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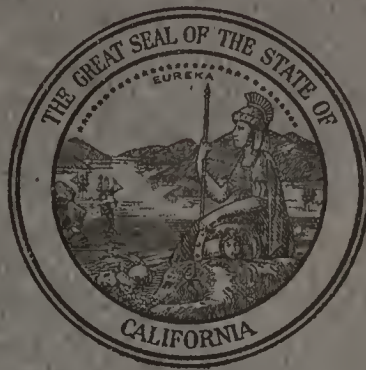
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THE PUPIL'S WORKBOOK IN THE
GEOGRAPHY OF CALIFORNIA

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THE PUPIL'S WORKBOOK IN THE GEOGRAPHY OF CALIFORNIA



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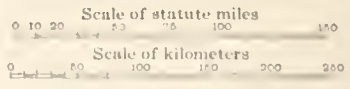
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CALIFORNIA

POLITICAL AND ECONOMIC MAP SHOWING NATURAL REGIONS



- ☆ State capital
- Chief seaports
- County seats
- Navigable rivers
- Railroads
- ⚡ Chief hydro-electric power plants
- Orland national irrigation project
- Coastal and valley lowlands
- Klamath Mountains
- Great Basin
- Middle coast ranges
- Volcanic region
- Southern coast ranges
- Sierra Nevada

California Missions

- 1 San Diego de Alcalá, H 11
- 2 San Carlos de Borromeo, first site, D 7
- 3 San Carlos de Borromeo (Carmel), D 7
- 4 San Antonio de Padua, D 7
- 5 San Gabriel Arcángel, C 10
- 6 San Luis Obispo de Tolosa, F 8
- 7 San Francisco d'Assisi, J 3
- 8 San Juan Capistrano, D 11
- 9 Santa Clara, K 3
- 10 Nuestra Señora de la Soledad, F 9
- 11 Santa Barbara, F 9
- 12 La Purísima Concepción, E 9
- 13 Santa Cruz, D 7
- 14 Nuestra Señora de la Soledad, D 7
- 15 San José, K 3
- 16 San Juan Bautista, D 7
- 17 San Miguel, E 8
- 18 San Fernando Rey de España, B 10
- 19 San Luis Rey de Francia, H 10
- 20 Santa Ynez, E 9
- 21 San Rafael Arcángel, J 2
- 22 San Francisco de Solano, J 2

THE PUPIL'S WORKBOOK IN THE GEOGRAPHY OF CALIFORNIA

THE PROBLEM METHOD

BY

FREDERICK A. RICE

AND

WILLIAM G. PADEN



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TO THE TEACHER

The New Geography. During recent years a great revolution has taken place in the teaching of geography. We no longer stress merely the locational, the political, the physical, or the economic and commercial phases of the subject for their own sake. Instead we aim to teach all the facts of geography in connection with the ways in which they affect human life.

Problem Study. With the change in the viewpoint has come a great change in method. Instead of striving to teach children to memorize a great mass of facts, we endeavor to interest them and to promote the study by presenting worth-while problems to be solved. This has led to the socialized recitation, in which teachers and students work out the problems together, and to the introduction of the project method of teaching. It is almost impossible to make a project textbook, but the problems given in this book will suggest many projects which can be worked out by students in the classroom and at home.

The Importance of California Geography. No other state is as varied as California in its geography, and in no other state can so many interesting geographical problems be found. In this book we have tried to interest children, to give them an understanding of California's wonderful resources and their uses, and to provide a basis for comparing California with other areas.

A great wealth of helpful material is available to the teacher of California geography. Some of the most useful sources of information are the following :

Bureau of the Census bulletins and reports on agriculture, irrigation, manufacturing, etc. These can be obtained from the Bureau of the Census, Department of Commerce, Washington, D.C.

Statistical Report of the California Board of Agriculture, Sacramento.

