the use of the electronic range. Discuss such principles as those involved in the reflection vs. transmission of microwaves by different materials when students are told that metal containers cannot be used in the electronic range. The February 1961 issue of the Journal of Home Economics reports on "Utensils for Electronic Cookery."
- * Students might do research on the problems which have had to be solved in bringing dried potato products, instant soups and fruit juices, instant puddings, and frozen foods into the American home.
- * Students might also collect information about the progress being made in developing freeze-dried foods, the use of anti-biotics to prolong life of chicken and fish, the preservation of foods by irradiation.
- * Students might plan a meal and indicate the scientific principles that are used in purchasing, storing, preparing and serving the food, and cleaning up after the meal.
- * Conduct experiments on the use of commercial mixes versus products made from "scratch." Compare cost, time involved, equipment needed, and characteristics of the final product.
- * Make studies on the use and value of commercial tenderizers, extenders, and sweeteners.

Planning and working in the kitchen

- * In studying kitchen arrangements, include one kitchen with an appliance center--a kitchen with no range, but a center where are located all the small appliances required for preparing meals. Compare the different kitchen arrangements. What are the advantages and limitations of each?
- * Use time and motion studies to evaluate common kitchen duties such as table setting, dish washing, preparation of vegetables and arrangement of storage space.

Eating away from home

- * Pretest students to see if they know how to make reservations for dinner at a restaurant, how to seat guests, how to order

from a menu, how much to tip, and the meaning of common terms used to describe foods on the menu.

Entertaining with ease

- * One home economics teacher describes to the class one of her experiences in entertaining. She first presents the menu, then the planning, and finally the preparation and serving of the meal. She does not leave out the things which go awry, but describes how she met each emergency. Students might follow this by planning, preparing, and serving a meal for guests, evaluating the experience later.

Vocational opportunities in the field of foods and nutrition.

- * A panel of women holding positions in foods and nutrition could present information about their work, the possibilities for advancement, cost of education for such work, and the satisfactions of such work for women.
- * What's New has published this school year a series of articles on Careers in Home Economics. Students might study and report on these.

Unit 7. Clothing for the Family

Horn listed for home economics teacher educators the following principles of physics and chemistry which apply in teaching clothing and textiles:

Physical and chemical properties of textile fibers and finishes. Cellular structure and capillarity in relation to textile fibers.

Skeletal and muscular structure of the body related to the selection and design of functional clothing.

The evolution of man taught in relation to historic costume and textiles.

Physiological aspects of clothing.

Atmospheric humidity and its relationship to fabric weight and comfort of clothing.

Spot and stain removal; causes and prevention of mold and mildew.

Chemical composition and action of soaps and detergents in regard to care of clothes.

Mineral content of water and methods of purification for use in steam irons.

Effects of heat, moisture and pressure on the plasticity of fabrics as they are pressed.

Refraction and reflection of light as it pertains to color and texture selection.

Principles of mechanics taught in relation to the selection and use of laboratory equipment, such as scissors and sewing machines.

Static electricity as manifested in fabrics that cling to the body.

Physics of color in teaching color harmonies for clothing selection.

Causes and effects of friction in relation to surface wear of fabric.

We would like to join Horn in pointing out "that there is much involved in the teaching of clothing that is not a natural science, or even a social science, but an art....The principles of art are just as applicable and just as important to the field of clothing and textiles--indeed to the whole field of home economics--as the principles of natural science. The wonderful thing about home economics, to me, is the way in which both art and science are combined and focused on the problems related to the family."

Consumer problems related to clothing

- * Explore the sentence, "What is behind prices we pay for clothing?" Compare services offered by various stores that sell ready-to-wear clothing.
- * Review literature about present requirements and practices related to labeling of clothing and textiles.
- * Class might examine labels and tags from ready-to-wear garments. Evaluate these in relation to the adequacy of the information contained.
- * Students could bring to class purchases which they or their friends have made which they consider to have been good buys and those which were mistakes. Analyze the factors, including values, which are to be considered in purchasing clothing.
- * In order to help students develop a guide to follow in choosing well-made clothes, bring to class three of the same garments, such as three car coats. Introduce the problem:

Coat Sale

Today we are going to a sale. We are going to buy a coat. There are only three coats left in the size we want and price range we want to pay, so our choice is limited. What will we look for that will help us decide which of the coats we shall buy?

Some of the criteria might include:

Is the fabric appropriate for the style and purpose of this garment?

Will the fabric be easy to care for? Will it dryclean well?

Will the fabric be durable?

Are the trimmings appropriate and easy to care for?

Is the stitching firm?

Is there a generous hem allowance to allow for alterations?

Are the seam allowances wide enough to be durable? Finished for durability?

Is the garment cut on the grain?

Are the buttons of good quality and stitched to stay?

Are the buttonholes firmly sewed?

Does the label give all the needed information? Does it include adequate information about drycleaning?

After the students have developed the criteria, they might apply the criteria to evaluating the three coats.

Caring for clothing

- * Students might practice some of the more common alterations, such as hanging a hem, sewing on fastenings, replacing a zipper. Girls should probably also be taught how to turn collars and cuffs on men's shirts and how to make simple alterations on men's trousers.

Vocational opportunities in clothing and textiles

- * A panel might present these opportunities to the class, or students might interview women in various clothing and textile positions, supplementing the interviews with library research.

Unit 8. Consumer Economics

Findings from research are increasingly indicating that relative values brought together through marriage are a major source of conflict. These differences often do not reflect a clash of cultures but simply differing tastes. Basic values are influenced by social class, mobility drive, and contrasting sex roles of the husband and wife. The infinite variation in preferences and values means that every couple must work out their own financial patterns through conference and compromise. Actually, even a single person must make decisions about which of his competing needs to satisfy.

As home economics teachers we need to see that consumer education is challenging for our students by going beyond mechanical budgeting of income and buymanship of items. We can help our students look at consumer education as relating to the quality of life and of living. Our citizen-consumer role demands skill in public as well as private decision-making and management. Consumers need help to live with a market that makes insistent and increasingly irrational appeals to buy. According to O'Brien in the February, 1961, issue of the Journal of Home Economics, "By making explicit possible variations in value patterns and illustrations of these patterns translated into action, persons can be helped to relate values to consumption. These two poles of human concern--values and activities--may not be well integrated or unified in our lives. Home economists can help educate the consumer by teaching from the basis of concern with both values and activities."

While consumer buying is integrated throughout the entire course, some attention may need to be given to specific aspects not appropriate to other units. In the Fall, 1960, issue of Topics, Rita Youmans brings

to us a report of a course in consumer economics planned by a team of teachers, in this case staff members in business education, home economics, and social studies, and taught by staff members in business education and home economics. For each unit the co-teacher assisted with the preparation of materials, counseled on group and individual projects, and participated in leading class discussions. Evaluation of student achievement was shared. The following specific objectives were outlined for the course:

- "1. To understand the basic principles of economics operating within and affecting present-day democracy.
2. To learn to analyze relationships among social and economic forces.
3. To become interested in current events and their relationship to economic conditions.
4. To understand how business and industry are organized and how controls affect their operation and the consumer.
5. To understand the functions and problems of consumer protection by governmental and private agencies.
6. To understand community problems of taxation.
7. To learn to make and carry out intelligent decisions regarding the use of personal, family, and community resources, including planning for future security.
8. To learn to solve problems in the maintenance of personal and family financial security, appraising values and developing judgment.
9. To develop an attitude of civic responsibility toward the analysis and solution of economic problems.
10. To increase ability to analyze the sources of information available to consumers concerning economic problems."

The course was arranged in 14 units, as indicated in the following outline:

- "1. Basic Economics (Business Teacher)
 - The National Income and the Consumer
 - The National Debt and the Consumer
 - Taxes and Their Effect on the Consumer
2. Organization of Business and Industry (Business Teacher)
 - How Business and Industry are Organized
 - How Business and Industry Serve the Consumer
3. Relationship of Labor to the Economy (Business Teacher)
4. Relationship of Agriculture to the Economy (Home Economics Teacher)
5. Protection for Consumers (Home Economics Teacher)
 - By Private Agencies
 - By Government Agencies
6. Principles of Consumer Buying (Home Economics Teacher)
 - Advertising, Standards, Grades, and Labels
 - How the Consumer Can Buy Most Intelligently
7. Financial Institutions (Business Teacher)
 - Types and Services Provided
8. Personal Record Keeping (Home Economics Teacher)
 - Budgets
 - Maintaining Adequate Records
 - Understanding Personal and Family Income Taxes

9. Insurance (Business Teacher)
 - Life, Property, and Other Types
10. Social Security Program (Business Teacher)
11. Investments Other Than Insurance (Business Teacher)
 - Stocks and Bonds
 - Other Sources of Investments
12. Methods of Buying (Home Economics Teacher)
 - Cash, Credit, and Installment
13. Housing (Home Economics Teacher)
 - Costs and Responsibilities
14. Civic and Economic Responsibilities (Home Economics Teacher)"

Aided by a large number of appropriate books, newspapers, magazines and resource people, the class pursued the answers to the problems they had raised. In addition to the references which your school already undoubtedly has, we call your attention to a reference to be out in June, 1961, Consumer Buying by Cleo Fitzsimmons, Head of the Department of Home Management and Family Economics at Purdue University, J.S. Wiley and Sons, \$8.75. The first nine chapters deal with theoretical and observable characteristics of the economic system as the consumer finds it in buying goods to establish a way of living he believes is desirable. It takes into consideration what government provides to this way of living. It discusses some of the agencies whose purpose is to help consumers. The second half deals with economic considerations met in buying consumer goods and services and, finally, buying a way of living.

Special courses for the academically talented

In addition to this more general type of course in home economics for the college bound, some courses planned as motivation for college level study may be offered by the high school home economics teacher. When the nationally known public school for students of outstanding ability and achievement, New York City's Bronx High School of Science, first admitted girls about 13 years ago, the addition of a senior elective course in Home Technology was suggested. While it does give girls some practical information on home management, its major aims are these:

- * To help students explore the science fields in which women are most likely to find employment, giving an overview of as many fields in home technology as possible.
- * To acquaint them with apparatus and techniques used in these fields.
- * To develop in students an appreciation of the application of physical, chemical and biological knowledge to home management.

These girls bring to the course a background in general science, biology, and chemistry, and take physics concurrently. They draw heavily on this background as they cover the course of study in two double laboratory periods and one recitation period weekly. Printed with permission of Seventeen-at-School, the following is an outline of the Home Technology Course of Study.

First term

Introductory Lessons

1. Registration
2. Discussion of aims of the course--organization for recitation and laboratory work.
3. Discussion of career opportunities. (This is preliminary and is emphasized throughout the year.) Survey of material covered on Betty Crocker Homemaker of Tomorrow examinations given in December.
4. Safety instructions and text.
5. Distribution of texts and discussion of materials gained from reading references on class shelf in library.

Scope of course.

Discussion of term project.

Introductory discussion and motivation for work in nutrition.

Laboratory lesson: Mixtures, solutions, importance of water in nutrition

Unit I

Nutrients: Classification, functions, sources, tests, cookery principles

Laboratory lessons:

1. Polysaccharides: solubility, gelation, cookery problems. Microscopic identification of starch grains and action of saliva on starch grains.
2. Sugars: identification, characteristics, principles of inversion, caramelization and fondants as applied to sugar cookery.
3. Proteins: Qualitative tests, differentiation between complete and incomplete proteins, coagulation principles and their application to cookery.
4. Lipids: qualitative tests, principles of emulsification, hydrogenation, rancidity, and smoke points as applied to cookery.
5. Mineral elements: ashing and detection of S, P, and Ca in food. Change in pH and its buffering significance.
6. Vitamins: chemical testing for Vitamin C and D. Effects of food preparation methods on Vitamin C content with quantitative tests.

Additional Lessons: energy values of foods, body requirements in terms of calories, losing and gaining weight, diet planning in terms of Basic Seven and 100 Ca portions. Demonstration of ice calorimeter to measure heat output of laboratory animal. Principles of meat purchasing, storing and cooking.

Unit II

Some cookery principles, recipe testing and construction, some consumer education in food purchasing.

1. Jelly and jam-making principles.
2. Cuts and grades of meat, principles of wet and dry meat cookery.
3. Principles of flour mixtures.
4. Principles of cheese making.
5. Food preservation and storage.

Laboratory lessons:

1. Comparison of a green vegetable, fresh, canned, frozen. Comparison of different cookery methods as applied to each of above.
2. Carbonates as leavening agents in a muffin recipe construction problem.
3. Egg grades and egg cookery.
4. Application of coagulation problems of egg cookery to recipe construction in relation to soft custards.

Unit III

Time-motion studies in relation to kitchen planning.

Laboratory lesson: Time-motion study in preparation of breakfast in U, L, pullman and one-wall kitchens.

Additional lessons: Principles of kitchen planning, discussion of plans of student kitchens at home and their revisions.

Concluding lessons of first semester.

1. Presentation, discussion and evaluation of student term projects.
2. Discussion of Betty Crocker Homemaker of Tomorrow Test.
3. Planning, budgeting, purchasing, preparation, etc., for two class parties in the laboratory for which they are marked by committees. Parties occur before Thanksgiving and Christmas holidays.

Second term

Introductory Lessons

Scope of term's work and and discussion of term project to be selected. Distribution of pamphlet file for each student and discussion of reference material.

Unit IV

Textiles - history and importance

Laboratory lessons: include use of standard tests including a microscopic examination, etc.

1. Types of fabric construction.
2. Types of yarn construction.
3. Cotton, mercerized cotton and linen.
4. Identification of different types of cotton yarn - carding and combing.
5. Silk.
6. Wool.
7. Distinguishing rayon yarns.
8. Regenerated protein fibers and synthetics.
9. Identification of types of weaves.
10. Thread count, balance and durability.
11. Identification of types of weaves.
12. Fabric finishes
13. Fastness
14. Principles of dyeing and determination of dyeing methods
15. Laundering and chemistry

Additional lessons.

1. Fabrics made to resemble those made of other fabrics
2. Fabric blends
3. Practical laboratory test on textile testing.

Unit V

Principles of household wiring, lighting, household appliances and decoration.

Laboratory lessons.

1. Electrical appliances - consumer education and how to care for them.
2. Principles of refrigeration in its application to the household refrigerator, freezer, and air conditioner.
3. Evaluation of materials in pots and pans using heating of water tests, etc.
4. Elements of good decoration.