Reports of the California Development Association (Ferry Building, San Francisco), particularly "California Resources and Possibilities." The Monthly Bulletin of this association is invaluable. Subscription, 50 cents per year.

The Marshall Plan, California State Irrigation Association, Sacramento.

United States Weather Bureau reports, Merchants Exchange Building, San Francisco.

Reports of the State Bureau of Mining (Ferry Building, San Francisco), State Highway Commission, State Board of Forestry, State Fish and Game Commission, State Commissioner of Immigration, State Land Settlement and Housing Board, and State Harbor Commission.

Pamphlets issued by the water, gas, and electric companies, and the power companies; railroad folders; promotion booklets published by city and county chambers of commerce; market reports, shipping news, and weather reports in the daily papers.

Every class studying California geography should have a good wall map of the state. The State Highway Commission publishes an excellent one.

Pupils should be encouraged to bring to class newspaper and magazine articles regarding California climate, products, industries, and exports and imports, and other topics of interest to the geography class.

In addition we recommend the following books as useful for supplementary work :

FISHER. Resources and Industries of the United States

ALLEN. Geographical and Industrial Studies:

United States

North America

BISHOP and KELLER. Industry and Trade

KELLER and BISHOP. Commercial and Industrial Geography

FRYE-ATWOOD. New Geography, Books One and Two

BRANOM. The Teaching of Geography

ATWOOD and THOMAS. Teaching the New Geography

The compilers of this book will gladly answer questions that may arise in connection with its use in any school. They may be addressed in care of Ginn and Company, 20 Second Street, San Francisco.

THE AUTHORS

TO THE BOYS AND GIRLS OF CALIFORNIA

Geography is easy and interesting if we study it in the right way. It tells us all about the things that people do and why they do them. It never grows tiresome, because we find that the climate, the occupations, the products, and even the sports and games are different in different regions.

One of the surest ways to understand how geography affects the lives of people is to study carefully the geography of your own home and state. The surface features, climate, and natural resources of California are more varied than those of any other state in the Union. The more clearly you understand their effect on the life of the people, the better you will understand the geography of the world.

California is not only a pleasant place in which to live, but it is a state of great opportunities. It is still growing rapidly. New lands must be opened up for cultivation. More industries must be started to take care of the needs of the people who live here, and our trade with other states and with foreign countries must be increased. There will always be interesting work for those of us who live in California. The more we know about our state, the better we shall be able to enjoy it and to take advantage of the opportunities it offers.

Do not try to remember the figures given in this book. They are put here simply to help you solve your problems. The figures change from year to year, and even the products in the different regions change. Parts of California, for example, that once grew almost nothing but wheat now grow very little wheat, or none at all, but are given over to fruit ranches. The geographic conditions back of all the products and occupations, however, remain the same.

We place this little book in your hands with the hope that its lessons may spur you on to make further search into the possibilities of this, our Golden State.

THE AUTHORS

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THE PUPIL'S WORKBOOK IN THE GEOGRAPHY OF CALIFORNIA

WHERE IN THE WORLD IS CALIFORNIA?

(Refer to maps of California, of the United States, and of the world)

1. Only three states of the United States touch the Pacific Ocean. They are Wash, Ore, and Calif. The largest of these three states is Calif. California may be said to be in the west part of the United States. It is in the continent of Am and in the Temp zone.

2. California is 32 of the equator and is therefore in 32 latitude. The southernmost point of California is about 32 degrees north latitude. On the map on page 7 draw a parallel through this point and place the correct number on it. Use a colored pencil. The parallel of _____ degrees north latitude forms the northern boundary of California. Draw this parallel with a colored pencil and number it. The parallel of _____ degrees north latitude lies nearest the middle of California. On a map of the United States find this parallel and trace it with your finger. All points on this line lie due east from central California.

3. Since California is west of the prime meridian, it is in 120 longitude. The easternmost point of California is about _____ degrees west longitude. Draw a meridian through this point on your map and number it. The westernmost point of California (Cape _____) is about 124 degrees west longitude. This is also the westernmost point of the United States. Draw a meridian through this point on your map and number it.