Additional lessons:

1. If possible, each girl learns to use the sewing machine. All learn mechanism of operation and recognition of small defects and how to correct them.
2. Discussion and evaluation of term projects.
3. Films and film strips are used on almost all topics where good ones are available.
4. Since the students are seniors, the last lesson is a graduation party.

Similarly, special courses have been or might be designed to be of service to business education majors, future teachers, future nurses, home economists in journalism, and other "career girl" groups.

Are you ready to take up the challenge? Just remember that effective teaching results when scholarship and concern for values meet. In general, the principles of good teaching in any situation apply to good teaching for the academically talented.

SOME SUGGESTIONS ON SUBSCRIPTIONS

Please first review the materials on pages 293 and 294 in Volume IV, No. 6

Copy for Volume V, No. 1 must go to the printer by August 10, 1961. You can help us to judge as closely as possible the number we should order.

Send in your own order and suggest to your friends that they send in their \$3.00 for a 1961-2 subscription of nine issues as soon as you can, PLEASE. We hope to publish next year's issues promptly and would like to have you receive them regularly. This year over 100 of our most cherished subscribers forgot to mail in a subscription; we were happy to honor their late requests but we'd both obviously be better off if all former subscriptions could arrive before August 10.

On the other hand, if history repeats itself, there will be many new subscribers gained from summer workshops, State Conferences, college classes and student teachers. If any one of you can estimate about how large "your" group will be, we'll know to order 1961-2 issues accordingly. No money, of course, needs to be sent, and these new subscriptions can arrive after August 10. But we'll consider it a personal favor if you'll notify us about them on a postcard.



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ILLINOIS TEACHER OF HOME ECONOMICS

CHANGING TESTS FOR CHANGING TIMES

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CHANGING TESTS FOR CHANGING TIMES

Phyllis Kinnison Lowe, Purdue University
Letitia Walsh, University of Illinois

To face tomorrow with the thought
Of using the methods of yesterday
Is to envision life at a standstill.
Even that which we now do well
Must be done better tomorrow.

. . . . James R. Bell

Are times changing? Even elementary school children know the answer to that question! Moreover, they will document their "YES" with evidence on what they know that their own parents do not! One tot remarked seriously to his teacher, "I know so many things that Mommy and Daddy don't that is seems like they're the ones that need to go to school."

Are tests changing? An informal classroom survey suggests that the answer here, too, is YES, at least so far as quantity is concerned. Certainly, because of the pressures of ambitious parents and the complaints of their students' employers, teachers appear more fully aware than ever before of the importance of evaluation as insurance for their own sense of accomplishment and even job safety. Their reactions, however, fall into different categories.

- * A few teachers blandly assign high grades to all in the belief that surely no one can possibly object to that policy. They fail to consider the future effect of inflated expectations with the attendant heartbreaks as the realities of existence are later driven home to their less able students.
- * Many teachers cautiously limit their teaching to tangible products in clothing construction and food preparation; parents have long accepted these as evidence of learning. Texts obligingly provide simple process check lists and score cards for finished products that students, teachers, and parents can understand.
- * Some teachers are conscientiously trying to "pin down" evidence on individual growth in problem solving and valuing through improved essay tests. Yet, in spite of the time consumed, these teachers and their students are still not quite satisfied. In the post-test discussions all realize that too many arguments and uncertainties have been engendered by the essay questions. Some element still seems to be missing, no matter how excellent the essay test may seem to be.

Precise Objectives for Accurate Learning

At a recent Honors Convocation at the University of Illinois the president of Knox College, Dr. Sharvy G. Umbeck, dealt at length with this

point in his address. His remarks would appear to apply equally to secondary schools.

"The general absence of devices to measure institutional effectiveness has encouraged many colleges and universities to announce educational objectives which are vague and euphemistic, which are set forth in language best described as academese, and which are frequently unrealistic--perhaps sometimes even dishonest. Many colleges, for instance, promise to educate the whole man. That's a mighty big order! Can anyone really educate the whole man? Just how is it done?"

Trying to be realistic in his own viewpoint, President Umbeck emphasized the vital necessity of every teacher formulating precise objectives.

"Obviously the complexity of the problem provides no excuse for ignoring it. Increasingly public concern for education is placing our work under a brilliant spotlight. It will no longer be so easy to 'pull the wool' over our own eyes, to kid ourselves about what we are really doing. The most eloquent lip service to noble purposes is no longer enough. The time is at hand when we must deliver the goods--we must do what we say we do--we must accomplish our educational objectives in a fashion that is clear, obvious, and demonstrable."

Educators in public schools are becoming deeply concerned about whether teachers can deliver! They are increasingly trying to encourage adults in every community to work with the schools on this problem of improving objectives and learning. For example, plans announced for American Education Week, November 5 - 11, 1961, give the theme as "Your Schools: Time for a Progress Report." On Sunday the planners suggest asking adult citizens "what kind of culture do they want for the nation's children and for themselves?" They follow this on Monday with the topic, "Time to Decide on Essentials." They suggest developing this by asking two questions. "Has it become impossible for schools to carry out all mandates urged upon them? Which are urgent and which less urgent in a time that demands more and more of its educated citizenry?"

An important new book

Have you read Martin Mayer's The Schools, Harper, 446 pages, \$4.95? If not, may we recommend it for your vacation reading? Yes, we really mean that word "vacation"! Dr. Albert Poole, superintendent of the public schools in Lake Forest, Illinois, wrote in his recent review in the section, "Magazine of Books," Chicago Sunday Tribune, April 30, 1961:

"For parent, interested citizen, educator, student, the author's overview of the schools is readable, relatively unimpassioned, a book which could lead happily to further thoughtful writings. It is high time that the grinding of axes be abandoned for the hewing of trees and the building of a new structure for education. The Schools is a big step in that direction."

With Time's reporting predilection for identifying and overemphasizing the sensational, its April 28 review includes the one uncomplimentary reference to our field in the whole book. And this concerns the unique "Industrial Arts" program for the seventh grade in New York City rather than referring to any program in homemaking and family living as we interpret high school home economics. Indeed, this layman's report is refreshingly free from the many charges that, largely without evidence, have been hurled at our field. Says Mayer, "In their desire to score debating points, the controversialists rapidly rise above the vulgar question of what is actually happening in the schools."

Mayer, who has built a reputation as an investigative reporter, spent 30 months visiting some 150 schools in this country and a few others in England and Europe. He interviewed 1,500 educators and took 6,000 pages of notes. He obviously read widely to gain a broad background and even did a spot of teaching himself "to take the arrogance out of me." Of course, educators question some of his conclusions, but rarely his calm good will. As Dr. Poole states, "The assignment which Mayer set for himself was one of tremendous proportion. He has accomplished it with sincerity, with amazing depth of understanding, and with the recognition that in writing about the schools, much is left unsaid."

Lay people who have read the book fail to catch the technical points which concern educators, but they are delighted with its wit and humor, its freedom from pretense and, above all, the many verbatim reports from classrooms accompanied by some analysis of the weak or strong points in the illustrations, if needed. Most of these illustrations are so sharply defined as to be easily interpreted, even by a layman. To us, one of the most heartening aspects is Mayer's philosophy that excellence must be sought for all students, nor merely for those he calls the "easily educated."

For other points of view

We have featured Mayer's book because it has already become a best seller in many cities. We very much need to know, as Superintendent Poole suggests, what laymen are reading. Paul Woodring, Editor of the Education Supplement in Saturday Review, May 20, 1961, pays the book the compliment of a full-page review by himself. By and large he agrees with Dr. Poole, but deplores Mayer's lack of understanding of the psychology of learning and his criticism of educational aims, as currently interpreted to laymen. With the first limitation most educators will concur. But ought we not to take warning from the second? As Woodring says, "If we cannot decide what the schools ought to accomplish, it is obvious that we shall never know whether they are doing their work well." As plans for American Education Week imply, parents and other laymen must help in the clarification and changing of all educational objectives. Moreover, there is urgent need that we reach a workable consensus!

In this same issue of Saturday Review, some other new books are mentioned. Those which home economics teachers would probably find of general interest are:

Education for College: Improving the High School Curriculum. By Albert R. Kitzhaber, Robert M. Gorrell, and Paul Roberts.

- Ronald Press. 195 pp. \$3.50. Analysis of course content in high schools add recommendatations for change, based upon a subject-by-subject examination of college-prep curricula.
- Balance in the Curriculum. 1961 Yearbook. Association for Supervision and Curriculum Development, National Education Association. 197 pp. \$4.00. Eight essays by leaders in the field.
- Focus on Change: Guide to Better Schools. By J. Lloyd Trump and Dorsey Baynham. Rand McNally and Company. \$1.25. A condensed account for laymen of the experimentation sponsored by the National Association of Secondary School Principals, NEA, and financed by the Ford Foundation concerning better utilization of school staff and space.
- School Volunteers: Creating a New Dimension in Education through Lay Participation. By T. Margaret Jamer. Public Education Association (Available from School Volunteers, 125 West 54th Street, New York 19). 200 pp. \$3.95. Description and appraisal of the Public Education Association's four-year-old School Volunteers program in the New York City public schools.

While on the subject of trying to keep up-to-date through reading, we would like to recommend that every home economics teacher examine in her public of school library the monthly supplements concerned with education that form a part of the weekly, Saturday Review. This supplement, it should be understood, is financed and edited by the Ford Foundation and consequently presents the educational point of view of that group. Occasionally you may find sharply-worded criticisms of our field, but is it not the part of wisdom to be fully aware of what our critics are saying? And in this period of daily crises and changes a monthly that can report on and discuss current developments promptly has become of tremendous importance to all teachers. So do take a look at the 27-page supplement in the May 20 issue as a sample of what you will find each month.

Why has precision become increasingly difficult?

The haste with which educators and public alike are rushing toward teaching machines as the answer to improving student learning has lead Mayer to delve more deeply into the fundamental difficulty and, surprisingly enough, this layman has come up with the same conclusion that professional educators are considering. That difficulty is now postulated as lack of precision in teachers' presentations and hence students' learning.

To try to identify the cause or causes for a difficulty is generally accepted as the first step toward the formulation and solution of a problem. A whole constellation of causes usually lies back of a major difficulty but, at the risk of over-simplification, let's take a sharp look at three of the most likely possibilities.

The recent expansion of knowledge is almost unbelievable and certainly overwhelming. This is true in every field of subject matter taught in the public schools. In no aspect of daily living is the impact of this expanded knowledge felt more strongly than in the home and family. Writers of textbooks today are at a loss to determine which facts and principles of the cultural heritage should be retained, which new developments merit inclusion

because of their value in the future. Because of the heavy teaching loads and the complexity of the problem, most instructors must rely upon textbook choices. The result tends to be a general confusion!

The rate of change is constantly increasing. We can liken our societal changes to one of those startling movie sequences that telescopes the year-long growth of a plant into a minute by running together pictures taken at one-month intervals. Specialists in adult education now estimate that the uninformed consumer and citizen are obsolete in one year, and that the static professional person is obsolete in three years. Years ago the great social scientist, Eduard Lindeman, declared that "Change is the law of life." Yet many of us tend to resist change beyond the normal resistance that is part of the inherent stability of us humans. Actually, we have no choice but to accept change as inevitable. To alter our philosophy and practices in teaching with sufficient rapidity is our great challenge!

A general letdown in self-discipline has recently been receiving a good deal of attention as adolescents' zest for learning seems to be decreasing, as adult workers' productivity fails to keep up with wage increases. One can hardly escape the unpleasant possibility that teachers, too, may be suffering from this same insidious weakness. With security threatened by change, the most courageous self-discipline is necessary in these troubled times. Do we have it? If not, inspiring it in our students is hardly to be expected?

How is lack of precision in learning identified?

Most alert teachers identify this difficulty through feedback from their instruction on paper and pencil tests. We have all suffered shocks from such feedback! Mayer suggests that "Much of what is wrong with textbooks could be cured if the authors programmed (as for teaching machines) the contents of each chapter and tried them out before type was set; much of what is wrong with classroom instruction could be eliminated if periodically teachers secured from children this feedback, this immediate written record of what was being learned from what was being taught." The "programming" to which he refers is made up of a lengthy sequence of short, detailed questions on a given topic.

Let us look at the experience of one home economics instructor teaching seventh grade girls. Mrs. White had used an apparently logical and easy-to-follow presentation on incorporating the Basic Four in a day's diet. She had provided each student with a chart of the Basic Four, had led a lively discussion on how the individual foods she had listed on the chalkboard would be classified, then the next day had asked students to suggest typical breakfasts, dinners, and suppers. When these were listed on the chalkboard, class members, presumably without reference to their Basic Four charts, classified each item on the menus under the food group to which it made its major contribution. Satisfied that her enthusiastic little students had truly learned, she announced that the next day they would have a "written lesson" on similar applications, and urged review of the chart before the class meeting.

So what happened? On the chalkboard she had placed these directions: "Under the heading Foods list the breakfast, dinner, and supper which you ate yesterday, as nearly as you can remember them. Under the heading Basic Four Groups classify each food eaten as to its major contribution to Group I, II, III, or IV." She permitted students' questions on the recall of meals eaten because this aspect of the question was different from the previous day's experience. For example, after half a dozen youngsters had inquired, "Do you want me to list everything I ate, like 'extras'?" she told the entire class to follow her directions exactly, only listing the meals.

Alas for Mrs. White's satisfaction! And her worn down red pencil! The right-hand column on almost every paper presented a gory sight! How could this have happened after such fine oral discussions? Apparently more instruction time was called for--but she had already talked to the class about a different topic to be studied the next day!

After some painful soul-searching, Mrs. White reached the following conclusions.

- * If exact mastery is essential for excellence, exposures to factual materials must be motivated, numerous, and repeated consistently even (some say) to the point of over-learning. Her students had obviously been motivated but, except for two unusually fast learners, had needed far more exposures.
- * Group responses cannot be assumed to be the same as will be individual responses; hence frequent written feedback on teaching-learning situations is a must.
- * If study materials are presented in a logical sequence, failure to gain precise knowledge in a first experience may hopelessly handicap students in later experiences.
- * Such a future need offers the best single criterion by which a teacher may decide whether the information warrants the thorough, time-consuming instruction required for precise learning.
- * The objectives of a course need to be as accurate and detailed as the knowledge to be learned; this in no way implies that objectives will be limited to this aspect of growth. Exact information is essential in thinking and doing problems; it has minor significance in problems concerned with problems of valuing and creativity.

Selecting essential objectives

In this case Mrs. White determined for herself that the ability to readily and accurately classify foods according to their appropriate groups in the Basic Four was a minimum essential for every beginning student in home economics. Few teachers would question this decision. But a survey

of state and city courses of study will turn up few such objectives on which there is practically uniform agreement. Moreover, teachers have always enjoyed the freedom of deviating from a general course whenever they desired.

Some thoughtful teachers are beginning to wonder if secondary home economics as a field can longer accept this laissez-faire policy of complete freedom for each instructor. And state supervisors and curriculum consultants, observing in many schools, are recognizing even more clearly the somewhat chaotic state of the objectives now sought.

Home economists have so long believed strongly in a "tailor-made" curriculum for every class in every school in every city that resistance has been expected to any formulation of required outcomes as dangerously undemocratic. Compromise with this philosophy seemed doubtful. Basically in this difference of opinion, as in so many other controversies, the conflict seems to arise from differing interpretations of "democratic." A recent cartoon showed a group of moppets in a candy store with their leader exercising a gavel on a convenient box. The distracted proprietor was pleading, "It's nice that your club treasury has a 43-cent surplus, but must you vote on each piece?"

So many states and cities are now moving in the direction of group decision on just what content forms the hard core of our field. Moreover, these groups, without benefit of definitive research but on the basis of experienced judgment, are attempting to recommend a reasonable sequence of this content. For example, the State Department in Illinois is sponsoring a summer workshop that will attack these problems. And, curiously enough, classroom teachers appear to feel relief and approval of the move.

- * There are many reasons that might explain this reversal in point of view. The shift in enrollments from more students in four-year high schools to more in junior high schools has emphasized the need for immediate reconsideration of grade placement of content.
- * The omnipresent stress upon the fourth R--RIGOR--has convinced most home economics teachers that they cannot "cover" the usual numerous topics and have their students achieve true excellence in learning.
- * According to the Commission on the Experimental Study of the Utilization of the Staff in Secondary Schools, "professional teachers waste two-thirds of their time each school day on tasks that could be performed by other persons or by automated devices." Home economics teachers seem to be particularly vulnerable in this regard.
- * A very high proportion of Illinois teachers are married, many with families. Teaching an average of four to five hours each school day, plus other required duties, leaves very little time and energy for specific class preparations and practically none for reflective contemplation on minimum essentials and the sequence in which they should be taught.

- * Home economics teachers find essential facts, principles and basic concepts extremely difficult to locate in even our best and most recent texts. Naturally this tends to be even more true of their students. Publishers are also troubled with the rapidity with which our subject matter changes; some are even considering small paperbacks such as the national research projects in other fields are currently advocating.
- * In practically every high school the ferment of change is so in evidence in academic subjects that the philosophy is contagious. Other instructors are accepting and using radically altered content provided by groups of researchers and experimenting teachers; why not home economics teachers?

Exactness in learning

Mayer states that the phrase, "minimum essentials," is now most unfashionable and that most school systems will speak instead of "agreements" on what the student must know. Whatever the terminology employed, recent professional literature has made two assumptions about all subject matter taught. One is that each field has a body of knowledge that even the least informed citizen must know; in our field this body consists of both principles and processes. Another fundamental assumption is that these highly-selected organized facts and processes must be learned with exactness if future thinking and feeling are to be adequately influenced by them. For example, a busy young mother's meal planning will probably be little aided by some hazy memory of the Basic Four. Her recognition of the relative importance she is assigning to food selection will tend to be limited if she has never acquired in home economics classes the ability to identify her competing values, to perceive their sources, to assess their worth in a given situation, and to change them if change seems indicated.

The reaction of many teachers in every field to the demands of administrators, of some parents and some students that learning be precise and retained is that only a relatively few students can ever achieve this standard. They can find ample support for this view in the public press. Conant, who disagrees with Rickover about almost everything else, believes with him that only a fraction of boys and girls now in public schools can attain excellence in their studies.

Professional leaders, however, look at recent research findings and are beginning to draw a different but equally serious conclusion. Dr. Robert Reinsch, Chief of the Board of Examinors, Chicago Public Schools, now believes that many of the so-called slow learners today need not have been so handicapped if they had enjoyed excellent teaching from their first days in school. An increasing number of intelligent students of education are reluctantly inclined to agree with Dr. Reinsch. Their reluctance stems from their shocked realization of the serious consequences, both individual and national, of each person failing to achieve up to the maximum of his capacity.

The most frequent reason offered by teachers for students' failure to learn is adolescents' total lack of interest in doing anything except sloppy learning, if any. Many teachers try hard according to the teacher

education to which they were exposed, but often look upon examination periods as their "Jonah days," so discouraging are the results from students.

Recent research findings on motivation

Teacher educators' responsibility for some of this difficulty with student motivation is beginning to be apparent. Writing in the May 1961 issue of the Newsletter published by the National Commission on Teacher Education and Professional Standards, Dr. Paul M. Allen charges that "research says far too little about those things that are really pertinent to teacher education." He explains and justified this categorical statement with findings from the most recent research. "Let us look at just one aspect, motivation. "The psychological concept that motivation stems from basic drives and is demonstrable in the subject as it seeks satisfaction to a psychological or a physiological imbalance is being refuted. There is increased concern with exploratory behavior (curiosity drive) and the motivating potential of a situation. Challenging situations, rather than simple means for securing satisfaction, are preferred even by rats when choices are provided."

Obviously, whether a person teaches in high school or in college, his subject matter is changing with alarming rapidity! And, it sometimes seems, always in the direction of greater difficulty! In the "good old days," when textile fibers were limited to cotton and linen, silk and wool, both teachers and students could achieve mastery far more easily, hence with less motivation. Yet, if consumers today are to get any protection from government-required labels, they must be intelligent about a whole galaxy of fibers and finishes. For teacher educators, instructing neophytes on the "basic personality needs" was simple, clear-cut and satisfying. The fact that motivation was observed as an increasingly serious problem was blamed on societal changes, never on teaching techniques.

Dr. Daniel Prescott, one of the stoutest proponents of the basic-personality-needs theory, contends that four-fifths of all adults long to "go back to the good old days." All of us have such moments! But even our youngest students know it can't be done! Reading widely, studying TV programs concerned with education, experimenting in small ways in your own classroom, and sharing the clues you gain with others appear to be the order of the day henceforth for all teachers.

Rich Resources on Objective Test Construction

Quite obviously, with both home economics content and educational theories in such a fluid state, evidence as to just what is happening to students assumes more importance than perhaps ever before. The breadth of home economics goals makes a broad program of measurement and evaluation imperative. As was suggested at the beginning of this article, "Even that which we now do well must be done better tomorrow."

In earlier issues of the Illinois Teacher have been presented the techniques of observing and evaluating class responses, individual and group performance, including processes and products, work habits and general behavior patterns, and the variety of understandings that can be appraised by essay tests. Because these methods of evaluation had been found to be most frequently employed by Illinois teachers of home economics, they were

given precedence in this Illinois publication on the premise that we would first try to help them to do better what they would be doing anyway.

With increasing interest in precision learning of essential knowledge, objectively-scored tests are assuming immediate importance to today's teachers. An objective test is defined as a test that requires short answers in the form of symbols, words, diagrams, or numbers and which can be scored without bias and consistently the same way, regardless of the person doing the scoring. Hence more accurately the term is "objectively-scored tests" rather than "objective tests."

So voluminous and excellent are references to aid the classroom teacher in her preparation of objectively-scored tests that writing this article at first seemed like "carrying coals to Newcastle." Yet we recalled that these were the very tests that home economics teachers in Illinois still were reporting most seldom used. In contrast, two local staff members last year had to literally ransack the University Library to document the suggestions offered on the preparation and use of essay tests.

We have, therefore, decided to boldly offer you our frank evaluation of the outstanding references available, hoping that you will make use of this annotated list to send for and use those that appeal to you as most helpful in your situation. Summer offers a wonderful opportunity to spend time on the leisurely preparation of tests if you have no other professional plans. We'll guarantee that no other activity could add more profit and pleasure to your next year's teaching!

Two "musts"

We have found two publications so very helpful in detailed, practical suggestions that we feel they are "musts." One is, of course, Evaluation in Home Economics by Clara Brown Arny, the one and only book ever published devoted entirely to testing in our field. Probably you already own a copy since it is the standard text for undergraduate courses and we have recommended it in the Illinois Teacher again and again. But we can't resist re-mentioning it because Mrs. Arny's material on objectively-scored tests is particularly fine. You can order this book from Appleton-Century-Crofts, 1953 version, for four dollars.

Fortunately our other favorite, in these days of \$6.00-\$8.00 books, also costs only four dollars. This is How to Improve Classroom Testing by C. W. Odell, a professor of tests and measurements at the University of Illinois. The 1958 revised edition can be secured from Wm. C. Brown Company, Incorporated, Dubuque, Iowa. As its title promises, this is a "how-to" book literally crammed with practical suggestions in every field of subject matter, including illustrations of items from home economics. Wherever research is available, suggestions are based upon this but the author does not hesitate, where research is lacking, to first present conflicts in views, then give his own position forthrightly on the fine points of technique. For amateurs in test construction, as most of us are, this practice is very helpful.

Other helps in constructing objectively-scored tests

Making the Classroom Test. Martin Katz, Editor. Educational Testing Service, 20 Nassau Street, Princeton, New Jersey. 27 pp. 1961. Free upon request.

This bulletin presents four examples of the test construction steps followed by teachers in different grades and subjects and for different purposes, then summarizes "rules" illustrated. Characteristics of essay tests are compared with objective, and a few suggestions on constructing the latter are included.

Improving the Classroom Test. Bureau of Examinations and Testing. The State Education Department, The University of the State of New York, Albany, New York. 56 pp. 1959. Free upon request.

This is a manual of test construction procedures for classroom teachers, closing with a check list for reviewing local school tests. Although the bibliography provided lists no references published since 1951, the suggestions on planning, choosing an item type, and managing the mechanical features are up-to-date and helpful.

Evaluation in Home Economics. The Indiana Home Economics Association. Professor Muriel G. McFarland, Education Building, Purdue University, Lafayette, Indiana. 61 pp. 1957. \$1.00 plus postage.

This bulletin is a compilation of many types of evaluation devices that may be employed in teaching in a vocational department of homemaking, including Future Homemakers of America, a home experience program, and adult groups. A limited number of objectively-scored test items are included.

Aid in analyzing test results

Our two "musts" give simple but complete directions for such study of test results as will be worthwhile for the clues to improvement that they offer. If more elaborate analysis seems desirable, any recent text on measurement and evaluation, such as Evaluating Pupil Growth by Ahmann and Glock, Allyn and Bacon, 1959, will supply the necessary information.

However, the Educational Testing Service at Princeton, New Jersey offers a free 1960 bulletin that is refreshingly unique. Request Shortcut Statistics for Teacher-made Tests, Bull. No. 5, by Paul Diederich. In 44 pages Dr. Diederich describes with wit and humor genuine short-cuts, not the "precise and elegant methods favored by statisticians," but within a teacher's limited time budget. For example, he first describes in practical detail how to do item analysis by a show of hands.

The personal factor in objective testing

The individual student and his parents can never be ignored in a testing program, though the stress today is certainly on achievement rather than on keeping everybody happy and serene! The inexpensive bulletins listed on the following page will help you keep alert to this need.

Understanding Testing. Kenneth F. McLaughlin, Editor. Bulletin OE-25003 of the U. S. Department of Health, Education and Welfare. U. S. Government Printing Office, Washington 25, D. C. 24 pp. 1960. 25 cents.

This is a broad overview of the purposes and interpretations of testing for student development by the Guidance, Counseling, and Testing Section of the Office of Education. It will help you to understand and cooperate with the guidance director in your school. It closes with an excellent glossary of definitions of commonly used measurement terms.

Learning about Tests. Joseph C. Heston. (Junior high school students)
How To Take a Test. Joseph C. Heston (Senior high school students)
What Tests Can Tell Us about Children. J. W. Wrightstone. (Parents)
 Science Research Associates, Inc., Chicago, Illinois. 50 cents per bulletin of 40 or more pages.

Although not addressed to teachers, these popularly written bulletins are surprisingly illuminating and effective in developing empathy with adolescents' and parents' problems.

If you teach in college

For those of our readers who teach in colleges and universities, we are offering the following list of references designed particularly for and by specialists in higher education. Since college teachers, too, have troubles, we thought you might be interested in these inexpensive publications which your colleagues in the home economics subject matter areas also might enjoy.

Bulletins on Classroom Testing. John E. Stecklein, Charles Schumacher, and Robert L. Lathrop. Bureau of Institutional Research, University of Minnesota, Minneapolis 14, Minnesota. 8 pp. each. 1954-1961. Eleven bulletins for \$1.75 or 25 cents for single copies.

These bulletins have been expressly prepared to aid college teachers in the development, improvement and uses of classroom examinations. The series was begun in 1954 by John E. Stecklein and other examinations consultants. Bulletins can be ordered by the following numbers and titles.

- No. 1 - "Why Do We Test?"
- No. 2 - "Essay Tests: Why and How"
- No. 3 - "What Is a Good Test?"
- No. 4 - "How to Write Multiple-Choice Test Items"
- No. 5 - "How to Write True-False Test Items"
- No. 6 - "How to Write Matching Test Items"
- No. 7 - "How to Measure More Than Facts With Multiple Choice Items"
- No. 8 - "How to Make an Item Analysis of an Objective Test"
- No. 9 - "How to Make a 'Content-Objectives' Test Analysis"
- No. 10 - "How to Make an Item Analysis of an Essay or Problem Test"
- No. 11 - "The Use of Test Scores in Marking"

Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I: Cognitive Domain. By a Committee of College and University Examiners. Longmans, Green and Co., 119 West 40th Street, New York 18. 207 pp. 1956. \$1.75.

This is a paperback committee report that gives a new and unique classification of objectives in the realm of the intellectual goals of education. The terminology is highly technical but examples are numerous and helpful. With such increasing emphasis being placed upon the development of thinking ability in students, this publication seems to merit conscientious study by college home economists.

Test Construction: Development and Interpretation of Achievement Tests. Dorothy Adkins Wood. Charles E. Merrill Books, Inc., Columbus, Ohio. 134 pp. 1960. \$2.00.

Mrs. Wood summarizes the essentials on development and interpretation of achievement tests. Her illustrations from college tests are helpful to home economists because they are in the fundamental disciplines on which home economics content is based. Her illustration of a college-level test to measure scientific thinking is an example.

General Guides in Planning and Using Tests

While you are waiting for the arrival of those references which you've ordered, you can use your time to fine advantage in organizing and getting on paper certain materials that are always necessary before test items can be prepared.