PROBLEMS

1. On your map find the line that represents the 39th degree of north latitude. Locate the point where this parallel crosses the 120th meridian of west longitude. What lake may be said to be located in longitude 120° West and latitude 39° North? _____. Of what use are parallels and meridians? Find the approximate latitude and longitude of the following places:

Los Angeles _____ San Francisco _____
San Diego _____ Eureka _____

2. On the map on page 7, color the county in which you live. Trace with colored pencil the meridian and parallel which pass through or near your county. I live in _____ County, about _____ degrees north latitude and about _____ degrees west longitude.

MEASURING CALIFORNIA

HOW LONG IS CALIFORNIA?

California lies between the parallels of _____ and _____ north latitude. Therefore it extends through about _____ degrees of latitude. A degree of latitude is about 70 miles; hence, according to this method of measuring, California is about _____ miles long. On the map on the opposite page draw a straight line connecting the extreme northwestern point of Del Norte County with the extreme southeastern point of Imperial County and measure the distance between them by using a ruler and the scale of miles. In this way you will find that the true length of California is about _____ miles. Mark this length on the line you have drawn. Why do you not get the same figures by both methods of measuring? Look at the state of Arizona. Does the same thing hold true for that state?

Traveling by automobile at the rate of 25 miles per hour, it would take about _____ hours to motor the length of California. Driving eight hours a day, it would take _____ days and _____ hours to make the trip.

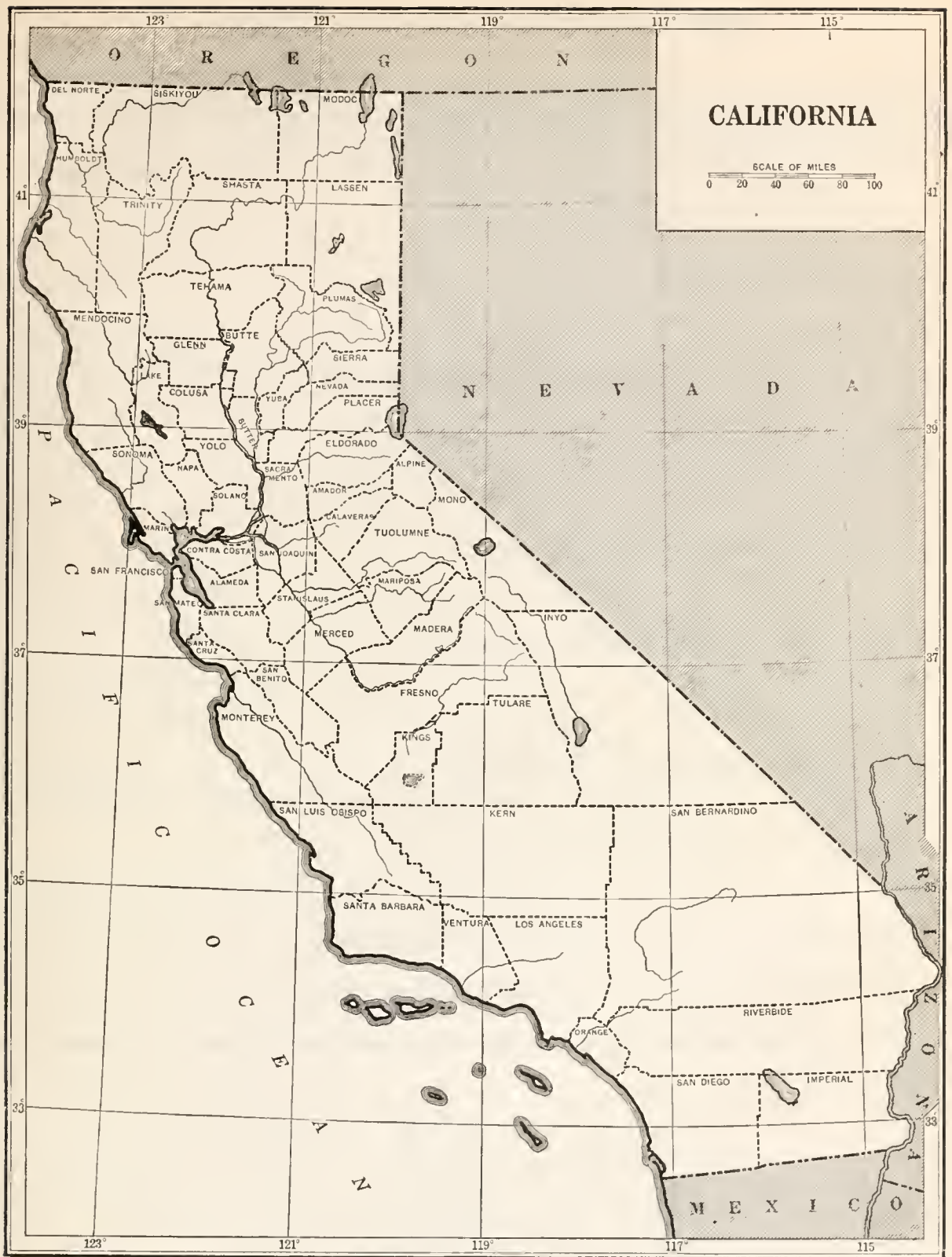
What city in South Carolina is due east of San Diego? _____ Starting from this city and following the Atlantic coast line northward, how many states must you pass through before arriving at a point due east of the northern boundary of California? _____ In what state is this point? _____

HOW WIDE IS CALIFORNIA?

California is widest between Point _____ and the point where the meridian of 117 degrees west longitude crosses the California-Nevada boundary. On your map draw a line connecting these two points and measure the distance between them. It is _____ miles. Write the distance on the line you have drawn. Estimate the distance between Lake Tahoe and San Francisco. It is about _____ miles. Can an automobile make this trip in one day? _____

WHAT IS THE AREA OF CALIFORNIA?

The average width of California is about 200 miles. I found the length to be _____ miles. By _____ these two figures I find the area of California to be _____ square miles. Turn to page 80 of this book or to the appendix in any geography and you will find the area in square miles of each state. How does your figure compare with that given for California? _____ How does California rank in size with the other states? _____ Add the areas of Maine, Massachusetts, New Jersey, New York, Vermont, New Hampshire, and Ohio. Their total area is _____ square miles. How does this area compare with that of California? _____



THE NATURAL REGIONS OF CALIFORNIA

We shall find the geography of California far more interesting and much easier to understand if we learn the natural regions into which the state is divided. In each natural region the surface features, climate, and natural resources lead the people to engage in certain occupations.

A study of the colored map in the front of this book will enable you to answer the following questions :

1. What are the four mountain regions of California ?

2. In what region is Mt. Whitney ? _____

3. What mountain regions do the Tehachapi Mountains connect ? _____

4. Where is the most extensive valley lowland in California ? _____

5. What two river valleys form this great lowland ? _____

6. Name six other important valleys in California.

7. In what part of California is the Volcanic Region ? _____

What active volcano is located in this region ? _____

8. What parts of California belong to the Great Basin ? _____

9. What large city lies in a lowland region of southern California ? _____

10. What body of water lies in another lowland of southern California ? _____

11. Below is a list of lakes and mountain peaks. After each one write the name of the natural region in which it is located.

Honey Lake _____ Mt. Shasta _____

Lake Tahoe _____ Mt. Hamilton _____

Mono Lake _____ Mt. Lyell _____

Owens Lake _____ Mt. Tyndall _____

Tulare Lake _____ San Bernardino Mt. _____

THE NATURAL REGIONS OF CALIFORNIA (CONTINUED)

In the space below is a list of the seven major natural regions of California. After the name of each region write the names of the counties that extend into it. Refer to the map in the front of this book. If a county extends into more than one region, write its name after each region of which it has a part.