Curriculum decisions

- * Structure your curriculum for next year. Remember that "playing it by ear" in the sadly misinterpreted meaning of creativity is definitely out in the Sixties. Detailed scope and sequence is in--for the total program, for each year's or semester's offerings, for each unit to be taught. Do we hear someone exclaim, "How mistaken! Why, that would be almost as bad as teaching with a text!" On the contrary, our advice is to utilize not only texts but any other courses of study that are available. Here are three curriculums, for instance, that money will still buy; others are not distributed outside the area for which they were planned. Send to:

College Book Store, Iowa State University, Ames, Iowa.

Curriculum bulletins for Grades Seven and Eight, and for Iowa High School bulletins on Clothing, Foods, Housing, Family Relations and Child Development; each bulletin costs \$1.00. Perhaps you might like to order a set of their eleven tests for a total cost of \$5.30 at the same time.

Board of Education, S. Madison Street, Rockford, Illinois.

Over-all curriculum guide for home economics in grades 7-12.

Resource units in Clothing and Textiles, Foods and Nutrition, and Family Life Education for these same grades are available. Each one of the four publications costs \$1.25.

Miss Florine Vatter, Department of Instruction, Cincinnati Public Schools, 608 East McMillan Street, Cincinnati 6, Ohio.

Bulletin No. 40 - Home Economics Education, Grades 7-8-9.

Bulletin No. 41 - Home Economics Education, Grades 10-11-12.

These are greatly expanded revisions of their earlier curriculum bulletins, containing additional teaching materials, up-to-date references, etc. Each bulletin costs \$3.00.

- * List for one teaching unit the concepts and processes that must be learned accurately by all students. Organize supporting facts under each major principle or generalization; organize the "how" and "why" of each process in proper sequence. This is a demanding task, even though you may have selected a short and easy unit on which to work. A high degree of selectivity requires a high level of decision-making.

What on the list are truly necessary for a student to know?

What is the best possible way to state each point?

The list finally decided upon now provides you with a list of subject matter objectives, broken down sufficiently for item construction.

- * Study the over-all objectives of the unit to stimulate your imagination in devising situations where the selected concepts and processes might be used. For example, let us assume that one subject-matter essential in a child development unit is "a safety code for child care." Quite obviously a baby-sitting situation would be only one of several where such a code would need to be used. Whatever the situation chosen, a good many problem items could be derived from the rules in the code and developed in terms of the one situation. To be sure, no one could guarantee that in a real emergency even a "letter-perfect" student would apply her knowledge as well as the test evidence would suggest. Experience, however, indicates that both her attitude and her thinking will tend to be reliable directly in proportion to the thorough reinforcement of her school learning. In one town this was dramatically demonstrated to be true when a baby-sitter faced an outbreak of fire in the home. She later told reporters that she gave the credit to the fact that she had "learned those safety rules thorough."

Purpose of different tests

Why are tests given? The purposes served by each, need to be identified very clearly. If the man hours were to be computed that go into the preparation of a test, the taking of a test, and the scoring of a test, it would indicate a large investment of time and energy. The purposes, then, should be worthy of an enterprise that demands this much effort.

When tests are effectively planned in the educational program, they serve the purposes of:

- * Determining the status of an individual or a group at a particular time with respect to some objective or objectives.
- * Determining the growth individuals have made toward an objective over a given span of time.
- * Facilitating self-evaluation of students and stimulating them to further effort.
- * Providing effective learning experiences for students.
- * Diagnosing the particular strengths and weaknesses of an individual as a basis for guidance.
- * Appraising the effectiveness of the teaching or some particular teaching procedure.
- * Serving as a basis of assigning a mark or grade.

Of course, it is unnecessary to point out to teachers that any one test may serve different purposes but cannot be expected to serve all purposes at the same time. Always the teacher's objectives determine the purposes served, and the use made of the results determines whether the purposes are actually accomplished. Let us look at these various purposes.

- * Determining status - It is necessary in modern educational systems to classify students as individuals. It is possible to do this when the same test is given to each person in a class and a comparison of the achievement of each is made with that of the rest of the class. In an age of education that concerns itself with grouping students, accelerating some, and comparing groups with other groups in terms of norms, the test is an important tool.
- * Determining growth - The effective test should accurately indicate the extent of a student's knowledge, comprehension, and ability to make use of these in typical situations. To secure a base line from which to judge the actual growth from a beginning of the study to the point where a periodic or end-test is given requires a fairly comprehensive pre-test.
- * Facilitating self-evaluation - There is increasing emphasis being placed upon the importance of helping people--high school students, out-of-school youth, and adults--to accurately appraise themselves and the results of their efforts. In school, tests give them the opportunity to judge for themselves their own progress toward what they recognize as the objectives of the course. These days testing may be said to be the teaching method par excellence for arousing the curiosity drive and offering the stimulating challenge demanded by Dr. Paul Allen and his research specialists for improving motivation.

- * Providing learning experiences - One of the most important purposes of tests is to provide students with sharply focused learning experiences. Here is the opportunity for a student to engage in an active learning role by recalling factual items, comprehending data given, applying principles learned, and solving new problems.
- * Diagnosing strengths and weaknesses - Through well-constructed tests, both teachers and students are helped to identify areas in which additional study or practice is needed. Tests usually serve as a stimulant to increased effort if a student can be freed from a frustrating uncertainty as to just what major improvements are needed and how to go about this.
- * Appraising teaching - There are few teachers who have not experienced a feeling of utter disbelief when students apparently know little to nothing about some area which the teacher thought he had taught thoroughly. Well-spaced frequent tests give an indication of the extent to which the teaching "went over" with the students. Results from these tests help the teacher to ascertain those areas which may have been slighted because students' failure to achieve was not recognized. In turn, the teacher must try to deduce from the results possible overemphases which will provide for a shift of time and effort to the neglected aspects.
- * Assigning marks - If marks are to be used, they should be obtained from as valid, reliable and objective bases as possible. Well-constructed, objectively-scored tests give evidence of this kind that both students and teachers can accept as a basis for a mark. Of course, this should not be the only basis for grading, but does have an important place because it is tangible and reasonably non-debatable.

Characteristics desirable in a test

The references recommended set up an imposing list of characteristics desirable in an objectively-scored test. Obviously, each teacher has to accept these as the high standard which she is trying to gradually achieve in her own teacher-made tests. But let's be realistic about this gradual business! For instance, the cover of Harper's Magazine, March, 1961 headlines an article on "The Tyranny of Multiple-Choice Tests." The author, Banesh Hoffman, points out the imperfections of standardized tests--and huge sums of money have been expended in developing and refining such tests.

Teacher-made tests are acknowledged to be imperfect--but parents tend to complain if tests are not frequent and challenging in every high school course. That attitude is reasonable. Adolescents and their parents, no matter what the students' vocational aspirations, are becoming convinced that they have a right to continuous reports on scholarship just as a financial institution has to issue income and outgo statements. Moreover, practice in taking objectively-scored classroom tests will help students in passing standardized tests. And over sixty million of these were given last year in schools and colleges, business establishments, industrial plants, and by placement counselors in private practice!

Validity

When a test is said to be valid, it means that it measures what it is supposed to measure. If the objective is concerned with knowledge, the test items should measure knowledge, and not abilities, attitudes, or any other type of objective. Items may be limited to knowledge alone; others may measure the meaning of pertinent words; others may seek evidence on the students' ability to apply both meanings and concepts to typical real-life situations.

In order to secure as much validity as possible, with full recognition that the average classroom teacher has neither the time nor the facilities to establish validity through elaborate statistical procedures, you may well:

- * Try out the forms of your directions until you are sure that they are as concise and clear as you can make them.
- * Phrase each item with exactness if you hope to measure progress toward a particular objective instead of a student's ability to comprehend vague meanings couched in ambiguously phrased items.
- * Provide a reasonable amount of time to complete the test if you expect it to be valid.
- * Motivate the students to really do their best through adequate review and drill, plus making items interesting so that students will identify with them.
- * Provide a physical environment that is conducive to good thinking.

You will, of course, subjectively analyze the whole test to be sure that it measures what it is intended to measure. Probably there is no infallible criterion for telling if the test is truly valid. One indication that teachers can use is to compare the scores of students in relation to some outside criterion. For example, persons of high ability should do better on most tests than those of low ability. Those students who do well in class should do better on most tests than those who exhibit a low level of performance.

An end- or unit-test is more likely to be valid if a "grid" or table of specifications is prepared. The technique of doing so is about the same for objectively-scored tests as for essay tests, as described in detail in our article in Volume III, No. 5 of the Illinois Teacher. Even more explicit directions are provided in the references recommended. The time given to such thoughtful planning earns rich dividends in the comprehensiveness and balanced emphasis of any important test.

Reliability

Reliability, the other prime requisite of a test, is the consistency with which the test measures what it does measure. Many specialists

claim that the reliability of a test can be increased by following these practices.

- * Construct a test that samples all important aspects; the longer the test, the greater the likelihood of a high degree of reliability.
- * Utilize "cushions"; place the easiest items first and then introduce more difficult items. Construct the majority of items to be of average difficulty.
- * Include not more than three types of items in any one test; students should not be asked to spend an excessive portion of the examination time on reading directions.
- * Include the kinds of items that are entirely familiar to the students taking the test; unfamiliar or tricky kinds of items would tend to measure reading comprehension rather than knowledge of essential subject matter.
- * Provide clear, concise directions, including an explanatory example for students less sophisticated in taking objectively-scored tests.
- * Determine by a "trial-run" a reasonable time limit, then maintain it rigidly.
- * Plan and reproduce the test so that it is easily read; if both sides of the paper are used, type at the bottom of one page in bold letters, NOW ANSWER THE ITEMS ON THE BACK OF THIS PAGE. If desired, the next page may state, TURN TO THE NEXT PAGE AND CONTINUE.
- * Construct an inflexible key, striving to include discriminating items.

Students benefit from participation in testing

How many students feel that testing is something that the teacher does to them, rather than something the teacher does for or with them? This attitude may be the result of the way tests have been used, the purposes for which they may have been given, or perhaps the quality of the tests. With a state high school diploma based upon comprehensive examinations in the basic disciplines being seriously proposed in Illinois Education, May, 1961, tests may assume increasing importance to students.

What can we do to alter present student attitudes which might well be an inhibiting factor in their success in passing this proposed battery of academic tests? Why not try opening up to them the "mystery" of test preparation? Participation in working with a home economics teacher on test items, some classroom experimentation indicates, does exactly that.

Moreover, ultimately teachers have found that they, too, tend to benefit from this participation through actual time saved in making tests. Testing is primarily teaching. Real teaching is a matter of keeping constantly open a two-way communication channel between teacher and students, and of making sure that the messages going each way are intelligible. The clearer this channel, the more time is saved.

Step-by-step procedures in student participation

From the experience of several teachers who explored the possibilities in student participation, the following sequence of procedures has been developed as suggestive to other teachers. As in learning any new technique, considerable experience by both teachers and students was necessary before any claim to time-saving could be made. In the end, not only was student learning greatly improved but the teachers concluded that there was eventually a good deal of out-of-class time saved for them.

First of all, teachers rotated among class members the duty of recording the facts and principles developed in group discussions. That arrangement forced the instructors to more consciously formulate and write on the chalk board the essentials to be learned accurately. In the process each learned a surprising amount about her own teaching! In turn, students become better able to "spot" essentials because all students decided that doing their own recording was worthwhile. Only the official recorder for the day was expected to turn in her notes to the teacher.

At an appropriate point of student readiness, each person, including the instructor, was assigned the task of formulating his share of questions that would be answered from class learnings. These were used by the teacher in oral reviews. The "author" of each question was given the responsibility of passing on the correctness and completeness of the answer given. All kinds of difficulties arose. Some questions, the students contended, were insultingly obvious. Others were "off the beam" in terms of the fact or principle being tested. Students demanded such precise statements in the answers that they turned up many student confusions and misconceptions that might have escaped the instructor. But interest invariably was at a high pitch, and corrections were accepted goodnaturedly in a give-and-take spirit. Even the weakest students began to realize that in each fact and principle certain elements were essential in its statement. For example, frequently cause and effect were the essential elements to expect in a well-stated principle.

In the third development, the students worked in pairs combining a fairly weak with a stronger student whenever feasible. Using the textbook or other subject-matter material, pairs tried to identify different elements in the facts they had agreed needed to be memorized. For instance, in studying new textile fibers, "pilling" was identified as one element which differentiated between fabrics made of various fibers. For each element they attempted to formulate a "best answer" or multiple choice item. At first these items were dictated as an oral review for the class. Out of the arguments that ensued, certain guides to help students to formulate best answer items were evolved.

- * As much of the statement as possible should appear in the introductory portion or "stem."
- * Different shades of truth should be possible but one answer must be best.
- * Each item should ordinarily have at least four or five alternative answers.
- * All items should preferably have the same number of alternative answers.
- * Alternative answers should usually appear at the end of the statement or question that forms the stem.
- * Correct responses should be distributed about equally among possible answer positions.
- * Textbook wording should ordinarily be avoided in phrasing stem and choices.
- * Rules governing good language expression should be observed.

After some more practice in using these guides, the teacher started duplicating the items turned in and used them for a written test. No matter how careless and illiterate the formulation of an item, it was duplicated exactly as turned in! Amid much laughter, students took a long, hard look at that last guide in the list that they themselves had helped to make! After this first dramatic showing, items were still duplicated exactly but errors gradually tended to disappear with most students.

In addition to becoming analytical about good language expression, students slowly developed some ability to do critical thinking concerning the choice of words to use, the finer points in stating concepts precisely, and the relationships between a stem and choices that would insure unity or "internal consistency" to an item as a whole. To be sure, "internal consistency" was only in the teacher's vocabulary; the simpler term, "unity" was adequate for student use.

Before long students were delightedly bringing in examples of self-tests found in newspapers and magazines. For example, they found ten items on the area of child development in the Sunday supplement of an Indianapolis newspaper. First the students "took the test" themselves and compared their group's answers with those of 52 parents in the Indiana adult class, as reported in the article. Differences in their judgments from those of parents led them to look critically at the items themselves. As embryo specialists they decided improvements were called for, but where could they be used since they would not be studying child development again? Fortunately some "guinea pigs" turned up in a younger class; the revised version was tried on them.