The Sierra Nevada _____

The Valley of California (Sacramento Valley and San Joaquin Valley) _____

The Klamath Mountains _____

The Volcanic Region _____

The Middle Coast Ranges _____

The Southern Coast Ranges _____

The Great Basin _____

A BIRD'S-EYE VIEW OF CALIFORNIA

1. You will need good warm clothes for this trip, for we are going to travel at the rate of about one hundred miles an hour at an elevation of from 3000 to 8000 feet. Be sure you have your map and a good colored pencil, because you will want to trace your route and enter notes as you dash along.

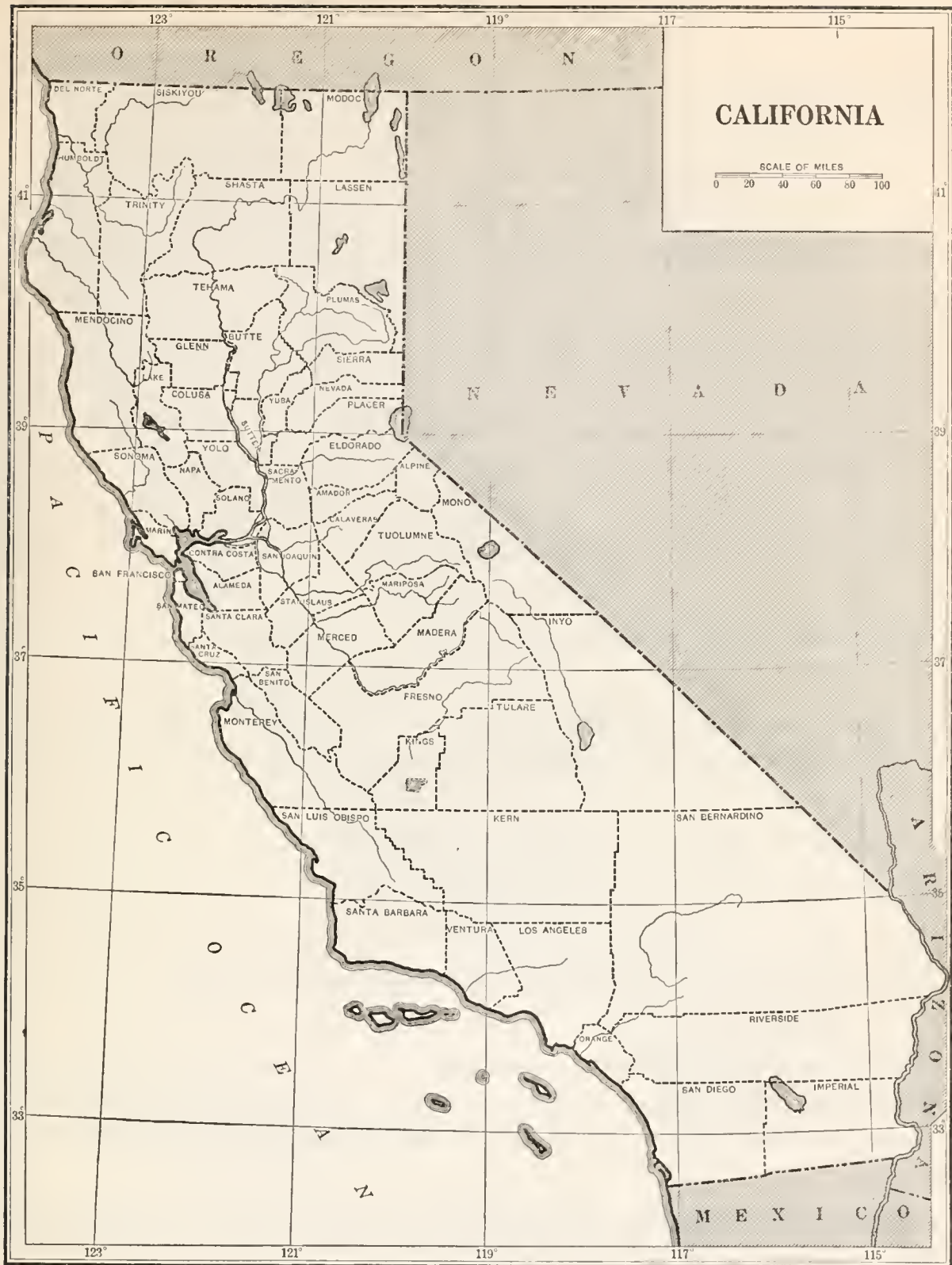
2. Embarking at North Island, San Diego, we circle until we get our elevation, then strike due east to the _____ River, which forms the boundary between California and _____. At this point we turn northwest, passing over the _____ Desert and the _____ Desert, both of which lie in the _____ region. To our left we can see the valley of the _____ River, a part of the great _____ region. Between the 37th and 38th parallels and the 119th and 120th meridians we pass over the _____ Valley, famous for its wonderful _____ and _____. At the junction of the 39th parallel and the 120th meridian we drop down to about 2000 feet in order to get a better view of beautiful Lake _____, famed the world over for its _____. There is a landing field at Alturas in _____ County, where we decide to spend the night. An examination of our map shows us that we are in the _____ Region. Turning due west the next morning, we pass over _____ County and the _____ Mountains, and then fly over _____, the northernmost coast city in the state. At this point we turn southeast and are soon traveling parallel to the _____ Ranges. The broad _____ Ocean is to our right and the great valley of the _____ River to our left. We pause for a moment to replenish our fuel tank near the greatest port in the state, _____. Following the coast line, we fly for hours over the _____ Ranges, turning a little more to the east after leaving _____. At Ventura we leave the coast and travel inland, and almost immediately find ourselves high above the largest city in the West, _____. Just a little over an hour later we are again pointing the nose of our ship toward mother earth, and with a swoop we are back at North Island, none the worse for wear, but tired and hungry.