The teachers, too, found themselves more alert to the possibilities in their everyday contacts. One instructor, visiting with a group of young mothers at a PTA affair, asked the privilege of making notes on all the

aspects of infant care and feeding which, they were voluntarily reporting, either had never been learned in school or had been forgotten. The next time she was teaching a unit on "Preparation for Parenthood" she used the resulting list to challenge her students. The class planned a division of labor (for the list was a long one), located authoritative statements that embodied the knowledge needed by the mothers, and from these formulated best answer items on which to test their classmates.

Probably the most valuable part of the experience for students was that they assumed a more mature and responsible attitude when studying the results of tests. Students and teachers learned to ask themselves these questions.

- * Why did I not learn (or teach) this material?
- * How essential is this learning?
- * Is it worth the time, effort, etc., to repeat until mastered?
- * If the answer is "yes," how and when can additional experiences in and outside of class be provided?

Specific Guides for Home Economics Testing

Unfortunately, as all teachers know, items require an enormous amount of space. Because of space limitations, only in this section of the article are we offering examples of home economics items. Many other stimulating examples will be found in our list of inexpensive references which we hope you will secure and use.

Frequent testing

With the increasing emphasis upon precise learning, every authority is advocating short, frequent "check-ups" at all grade levels. Psychologists have established that the more prompt the "feedback" to the child, the more helpful is the test as a teaching device. Teaching machines and pamphlets organized to conceal, then reveal correct answers operate on this principle.

Another change in schools that must be reckoned with is the tendency for enrollments in home economics to shift toward junior high school grades and be somewhat reduced at the senior high school level, particularly for the college-bound student. No longer can the exploratory approach to students' interests be accepted for home economics any more than for other areas of subject matter taught in junior high schools. Indeed, outcomes in home economics classes in many schools get compared by students with the challenges they meet in not only revised versions of the usual academic subjects but also with the fascinating novelty of areas seldom previously offered at the junior high level.

At the beginning of the junior high school movement this recommended "exploratory" emphasis tended to disregard attainment of sequential knowledges

and skills. With the exact opposite being stressed today, administrators and curriculum directors are demanding real organized learning from home economics classes but are no longer expecting such an accomplishment to be gained from one or two class meetings a week. In Illinois Junior high schools, a strong movement toward five class meetings in home economics is apparent, although the number of semesters in which the subject is offered may be reduced. A few systematic investigations and the considered judgments of nearly all teachers favor the results of such a change. Moreover, beginning classes in home economics are now very frequently being required in the seventh and/or eighth grades, an arrangement seldom existing previously in four-year high school programs.

Items for test construction in academic subjects taught in high schools are becoming increasingly available, leading students to expect similar frequent check-ups for their own self-rating of progress in home economics. The "challenging situations" demanded for motivation, according to the research by Zimbardo, Montgomery, Dember, Earl, Paradise, and Welker which Paul Allen used to document his generalized statements on motivation, are often provided most economically through well-constructed tests. The many national research projects are providing items for the academic subjects from which teachers may select those related to their local objectives. Until such collections are available in our field, we must all depend upon teacher-made tests. We feel that fact gives real urgency to the subject of this article.

Pre-tests in junior high school

If maximum "mileage" is to be gotten from every class period, the waste of spending time on what students already know must be stopped. Likewise, if even some crude information can be gained about the misconceptions currently held by students, teaching can be more sharply focused and economical. Experts say that students' time could be put to 50 per cent better use if adequate pre-testing were to be generally employed. And remember that mastery demands so much more time than "covering" a subject that every minute saved daily becomes important!

Beginners in home economics inevitably have already acquired a good deal of information, more or less correct, long before they enter class. They find pre-tests fascinating, so eager is each to learn more about herself. Indeed, one enthusiastic new seventh grader told her teacher, "I kinda think I like these guessing games the best of anything in school!"

Habits practiced at home offer a fertile field for beginners' pre-tests. Here is a sample of cluster true-false items which would explore home practices in the storage of foods.

Directions: After food is purchased, proper storage is necessary. Mark in the blanks at the left -

Those statements that are true with an X

Those statements that are false with an O

- Wrapping paper should be left on meat when it is put in the refrigerator.
- Fresh peas and lima beans should be stored in the pod.

- _____ Butter may be frozen in its original paper and kept for a month.
- _____ Berries should be washed and hulled before storing.
- _____ Eggs do not need to be refrigerated.
- _____ Strong flavored foods should be stored in a plastic or foil container.
- _____ Frozen meat can be thawed, refrozen, and used with safety.
- _____ Food in an opened tin can may be safely kept in a refrigerator
- _____ Meat should be washed before storing in the refrigerator.

Two chores that are always with us in both schools and homes are threading sewing machines properly and washing dishes. As in most procedural learnings, not only the correctness but also the order of each process must be tested. For accuracy of recall, a short-answer completion type is usually preferable. For order of procedure, a very simple ranking question can be used and scored objectively. This is made possible because the order in threading the type of sewing machine used in the classroom and the order of washing dishes is definitely established. A ranking item on a more complex problem like constructing a dress or preparing a meal can rarely be scored objectively, hence is seldom recommended by test construction specialists for an end-test. Here is an example of a short-answer completion item and of a ranking item concerned with learning students' present practices of dishwashing.

Directions: In each blank at the left write one word that tells what you would do.

With what temperature of water would you rinse the following?

- _____ An egg beater
- _____ A sugary cup
- _____ A spoon used to measure shortening
- _____ A flour sifter

Directions: In the blanks at the left write the letter of each kind of article in the order in which you would wash each.

- | | |
|-----------|--------------------------|
| _____ 1st | A. Silverware |
| _____ 2nd | B. Greasy baking dishes |
| _____ 3rd | C. Glassware |
| _____ 4th | D. Chinaware |
| _____ 5th | E. Cooking pots and pans |

Much information concerning beginner's knowledge of the practical aspects of clothing construction and food preparation may be economically determined through pre-tests. The multiple-choice form is well suited to meeting this need. Below are examples of a few such items.

Directions: Place an X in the blank to the left of the best answer.

Staystitching is done mostly because it will

- _____ Prevent seams from raveling
- _____ Reinforce seams
- _____ Reduce stretching of fabric
- _____ Provide a guide for permanent stitching

Staystitching is done

- On the seam line
- 1/8" within the seam line
- 1/4" from the cut edge
- 1/2" inside the seam line

A fresh egg will have the following characteristics

- A smooth, white shell
- A standing yolk
- A thin, clear white
- A bright yellow yolk
- No air cell

A low temperature should be used in cooking eggs to

- Prevent coagulation of the white
- Secure a uniform product
- Reduce loss of nutrients
- Get a good flavored product
- Prevent toughening of the protein

Topics expected to be studied in a unit dictate the content included in the pre-test used before teaching that unit. Just as in questionnaires on present conditions and experiences in the background of each student, pertinent short pre-tests at the beginning of every unit seem to be favored by most teachers. Here are sample "best answer" items that might be used at the beginning of a unit on baby sitting.

Directions: Place an X in the blank to the left of the best answer.

Lois baby-sits with three-year old Sammy and his new baby sister. When Sammy grabbed a stuffed doll and screamed, "This is a baby; I'll cut off its ears and punch in its eyes!" Lois should

- Punish him severely
- Explain how to treat dolls
- Pay no attention to his act
- Show him increased affection

Sammy suddenly decides that he is afraid to sleep in a dark room. Lois should

- Laugh at him and call him "Baby!"
- Give him a dim light in the room
- Pay no attention to his fear
- Force him to stay in the dark

Except for the first three examples on home practices, you will note that items are of the multiple-choice variety. Like Postum, "there's a reason." Multiple choice items tend to predominate in testing today, hence most students are thoroughly familiar with them. They are highly discriminating when four or five choices are provided. Most important of all, they require students to carry through a sequence of thinking processes that are essential in everyday living. These are (1) reading for comprehension, (2) identifying the problem, (3) interpreting the principle back of each alternative, (4) perceiving relationships among choices offered, and (5) making a decision.

But the other types of items are also useful. Mrs. Clara Brown Army in her Evaluation in Home Economics states, "Cluster true-false items may be answered rapidly and scored with an inflexible key; they have been found to have indices of discrimination equal to those of good multiple-choice items." Since such items may stem from a problem situation, they should probably be more frequently used by home economists for both pre- and end-tests than is the case today.

C. W. Odell in his How to Improve Classroom Testing offers many practical suggestions on the preparation of short-answer completion and ranking items. But he also points out the difficulties in their use, especially for tests from which accurate grades must be derived.

Another aspect of these examples of items designed for use in junior high schools should be noted. Contrary to earlier practices in home economics, the vocabularies employed have not been "dummied down" in deference to the youth of those examined. Foreign languages are now being taught in many schools in the elementary grades. Successfully, too! Of course, in these and similar items even ninth graders will encounter unfamiliar words. But pre-testing is primarily a teaching device. When pre-tests are discussed the following day as a background of information for teacher-student planning of a unit, students will be thoroughly convinced of the need for studying semantics even though they never heard the term. And they appreciate discovering individual needs; many teachers give class time to permitting each student to assemble from her pre-test those words or terms that, in her own language, "threw her."

Pre-tests in senior high school

Pre-tests are even more necessary in senior high school where students bring a body of understandings and practices gained not only from the casual home learnings of the beginner in home economics but also from organized experiences in previous school classes. Senior high school learnings are expected to be stepped up in both rate and depth or breadth, depending upon the life expectations of each student. Critics of schools often comment upon our failures in this regard. If pre-testing will help to solve this very real problem of teachers, then paper-and-pencil pre-tests must be provided. Obviously, paper intelligence is not all that is needed to lead a good life! But just once try through oral discussion to determine from an in-coming class what they have learned previously, and you'll understand why we recommend individual evidence on paper.

Because unfamiliar types of test items must be taught and practiced by students, interesting innovations in item forms should be postponed for later use. But naturally more subject matter background may be assumed and finer discriminations in choices be required. For example, with increasing emphasis upon the teaching of biology before the twelfth grade, a teacher of family living needs to be cautious about the amount of attention her students actually need to devote to the facts of heredity, a topic of seemingly inexhaustible interest to seniors. Try the following for students' own self-analysis and your information.

What Do You Know About Heredity?

Directions: Here is a list of human abilities, traits and diseases, some of which are hereditary, others not. For each item check either A___, B___, or C___ in the blanks at the left according to this classification:

A. Are definitely inherited and little or nothing can be done about them.

B. Are special abilities, strengths or weaknesses that appear with unusual frequency, generation after generation, in the same family tree and can usually be either cultivated or prevented.

C. Are not inherited but are acquired.

A ___	B ___	C ___	Acute alcoholism	A ___	B ___	C ___	Mechanical ability
A ___	B ___	C ___	Artistic talent	A ___	B ___	C ___	Musical ability
A ___	B ___	C ___	Athletic ability	A ___	B ___	C ___	Night blindness
A ___	B ___	C ___	Blood type	A ___	B ___	C ___	Optimism
A ___	B ___	C ___	Body build	A ___	B ___	C ___	Premature gray hair
A ___	B ___	C ___	Carelessness	A ___	B ___	C ___	Race prejudice
A ___	B ___	C ___	Color blindness	A ___	B ___	C ___	Religious beliefs
A ___	B ___	C ___	Criminal tendencies	A ___	B ___	C ___	Sense of humor
A ___	B ___	C ___	Fear of ghosts	A ___	B ___	C ___	Severe mental depression
A ___	B ___	C ___	Fear of the dark	A ___	B ___	C ___	Stubbornness
A ___	B ___	C ___	Feeble-mindedness	A ___	B ___	C ___	Truthfulness
A ___	B ___	C ___	Freckles	A ___	B ___	C ___	Tuberculosis
A ___	B ___	C ___	Left-handedness	A ___	B ___	C ___	Generosity
A ___	B ___	C ___	Long life span	A ___	B ___	C ___	Baldness
A ___	B ___	C ___	Mathematical ability				

Because feelings are often close to the surface in any inquiry about superstitions and misconceptions on heredity, a teacher will need to be fortified with ample scientific references when such a pre-test is discussed the following day. The topics in a unit on Housing tend to be more impersonal and pre-tests may try to help students explore the extent of their actual knowledge as compared with their preferences, using the technique illustrated in this sample item.

Directions: If you think the following statements are true, place an X in the blank at the left of the true statement.
If the statement is false, place an 0 in the blank at the left of the statement.
If you knew the correct response, place a K in the blank to the right of each such statement.
If you guessed the response, place a G in the blank to the right of each such statement.

Desirable means for ventilating the home include:

_____ 1. Window that may be raised from the bottom and lowered 1. _____ from the top.

- | | | |
|----------------|------------------------------------------------------------------------------|----------------|
| <u> </u> 2. | Window ventilators which fit the windows. | 2. <u> </u> |
| <u> </u> 3. | Casement windows which are screened on the inside. | 3. <u> </u> |
| <u> </u> 4. | Some device for removing moisture from the air as it comes from the furnace. | 4. <u> </u> |
| <u> </u> 5. | Keeping doors open which lead from one room to another. | 5. <u> </u> |
| <u> </u> 6. | Removal of cold air ducts. | 6. <u> </u> |
| <u> </u> 7. | Removal of fireplaces. | 7. <u> </u> |

With increasing stress being placed upon the development of students' ability to think, pre-tests in senior high school may well be designed to explore individuals' strengths and weaknesses, crude though the results are certain to be. Devices similar to the following may give a teacher some clues as to common errors in thinking made by individuals. You will note, then, that this rather lengthy item actually serves two purposes. One is to test knowledge of the principles of vegetable cookery. The other is to identify individual habits that seem to lead to common errors in reasoning tests.

Directions: Here are a number of statements. In the blanks at the left of each statement that supports the conclusion, place an X.

Conclusion:

Fresh, small tender beans cooked in a small amount of water contain more minerals and vitamins than those cooked in a large amount of water, assuming that all other cooking conditions are the same.

- | | |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u> </u> 1. | Some minerals and vitamins are soluble in cold or hot water. (True) |
| <u> </u> 2. | Vegetables cooked in a small amount of boiling water retain more of the soluble minerals and vitamins than those cooked in a large amount of boiling water. (Repetition to the right conclusion.) |
| <u> </u> 3. | Soluble mineral salts and vitamins pass into water easily. (True) |
| <u> </u> 4. | It is important to know what kind of pan the beans were cooked in. (Irrelevant) |
| <u> </u> 5. | The amount of minerals and vitamins dissolved would be less if the beans were cooked in a pressure cooker. (True, but irrelevant to the problem as stated.) |
| <u> </u> 6. | Considerable amounts of minerals and vitamins are dissolved out during the process of canning. (Irrelevant) |
| <u> </u> 7. | Just as more of the soluble materials are found in fresh fruits cooked in a small amount of water, more of the soluble minerals and vitamins are found in green string beans cooked in a small amount of water than in a large amount. (Analogy that is true) |
| <u> </u> 8. | The material of which the pans were made was the same. (Assumption, no evidence) |
| <u> </u> 9. | Anyone who has cooked fresh string beans would be able to explain the problem. (Ridicule) |
| <u> </u> 10. | Beans contain vitamin B which is soluble in water. (True) |
| <u> </u> 11. | It is not possible to serve all the liquor with the beans so it is thrown away. (Irrelevant) |
| <u> </u> 12. | The vitamin B in beans is lost by evaporation. (False) |

- ___ 13. More minerals and vitamins go into solution in the larger quantity of water. (True)
- ___ 14. Since frozen peas cook less rapidly when heated in a small amount of boiling water than when cooked in a large amount, therefore the beans cooked in the small amount of boiling water would cook more slowly. (Confused analogy)

Short periodic tests at all educational levels

The number of short, objectively-scored tests given for purposes of stimulation and clarification of learning, as well as for purposes of measurement, is very much on the increase in all classrooms of alert teachers. The prevalence of short quizzes in their other subjects tempts home economics students to rest a bit in our classes or postpone assignments UNLESS, we, too, use similar techniques. Students who face the likelihood of a test the next day are strongly motivated to prepare assignments thoroughly, to pay close attention to class experiences, and to respect as well as to enjoy home economics. Even college teachers frequently use pertinent short quizzes over a day's assignment to motivate daily study and force students to recall significant facts essential to a rewarding class discussion.

How much quizzing is "enough"? Obviously that varies with the class, the type of learning, and many other factors. But there is one test to determine the answer to this question that any teacher can apply. Did each student approximately measure up to her potential on the end-test? If students fail to do so, the reasons demand investigation, and remedial action to the extent that the school can provide it. The answer in many cases will lie in more frequent and consistent quizzing, more careful reporting back to each student, more individual self-analysis and, where needed, more re-teaching. Today's sequence, to paraphrase Morrison, must be test-teach-test-re-teach until each student gains the maximum she can from her schooling.

Until time can be found for the preparation of objectively-scored quizzes, use essay tests even on factual knowledge as well as for applications. Refrain from announcing ahead of time most of your brief tests. Vary your practice in collecting and grading papers; sometimes permit students to check their own. Above all, be consistent in requiring mastery of those aspects you have indicated are essentials.

Since testing is an integral part of teaching, you may perceive the following suggestions as merely the techniques of good teaching. Experience has shown that, whatever they may be called, they do tend to increase accurate mastery of new learnings at all levels.

- * Make sure that every student recognizes the content that you will hold them responsible for knowing in accurate form.
- * Use as much imagination and persistence as you can muster to get students to accent this content as necessary to their future, probably one of the soundest bases for self-motivation.
- * Provide for preliminary vocabulary study in each assignment; even a weak reader can comprehend rather difficult material if each word has meaning for him.

- * Help students identify facts, principles and generalizations in their texts and general class discussion through
 - Providing pointed questions on guide sheets for supervised study.
 - Formulating and writing on the chalk board essential concepts during discussions.
 - Requiring students to keep an accurate record of these for their own later study.

- * Introduce through a variety of devices adequate review and drill for such a level of mastery as the concepts being studied seem to merit.
 - Use more able students to clarify concepts and drill the less able as "assistants" to the teacher.
 - Deliberately plan for class time to be spent on review and drill frequently and consistently, not just before a test is to be given.

- * Make students aware of their own progress and of how and why these improvements have been achieved.

The type of objectively-scored item selected for these periodic, unannounced short quizzes depends upon the purpose to be served.

- * If the purpose is to "build a fire" under reluctant scholars, the items should be carefully prepared to allow no controversy on the key. Students are usually cognizant of such a purpose and accept it as a challenge to show up any possible debatable points. This is student thinking at a price! Infinitely better thinking than we can usually stimulate is worth the time spent in preparation.

- * If the purpose is to quickly bring to mind knowledge that students should have at their command as a result of class assignment and/or class instruction, the form most easily adapted to the information is adequate. Even the seldom recommended true-false items will identify weaknesses in factual information enough to reveal failure to read an assignment or pay attention in class. An immediate scoring may follow, with time for re-teaching wherever necessary before the work of the class can proceed.

- * If the purpose is to sensitize students to standards of performance or selection expected, objects may well be employed as a part of each item. For example, a teacher discovers through an appropriate performance test that her students' standards in clothing construction are very low. She can quite understand this when she observes the cheap, ready-made garments they are wearing. But performance tests are too time-consuming to be used often. From her collection of "practice pieces" made by former students she selects samples that show various errors, and labels these A, B, C, D, etc. Then she prepares a paper-and-pencil test, utilizing these samples. Two examples concerning darts are given on the following page.

Directions: Examine the labeled darts at station 1.
In blanks at left write the letters of all darts that show the mistakes described.

_____ Stitching crooked
 _____ Pressing poor
 _____ End threads not tied
 _____ Tension of machine wrong
 _____ Point not well tapered
 _____ Cloth in dart wrinkled

In the columns at the left place an X where you think the over-all quality of each dart seems to belong.

Very poor	Poor	Fair	Good	Excellent	Label on Dart
					Dart A
					Dart B
					Dart C
					Dart D Etc.

"Station 1" refers to the fact that objects must be distributed about the classroom, and students "count off" to determine the station where each is to begin work on the test in order to reduce congestion. If such an object test can be given so that it closes at the end of the period, the instructor will have time to examine the results of individuals, as well as of the group as a whole, so that the class discussion the next day may be handled with efficiency and tact.

- * If the purpose is for an accurate review preparatory to a final test on a unit, the items should be of the same caliber as expected on an end-test. Because good multiple-choice items are highly discriminating, they are a favorite choice. Authorities are now suggesting that such review tests can be dictated with equally satisfactory results. Those items with which students apparently are having trouble may well be included in the end-test; telling students of this likelihood helps them to focus their additional review more sharply.

All their school life students have been conditioned to settle down and do their best whenever the words "test" or "grade" are mentioned. In these days of increasing rigor in education this fact is helpful. In pre-tests a grade is never given and students are so informed. But the conditioning goes into operation just the same and becomes very apparent in periodic quizzes.

The question of whether to record grades from periodic quizzes is debatable. Unless at least some are recorded and influence grading, their effectiveness in terms of stimulation and self-analysis may be diminished. Some quizzes hardly merit a grade if actual testing is not the major purpose. Apparently the decision is up to each teacher on each quiz. To relieve the strain of decision-making on her and to be fair to her students, a general policy on grading short periodic tests should be developed with students, then followed.

The importance of end-tests

With increasing attention being paid to scholarship averages, not only by college admissions offices but even by employers of the less able students, end-tests are a matter of deep concern to students and teachers. One instructor who had recently returned to teaching after a long absence had failed to recognize the need for periodic quizzes and reviews because her students clearly were so enjoying her teaching. However, her girls had to take the same end-tests as did the students in the five other sections taught by two other teachers. The former homemaker was astounded and deeply shocked at the difference in the results and hied herself off to school as promptly as possible to enter a class in "Evaluation in Home Economics," a course she had never before studied. To express her dismay at "letting down" her students, she borrowed the first stanza of a poem by Jeanne De Mare.

"This is the hardest heartbreak of it all:
That I have blazed the pathway to defeat,
And said the words that will not call retreat
Against the precipice, above the fall."

Changing attitudes toward memorization

There was once a time in home economics when students' individual differences were being emphasized almost to the exclusion of their actual achievement. Some teachers were inclined to say proudly, "I do not teach home economics; I teach girls!" Before long we recognized that our challenge was no either-or proposition; we taught girls home economics. Today achievement has steadily assumed more and more importance.

This shift has thrown a quite different light upon the mental process of memorization. In revolt from a faculty psychology and the practice of knowledge for its own sweet sake, unrelated to any possible future use, mere memorization fell into disrepute. However, one cannot think without accurate facts. And the attainment and retention of facts requires effective and thorough memorization. After students recover from the shock of a reversal of philosophy and practice on the part of a teacher who has previously failed to recognize the necessity of memorization, they actually enjoy the process.

The students mentioned on page 409 who formulated best answer items on the many details to know about new textile fibers not only drilled themselves with these items but also accepted them as a part of the lengthy end-test. Reality practice in interpreting labels on fabrics in dress goods and drapery departments had thoroughly convinced the students that only accurate information made these labels worthwhile in consumer protection. When even the "author" of an item found that she had forgotten the correct answer of her own brain child after a lapse of time, her respect for thorough memorization increased tremendously. Here are samples of their multiple choice items, using a question for a "stem."

Directions: Place the capital letter of the best choice in the blank at the left of each item.

- _____ Which one of these fibers has least resistance to "pilling"?
- A. Vycron
 - B. Dacron
 - C. Kodel
 - D. Zefran
- _____ Which one of these fibers has least resistance to body oils and perspiration?
- A. Lycra
 - B. Vyrene
 - C. Rubber
 - D. Vycron
- _____ Which of these fibers permits the highest temperature for ironing?
- A. Rayon
 - B. Metallics
 - C. Kodel
 - D. Acetate
- _____ Which of these fibers requires the lowest temperature for ironing?
- A. Arnel
 - B. Dynel
 - C. Vycron
 - D. Nylon
- _____ Which of these fibers is least absorbent?
- A. Rayon
 - B. Acetate
 - C. Nylon
 - D. Verel
- _____ Which one of the following is not a trade name for rayon?
- A. Topel
 - B. Creslan
 - C. Corval
 - D. Fortisan
- _____ Which one of these fibers is most likely to be made into fabrics for clothing?
- A. Saran
 - B. Glass fiber
 - C. Zefran
 - D. Velon
- _____ In which of these fibers has durability been most sacrificed to a luxurious effect?
- A. Darvan
 - B. Acetate
 - C. Orlon
 - D. Creslan

_____ Which of these fibers is most readily flammable unless a flame-resistant finish has been applied?

- A. Dynel
- B. Rayon
- C. Acetate
- D. Napped rayon

_____ Which of these fibers is most susceptible to fume fading unless specifically treated to resist this?

- A. Arnel
- B. Orlon
- C. Creslan
- D. Chromspun

Students seemed to find the use of a question for a stem considerably easier than when they tried to use the alternative choices as the completion of a statement. For example, one girl was determined to use a statement as a stem in an item on the newly-coined trade term, "Sanforized-Plus." But she finally turned in this item.

_____ Which of the following have not been tested when the label on a cotton fabric states "Sanforized-Plus?"

- A. Wrinkle resistance
- B. Tensile strength
- C. Tear strength
- D. Color fastness

Some successful examples of items where a statement was employed are:

_____ For a Dacron and cotton blouse which will be both comfortable and easy to care for, the blend should have at least

- A. 15% Dacron
- B. 35% Dacron
- C. 50% Dacron
- D. 65% Dacron

_____ Knowledge of tensile strength of a yarn would be most important in the buying of

- A. Slips
- B. Blouses
- C. House dresses
- D. Children's play clothes

_____ The chemical finishing process which imparts a self-sterilizing quality to a fabric is

- A. Mildew-proof finish
- B. Millium finish
- C. Antiseptic finish
- D. Phosphorescent finish

Continuing emphasis upon application of knowledge

Inclusion of many items on facts and principles that, at least at the present time, can have an inflexible key is a great comfort to a

teacher seeking certainty in grades. But she is also aware that students can frequently recognize knowledge who are unable to apply it in typical situations. Hence end-tests must include such "application-of-principles" items as are sold by Iowa State University in our various areas of subject matter and at different grade levels. Indeed, since unfamiliar forms of tests are unfair to students when an important grade is at stake, application-of-principles items as are sold by Iowa State University in our various areas of subject matter and at different grade levels. Indeed, since unfamiliar forms of tests are unfair to students when an important grade is at stake, application-of-principles items can likewise be included in periodic quizzes.

If the test is to rank students accurately according to their abilities, the test items should be on critical points of learning. Items on critical points of learning at all secondary levels of learning often require application of knowledge; at the senior high school level they may also include items on classifying and synthesizing data. Examples of these types follow.

Evaluation in Home Economics, produced by the Indiana Home Economics Association, has on page 27 an illustration of a test item in Foods which evaluates application of information.

Problem: For a November "after-the-game" supper, Jane decided to serve four boys and four girls the following meal:

Boston Baked Beans		
Fruit Salad on Lettuce		
Cream Cheese on	Pimiento Cheese on	
Boston Brown Bread Sandwiches	Whole Wheat Bread Sandwiches	
Pickles	Potato Chips	Olives
Date Nut Bars	Oatmeal Cookies	
Hot Chocolate		

Directions: Place an X in the blank at the left of those reasons which you consider made Jane's choice good; place an O at the left of those reasons you think made Jane's choice poor.

1. Boys would like the meal.
2. The meal is too light to serve to boys.
3. She could prepare it before the game and have it ready to serve when the group returned to her home.
4. The meal is inexpensive per person.
5. The meal is not attractive as it lacks color and contrast in the foods planned.
6. The sandwiches are too heavy for high school pupils.
7. It can be served easily.
8. The meal is suitable for November.
9. The meal is too elaborate to serve to high school pupils.
10. Girls wouldn't like the menu but it is better to have food the boys would like.

Obviously many more items than the cluster true-false sample given could be built around Jane's problem. Whenever possible, this practice should be

followed in order to save reading time and paper. Another Indiana example, also in the area of foods, illustrates how this can be done.

Problem: Joan Johnson is a sophomore in high school. She lives in Podunk with her parents and her brother Jim. One Friday recently, Joan's mother was called away because of the illness of a friend and was unable to return until just in time to greet Mr. and Mrs. Jones who had been invited for a six o'clock dinner on Saturday. Hired help was available for the Saturday cleaning and for serving the dinner, but Joan had to assume all the other responsibilities connected with planning, preparing and serving the day's meals. Joan planned the following meals for Saturday.

<u>Breakfast</u>		<u>Lunch</u>	
Baked Apple		Macaroni and Tomato Casserole	
Bacon	Eggs	Hot Biscuits	Butter
Caramel Rolls	Butter	Raspberry Jelly	
Cocoa		Cup Cakes	Whipped Cream
		Milk	

Dinner
 Grapefruit Juice
 Rib Roast Brown Gravy
 Baked Potatoes
 Buttered Mixed Vegetables
 Hot Rolls Butter
 Raisin Pudding
 Tea

Directions: Place in the blanks at the left an X before each statement which you think describes the menu mentioned, and an 0 before each one which does not.

Breakfast and Lunch

- 1. Were too sweet.
- 2. Had a desirable combination of textures.
- 3. Supplied sufficient calories.
- 4. Included too little bulk.
- 5. Included too much starch.
- 6. Had sufficient color to be attractive.
- 7. Had a pleasing combination of bland and highly flavored foods.
- 8. Included protein of high value.

Dinner

- 9. Furnished a satisfactory amount of vitamin C.
- 10. Included too many foods that required last-minute preparation.
- 11. Had an interesting contrast in textures.
- 12. Had sufficient calcium for children.
- 13. Needed fried potatoes to make the meal more appetizing.

Mark X each substitution which would improve a menu and 0 each one which would not.

- 14. Buttered toast for caramel rolls.
- 15. Combination fruit salad for cup cakes and whipped cream.

- ___ 16. Sweet potatoes for Irish potatoes.
- ___ 17. Custard pie for raisin pudding.
- ___ 18. Omelet for scrambled eggs.

Put an X before each of the following which you think was correct and 0 before each one which was questionable or incorrect.

- ___ 19. Mr. and Mrs. Jones arrived at approximately 5:55 p.m.
- ___ 20. People seated themselves from the left side of their chairs.
- ___ 21. Mr. Johnson passed the first plate to the left without mentioning for whom it was intended.
- ___ 22. The gravy was passed so that each person could help himself.
- ___ 23. Mrs. Johnson passed the jelly to the right after serving herself.
- ___ 24. Mrs. Jones cut her meat holding her fork in her left hand with the tines down and with her index finger on the back of the fork and the fork handle in the palm of her hand.
- ___ 25. Mrs. Jones held her little finger a bit detached from the rest of her fingers when she drank her tea.

The woman who helped with the dinner:

- ___ 26. Placed and removed everything except the beverage from the left, using her left hand.
- ___ 27. Carried the dessert forks to the table on a small tray when she was ready to serve the custard pie.
- ___ 28. Stacked the soiled dishes at the left of the sink.
- ___ 29. Stacked the roaster in which the gravy was made on the pie pan and stacked the vegetable kettles on the top of the gas stove.
- ___ 30. Put the small amounts of leftovers, meat and vegetables, in the same covered bowl in the refrigerator.
- ___ 31. Began by washing the silver first, using hot soapy water.

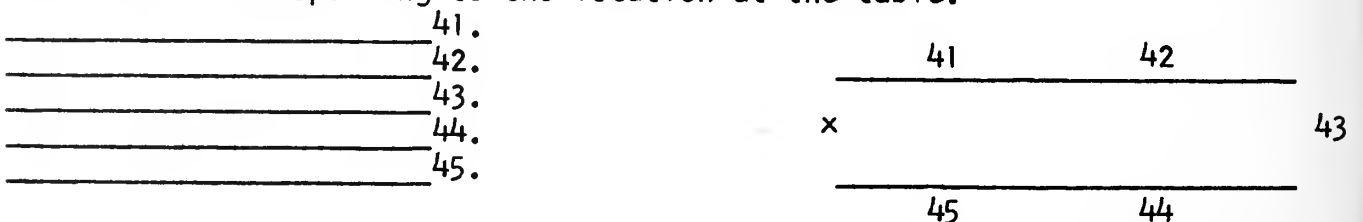
When Joan set the table for breakfast, she used

- ___ 32. One spoon.
- ___ 33. One fork
- ___ 34. One knife.

When she set the table for dinner, she used

- ___ 35. One spoon.
- ___ 36. One knife
- ___ 37. Two forks
- ___ 38. The salad fork between the plate and the dinner fork.
- ___ 39. The carving knife to the right of the serving spoons at her father's plate.
- ___ 40. The dish of peas and carrots at the right of the platter of meat and potatoes.

Mrs. Johnson sat at the end of the table marked x. Indicate where each other person should sit at the table by writing the name in the blank with the number corresponding to the location at the table.



You will note that in these examples numbers have been properly used in consecutive order. Previously in our examples numbers have been omitted as offering less confusion to the readers.

Some teachers complain that items that deal with the specifics of local life, such as the choices on a menu, cannot be used verbatim in another part of the country. The answer would seem to be for these teachers to adjust the details to their own situation, since the general information needed by students is likely to be approximately the same. To adapt always seems to be easier than to formulate a series of such items strictly "from scratch."

Let us illustrate such adaptation with another example in the area of foods.

Problem: Mary is helping her mother buy meat. Her mother feels the family needs meat once a day but she finds it hard to keep within the food allowance. They are selecting meat for a beef and vegetable stew.

Directions: In the blank at the left of the cut that seems to you the best choice, place an X.

<u> </u> 1. Round	<u> </u> 3. Brisket	<u> </u> 5. Chuck
<u> </u> 2. Plate	<u> </u> 4. Tenderloin	<u> </u> 6. Rump

In appropriate blanks at the left place an X before the reasons for your selection.

- 1. Tender cuts of meat have more food value than the tough cuts.
- 2. Higher grades of meat are more expensive than the lower grades.
- 3. Vegetable and meat stew requires a long-time cooking process.
- 4. Plate and brisket have more cartilage and skin than chuck.
- 5. A cut from chuck is less expensive than the rump.
- 6. Chuck is a tough cut but is as nutritious as round.
- 7. Tenderloin has fine flavor and little or no waste.
- 8. Brisket and plate are inexpensive cuts.
- 9. Round is a tough cut with good flavor.
- 10. A tougher cut of meat can be used for stew than for other purposes.

Considering the cuts of meat given, place in the blanks at the left of each statement the correct numbers of the cuts named.

- 11. Cuts of meat which are tough
- 12. Cuts of meat which are tender
- 13. Cuts of meat which are expensive
- 14. Cuts of meat which are low in cost
- 15. Cuts of meat which require a short time for cooking
- 16. Cuts of meat which require a long time for cooking

In the above example a teacher's adaption might be entirely confined to any change in the terms applied to meat cuts locally. She may also choose to use only 1-10 or 11-16, according to what she judges to be her

own students' needs. Items 11-16 are designed as an experience in classifying and summarizing facts as a further review of the content involved in items 1-10. These two processes are so vital in logical thinking that they can scarcely be overemphasized.

Achieving a sense of continuity and progress through tests

Perhaps no other aspect of teaching enables students to so readily identify a lack of articulation between instructional materials at different educational levels as does testing. Items on tests tend to be more sharply focused in their memories than is less emphasized knowledge. If a student encounters virtually the same facts in senior high school units as she learned in junior high school, she tends to express the familiar complaint that "advanced home economics is just some more of the same." To openly repeat test items from junior high school in a pre-test in an advanced class is acceptable; most students are fair-minded enough to recognize the erosion of time on knowledge and accept a quick refresher period as justified. But they're from Missouri: they have to be shown!

Moreover, with so much criticism of schools and teaching in general they are inclined to ask, "Why were we not taught this more thoroughly before? We should be using this time to learn new and harder things!" Unless students do feel this sense of progress, their interest and satisfaction lags. Again, tests offer some tangible evidences of progress if teachers follow a thoughtful sequence of difficulty in their teaching.

For instance, one teacher in senior high school wondered whether the science which the students were so proud to be learning might not be tied up with various aspects of home economics so as to create some "thorns in the flesh." Space permits only one example, but you can work out many more home economics applications of the facts and principles to be found in your senior high school science texts. This particular "thorn" was injected by the instructor wondering aloud "When should cream be added to coffee if you want it to cool faster?" She suggested that her students over the week-end try to recall any science information which might help to answer this question, and report on Monday the principle on which their answer was based.

Intrigued by the everyday problem, curious students carried home their science texts for "digging in," as they phrased it. Quite uniformly the Monday reports concluded that coffee will cool faster if you let it stand a few minutes before adding cream. When pressed for a "why," they speculated along these lines:

- * Before the cream is added, the coffee is cooling from a higher temperature and hence faster.
- * The coffee is darker in color without the cream and therefore radiates heat faster.
- * Adding the cream, with its fat molecules, slows the evaporation of the water in the coffee.

To settle the arguments that naturally arose, students were encouraged to write the question, the proposed answer, and the line of reasoning that

presumably supported this answer, then representatives checked their scientific interpretations with appropriate instructors. Since the question had originated at a table in the teachers' school lunchroom, the home economics instructor knew that the science people, also, had had ample time to do their "digging in."

The Central Purpose of American Education

This is the title of a 21-page pamphlet issued around the first of June, 1961 by one of the most respected organizations in the academic world, the 19-member Educational Policies Commission. A favorable review in Time, June 9, 1961 provided these significant excerpts but every teacher would probably do well to read and ponder all the 21 pages as soon as the publication becomes generally available. Almost certainly school administrators will be receiving copies.

- * "The purpose which runs through and strengthens all other educational purposes--the common thread of education--is the development of the ability to think."
- * "The rational power of any person--including the supposedly dull--are developed gradually and continuously as and when he uses them successfully."
- * "There is no known upper limit to human ability, and much of what people are capable of doing with their minds is probably unknown today."
- * "It is crucial that the teacher possess a thorough knowledge of the material to be taught, as well as mastery of teaching methods."
- * "The school must foster not only desire and respect for knowledge but also the inquiring spirit. It must encourage the pupil to ask, "How do I know?" as well as "What do I know?"
- * "Schools should teach the strategies of inquiry by which man has sought to extend his knowledge and understanding of the world."

For some time home economists at every educational level have been recognizing the necessity for developing in their students the ability to think. What had previously been taken blithely for granted is proving to be a real challenge. Dr. Marjorie Brown, Professor of Home Economics Education at the University of Minnesota, has recently initiated a professional research project on critical thinking. Dr. J. Richard Suchman, Associate Professor of Child Development at the University of Illinois, is currently engaged in "Inquiry" research with elementary school children. Ultimately, from all such projects, enlightenment on both theory and method will come to us as "practitioners."

Unfortunately, the students whom we will teach next year are not likely to pass our way again. What can we do to help them sharpen their wits through their study of homemaking and family living? One major

possibility is to design new types of objectively-scored items that provide for both you and individual students a crude measure of ability to think.

Commercial tests for appraising ability to think

Naturally, general tests can offer only suggestions on form and techniques. Adaptation to problems in home economics is not too difficult, once the purpose and theory back of the item is understood.

Perhaps the best known test on thinking is the Watson-Glaser Critical Thinking Appraisal, published by the World Book Company. Specimen sets are available for purchase but one set is almost certain to be in your professional library at school. This instrument provides problems and situations that call for application of several important abilities involved in thinking: inference, recognition of unstated assumptions, deduction, interpretation, and evaluation of arguments.

The American Council on Education through the Educational Testing Service mentioned in the section on references distributes A Test of Critical Thinking. Here are a couple of items from this test that show how readily a teacher can adapt items to home economics data, statements, arguments and issues. The purpose and the technique employed will be the same, regardless of the area of subject matter. Every area has possibilities for developing the ability to think; we just have to somehow attain the know-how.

A good illustration of an item from this test that is designed to appraise discrimination and synthesis of information is as follows.

Directions: This item is a brief description of a situation, followed by five possible statements of the problem involved. Select from these five statements and place an X in the blank at the left of the one which

- a) faces the problem, and
- b) is broadest and most inclusive.

The statement which you select need not be the wisest one or the one you would personally accept. You are to select only on the basis of whether the statement faces the problem and is broader and more inclusive than the other statements.

"The Kemp family wishes to repaint its living room walls. Their problem is:

_____ What color and kind of paint will best fit the family's use of the room and budget of time and money

_____ What color goes best with the rugs and curtains

_____ How best to time the painting in relation to the baby's sleep, Jane's birthday party, and other events scheduled for the house.

_____ What kind of paint--water or oil base, etc.--is cheaper in the long run, immediate area covered, and washability and durability all considered

_____ Whether they should use wallpaper since it will be cheaper and more colorful."

Another item, also supplied by the Educational Testing Service, provides a sharp example of how the ability to comprehend implications can be appraised.

Directions: This item gives part of an argument, followed by five sentences. One of the five sentences completes the argument in such a way as to justify the conclusion. Select this one sentence and place an X in the blank at the left of it.

"He is very pompous, so I know he will not stand your criticism.

- Some people cannot stand criticism
 Some pompous people cannot stand criticism
 Some people who cannot stand criticism are pompous
 All people who cannot stand criticism are pompous
 No pompous people can stand criticism."

But here is a final surprise for you!

Our teaching task is still incomplete. Ghiselin in his Creative Process makes this statement, "Creativity demands an understanding that the known is not absolute but is only an instrument toward new knowledge." Today we must use in our teaching those basic concepts that best seem to promise usefulness in the future. Yet we can never ignore Ghiselin's warning that the present known does not preclude tremendous future changes. For that reason we must concern ourselves with trying to develop not only the ability to think but also the ability to be creative.

The authors of the article on developing creativity in Volume IV, No. 4 emphasized that current research strongly supports the belief that the ability to be creative is not reserved for a select few. All persons have this capacity to some extent. The problem facing homemaking teachers is not only to develop creativity in students, but to be able to appraise progress toward such an objective.

Generally speaking, most authorities in the area of creativity use six "tasks" to evaluate creativity. These six tasks are enumerated below with sample test items applying to various areas of home economics.

1. Uses of common objects. List all the uses that you can think of for: a young child playing with an extensive set of building blocks of different sizes and shapes; learnings gained from a home experience in redecorating your room; a community building in a town.
2. Impossibilities. List as many practical impossibilities as you can think of relative to: the consumer reducing his cost of living; using life insurance as a sole means for savings and investments; changing the behavior of children between the ages of six and twelve; the acceptance of identical values by everyone.
3. Situations. In what ways would you handle: a friend who likes to tease others but cannot stand to be kidded by them? a family situation where your sister is brighter and prettier than you? your situation if you happened to live next door to a person who was known to be a mean gossip?

4. Problems. List as many problems as you can which might arise from:
going steady; too little sleep; consumer credit; unbalanced meals.
5. Improvements. Suggest as many improvements as you can think of for:
a steam iron; teen-agers' diets; family housing; labeling laws.
6. Consequences. What would happen if: there were no government regulations to protect the home consumer? everyone withdrew from taking any community responsibility? all small children were cared for in good community nursery schools and their mothers required to work at gainful employment?

At first glance this might not seem to be material for objective testing. However, when it is recalled that an objective test is one that has an objective-scoring procedure, it becomes quite proper to include the appraisal of creativity as a goal that can be measured by objective tests.

A homemaking teacher can use any of the examples given of the six tasks, as well as other examples, to later stimulate a thought-provoking discussion. Experience as well as research indicates that some of the most imaginative students will be found among those who rebel at the precise learning necessary for logical thinking. Remember that our nation needs both kinds of thinkers!

Scoring written test items for appraising creativity

Three scores are usually computed for each item; obviously this suggests that perhaps only one item from each task group should be used at a given time. The frequency or fluency score is obtained simply by counting every suggestion the student makes. This is the simplest and quickest score to obtain.

The variety or flexibility score is obtained by counting the number of different classes of responses given. For instance, the student might: (1) make something smaller or minimize the object or situation, (2) make it larger or maximize it, (3) break it down into more parts, (4) reproduce it in many more parts without breaking down the original, (5) change the color, (6) change the form, (7) add something else to it, or (8) take something away from it. If a student did all of these during his task, he would have a maximum variety score of eight.

The third score of uniqueness is obtained by tabulating and arranging all classes of responses according to frequency of use. The responses in the one-third of the total used the least would be weighted 3, the middle one-third of all responses would be weighted 2, but those in the most frequently used would be assigned only a weighting of 0.

Linel Mosing, in his "Development of a Multi-media Creativity Test," gives the following example of scoring.

Directions: List all the uses you can think of for a large cake of ice.

One student's answer: (1) Cool water, (2) Cool food, (3) Cool soda pop, (4) Cool lemonade, (5) Reduce swelling, (6) Build igloo, (7) Reduce vapor lock in auto

Score on answer: Frequency--7. Variety--1-4 worth 1; 5,6, and 7 each worth 1: total 4. Uniqueness--1-4 worth 0; 5,6, and 7 each worth 3: total 9.

Therefore, the total creativity score would be 20 on that one item.

ART IN HOME ECONOMICS

Joan Graham Whittier
University of Illinois

This article is addressed primarily to those people who are attempting to teach art within the framework of Home Economics.

Art is one of those things which, like air and earth, is everywhere around us, but which we very often neglect to consider. As soon as a person is involved with eating, being clothed, and having shelter (except as they fulfill the basic needs of man), he is becoming involved with Art. One's ability to enjoy life is greatly dependent upon one's capacity to understand and participate in things which make up life's interests. By developing these capacities one's life would be enriched, for we can only fully enjoy and appreciate that which we understand.

Art is a way of life, a way of living. Rupert Brooke eloquently presented this idea in "The Great Lover." It is evident in this poem that Brooke had become sensitive to the things around him because he learned to pay attention to those things as they came to him through sight, touch, smell and sound; and that his attentive observation of these things enriched his experience of living.

"These I have loved:

White plates and cups, clean-gleaming,
Ringed with blue lines; and feathery, faery dust;
Wet roofs, beneath the lamp-light; the strong crust
Of friendly bread; and many-tasting food;
Rainbows; and the blue bitter smoke of wood;
And radiant raindrops couching in cool flowers;
And flowers themselves, that sway through sunny hours,
Dreaming of moths that drink them under the moon,
Then the cool kindness of sheets, that soon
Smooth away trouble; and the rough male kiss
Of blankets; grainy wood; live hair that is
Shining and free; blue-massing clouds; the keen
Unpassioned beauty of a great machine;
The benison of hot water; furs to touch;
The good smell of old clothes; and other such-
The comfortable smell of friendly fingers,
Hair's fragrance, and the misty reek that lingers
About dead leaves and last year's ferns....."

Rupert Brooke captured most vividly the sensitivity to life that can be had to a greater degree through the understanding, appreciation and creation of Art.

The question often is asked, how can Art be effectively included in the Home Economics program? Rarely is the question asked whether we ought to include Art in Home Economics for we agree for the most part as to its importance. We remember that through the study of Art we can help the

student develop a critical appreciation of that which is all about him. Through creative and expressive activities we can develop the emotional and perceptual aspects of the personality of the individual in addition to the intellectual aspect commonly emphasized in school, and through this study, we provide opportunities for the individual to make constructive use of his leisure time.

Because the curriculum in Home Economics has become more integrated, Art can be assigned a more diversified role within the whole Home Economics program. No longer should it be a separate entity, but rather it should permeate a large part of the program and should be associated in a general way with a great variety of the student's experiences.

With these few thoughts in mind, I would propose the following objectives and means of achieving them.

- * Development of an awareness and sensitivity to Art. Help the student form a consciousness of Art in its contribution to her life, her home, her hobby, her vocation.
- * Development of discrimination and good judgment. A judgment can be justified on the basis of a general truth, a guiding law or a principle; an opinion may have no better foundation than a personal whim or bias or a current fad.
- * Development of creativity and self-confidence in one's expression. It is through the development of confidence in one's ability to give form to feelings and ideas that Art will have an influence on the student's personality.
- * Development of an understanding of Art principles and ability to make use of them. The principles should not be considered as ends in themselves, but rather as a means to achievement in creative and problem-solving activities, and as vocabulary for descriptive analysis.
- * Remove the popular misconceptions of Art. Art is not only for artists and collectors. It is not something found only in museums. It is, or can be, an integral part of everyone's everyday living.

It is obvious that it would be impossible to achieve all of these objectives within a single course. However, to understand completely and to recognize the importance of these objectives is vital on the part of all teachers. All teachers, regardless of their specialty, should take note of, and emphasize, the artistic side of their subject matter. There can be no single unit for the teaching of Art, but rather Art should become an integral part of many units of programmed school work.

At this point it is important to remember two facets of education and psychological theory. (1) Every human being must do his own learning. (2) The teacher, at best, can contrive an environment within which the student will encounter experiences, which he will "take to heart" according to his own background of understanding.

The procedures used to teach Art must be those which provide exploration and discovery of the student's own environment, and the variety of materials it contains. The procedure basic to the teaching of all Art through Home Economics is to provide conditions which will stimulate creativity and permit it to develop. This means doing two things: (1) Setting up an atmosphere of permissiveness; and (2) Giving the student intimate exposure to the materials of one's Art.

Permissiveness should not be mistaken for undisciplined "self-expression" or "creative play." Before one can be creative one must have done the hard work of learning fundamentals. It is this fact that so-called "progressive educators" frequently ignore. It is also true that rigid molds of thinking (learning to do things strictly by the rule-book) do not provide the permissive conditions in which creativity can come forth. "Old-fashioned" educators who teach "by the book" ignore this fact. There is a middle way between the "old-fashioned" educator and the "progressive educator," and the remainder of this article will attempt to show the shortcomings of the erroneous ways and to indicate what the middle way is.

Authoritarianism Denies Permissiveness

A great deal of the teaching done today is merely a giving out of rules and statements made by "authorities" in the field and requiring students to memorize them. It is essential that students be made to think about, not only to memorize, what some authority says is proper. After all, the authority may be wrong, or perhaps there are many valid views on the same subject.

In the field of Art and the subjects of which it is a part, you can find many teachers who make the big mistake of attempting to teach "good taste" through an appeal to authority, a guiding set of rules and principles, which they often misinterpret and are really not clear about themselves, and through what is considered at the time to be "proper." This surely inculcates conformity rather than stimulating creativity. Much teaching is of an authoritarian nature because the teacher herself has no confidence in her own judgment or she mistakenly believes there is only one right way, her way. All teachers, and particularly teachers who lack confidence in their own judgment, should give students an opportunity to make judgments on their own, after a thorough grounding in fundamentals, and after exploring many possibilities and alternatives.

For example, in the study of color the teacher could carefully set up problems for the students which would introduce them to, and give them a chance to explore, the three dimensions of color. Through these problems the student would be led to an understanding of color theory, and an understanding of the facts about color. From this grounding in fundamentals the teacher could then move into the more subjective aspects of color preferences, color relationships, and color use. It is here that she would do well to let the students be quite free in their work and in making decisions and judgments. Her job is to make sure the students understand the basic fundamentals of color theory so that they are able to intelligently make decisions concerning color. Her job is not to teach her preferences, her taste, and her opinions regarding color use.

Confidence in one's own judgment should not be taken to mean that the criterion of whether something is good or bad is whether you like it or not. Of course, an emotional response is a perfectly valid one, but it can and should be supported by a judgment based on an understanding of fundamentals. Students must learn the importance of understanding the fundamentals and the need to analyze their reasons for liking or disliking a certain thing. Students and teachers alike must realize that taste changes and matures, and that what is liked at first may pall, and what is disliked at first may, with repeated exposure to it, "grow" on them. It is imperative that students and teachers keep an open mind. The "proof of the pudding is in the eating," not in how the recipe sounds when read. Try it! Taste it! Students should be encouraged to try new experiences and to be open to new ideas. This is a step toward teaching creativity. For teachers to cultivate the habit (first within themselves, and then in their students) of waiting, seeing, exploring, being slow to make judgments, and of not relying solely on first emotional responses (which often are very biased) will carry us closer to being creative people.

Over-Permissiveness is Self-Defeating

The other big mistake often made is to treat creativity as a matter of "self-expression," where "anything goes" as long as one does it spontaneously. Creativity is not a matter of expressing one's emotions or inclinations, but of discovering the potentialities for design in the materials one is working with. To serve an all red meal may be quite novel, but is it creative? Over-permissiveness is self-defeating because it under-emphasizes the understanding of fundamentals and mistakenly believes all novelty to be examples of creativity. To be sure, the creative involves that which is new and different, but it also involves bringing forth a design that "makes sense," and whose "freshness" will be of something more than shock value. An atmosphere of permissiveness encourages spontaneity, but this is only half the story of what goes into setting up conditions that will foster and nourish creativity.

The True Source of Creative Ideas and Good Taste

The essence of the creative act is a dialogue, a give and take, between the creator (his judgment and tastes) and his materials (their potentialities, what they suggest to him as he works with and studies them). Thus the second major condition for promoting creativity is providing the opportunity for the students to gain extensive and intimate exposure to a wide variety of materials. Ideas and awareness of new possibilities are often suggested to the mind as one handles materials and notes their possibilities for combination and relation.

This then is the middle way mentioned previously, because it is a way that submits to authority rather than the unbridled spontaneity of "self-expression," but this authority rests in the nature of the materials and the problems themselves and not upon the opinions of would-be "authorities" and "experts." The authority of judgment comes from experience with actual materials. One learns by doing, not by being told, and even if one is told what the experts say, and even if the experts are right, one still cannot understand and appreciate what they say until one has learned from her own experience that what they say is true. In no other way can a student make the knowledge her own.

This point of view has many implications for the Home Economics teacher. That laboratory activities should be exploratory should be obvious, as well as the necessity for revamping many laboratory problems. Problems designed to furnish many solutions to the same question rather than one solution certainly would have merit, for they would provide opportunities for students to compare and contrast materials, techniques and results, and draw their own conclusions by making their own judgments. It would also suggest that laboratory activities using actual materials and solving real problems are far more to be stressed than any reliance on audio-visual aids, for such aids can be no substitute for direct contact with real materials themselves. Seeing movies, reading texts, and listening to lectures does not give intimate knowledge of such. They can show what has been done, possible methods others have used (and perhaps inhibit the student who might be creative), but they cannot show what the student might create herself.

Contents and Costs for 1961-1962 Issues
The Illinois Teacher of Home Economics

The following topics will be featured in the nine issues of 1961-1962, insofar as home economics education is concerned. Dr. Janice Smith and her staff hope to prepare some timely contributions in home economics subject matter, also. The authors of the following articles have been busily engaged in reading, thinking, collecting, and experimenting, and we are proud of the way each topic chosen promises to be as up-to-date as tomorrow's newspaper!

Let's Try Something Different: Action Research

Modern Goals in Teaching Clothing Selection

Studying Values Through Role Playing

Innovations in Space and Facilities for Homemaking Departments

Pre-employment Education Through Homemaking Classes

Developing a Scientific Attitude Through Foods Teaching

Ways and Means Toward Recognized Ends

Teaching Housing in Senior High School, No. 11

Tricks of the Trade in Good Management

All of these issues will be printed and bound, and will be mailed out from the University as second-class matter which should facilitate delivery. As has been mentioned in previous issues, the cost of the nine issues for 1961-1962 is \$3.00. Single copies will sell for 50 cents each. Please send us a check or school order made out to the University of Illinois or to the Illinois Teacher. Mail to the Illinois Teacher or to Letitia Walsh at 334 Gregory Hall, University of Illinois, Urbana, Illinois

Two valued members of our Editorial Board, Dorothy Keenan and Emily Howald, are leaving us at the end of the 1961 summer session. You could make the transition period easier and the service we give you better if you would PLEASE:

Send in your renewal subscription on or before August 10, 1961.

Request anyone to whom you recommend our publication to do the same.

Spread the word that any teacher in this country can now subscribe. If you fail to receive one or two issues, let us know promptly; with all our elaborate record keeping at this end, we still make mistakes but we are more than ready to make them right for you.

We are pleased to report continued increases in subscriptions, even though the charge is now \$3.00. We welcome subscriptions from other countries although our local post office has not yet figured out what, if any, additional charge we shall have to make for postage. Since the Illinois Teacher of Home Economics is definitely a non-profit publication, we are advised that any additional cost will be small. As soon as we know, we will write to any individual affected.

As always, we receive suggestions for future articles with genuine appreciation. Indeed, several authors are already at work on articles which you have requested and which they will be sharing with you in 1962-1963. This year, for the first time, we received a very well thought-out letter of three single-spaced pages presenting a point of view quite different, at least on the surface, from that presented by the co-authors of one of our articles. We deeply appreciate the time and effort expended, and are currently seeking evidence on the questions raised. Perhaps eventually we may be able to devise some way of presenting in the Illinois Teacher alternative methods of applying basically the same educational philosophy.

Editorial Board: Emily Howald
Dorothy Keenan
Letitia Walsh

The Pay-Off in Homemaking

This summer might be a good time for planning a promotion bulletin for use next year. One junior high school teacher in Illinois adapted Miss Elsie Buchanan's illustrations and ideas, got her brochure printed, and started a campaign with her students and their parents right from the first month of the school year. Her school administrator made the publication available to senior high school students, parents, and counselors. Result? You've guessed it! Increased enrollments all along the line! Surely some of the increase was due to this effort at mass interpretation.

Copies of The Pay-Off in Homemaking are still available at 25 cents a copy. Just send your coin to Illinois Teacher, 334 Gregory Hall, University of Illinois, Urbana, Illinois.









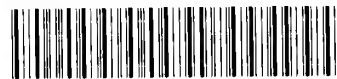
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