3. On your map mark out the entire route followed. (Use a colored pencil.)

4. Estimate the mileage traveled. About _____ miles.

5. Airplanes are being used by the government to assist in the prevention of forest fires. Name another purpose for which airplanes are used by the government. _____

6. Among the government aviation fields are the one at the Presidio in San Francisco, Mather Field near Sacramento, March Field in Riverside County, and North Island at San Diego. Many California cities have provided landing fields for airplanes.



THE RAINFALL OF CALIFORNIA

The map on the opposite page shows the average annual rainfall throughout the state of California. Study the map carefully, comparing it with the regional map in the front of the book, and answer the questions on this page.

1. What natural regions have the heaviest rainfall? _____

2. What natural region has the least rainfall? _____

Why? _____

3. What effect have the Klamath Mountains and the Coast Ranges on the rainfall of the state? _____

4. What effect has the Sierra Nevada on the rainfall? _____

5. Why is there a dry climate in southern California? _____

6. What regions have the densest forests? _____

Why? _____

7. Successful agriculture is ordinarily impossible where the average rainfall is less than twenty inches a year. What important regions in California lack the necessary rainfall for agriculture? _____

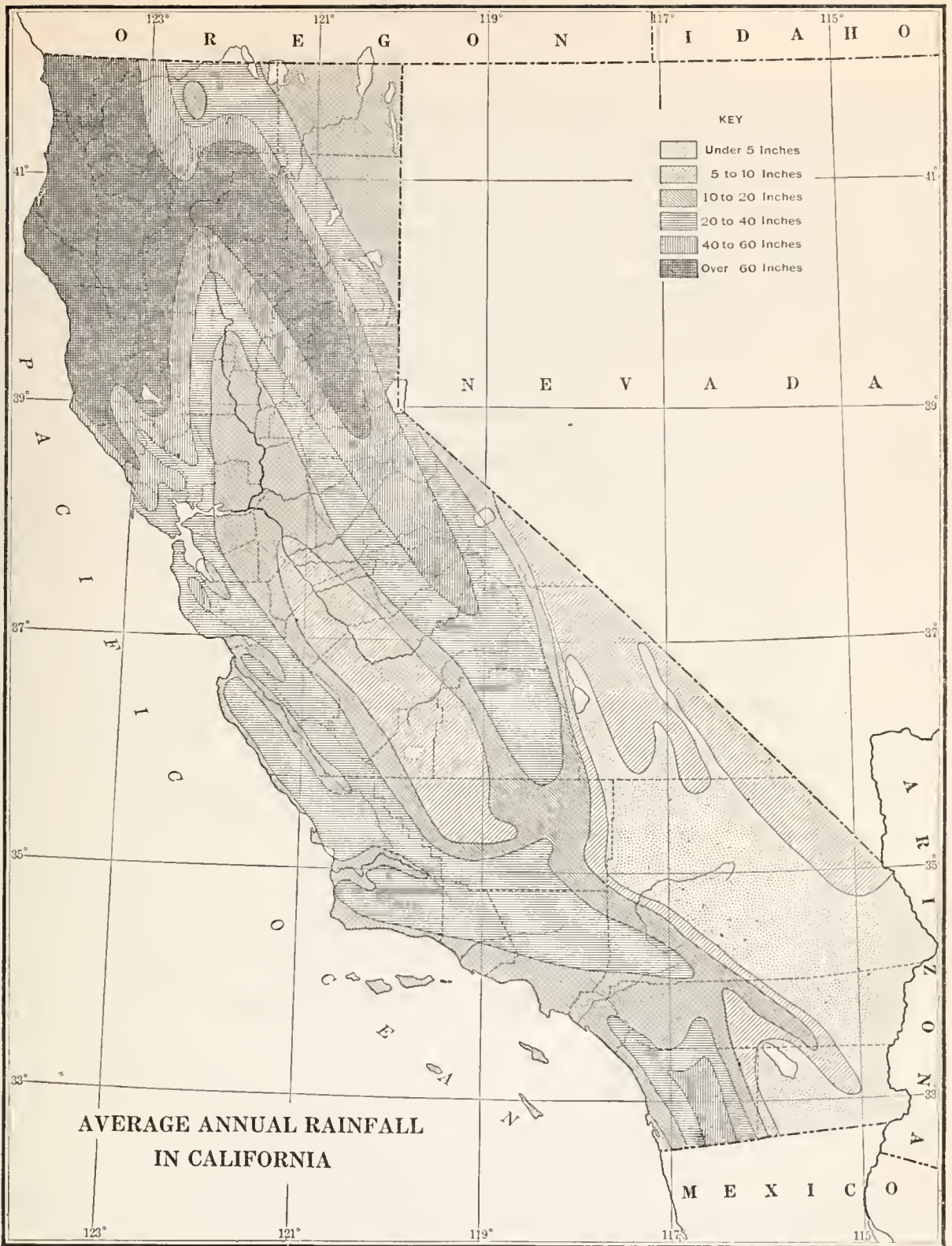
8. What has made successful farming possible in these regions? _____

9. During what months does the rainy season come? _____

10. During what months is there little or no rainfall throughout most of California? _____

11. What is the average annual rainfall in your region? _____ inches. What is the total rainfall so far this season? Date _____; _____ inches. What was the rainfall up to this date last season? _____ inches. (This information is published daily in most of the California newspapers.)

12. Compare the rainfall map with the population map on page 21. Are the most densely populated regions those with the heaviest or the least rainfall? _____



THE SUNSHINE STATE

CALIFORNIA'S GREATEST ASSET IS ITS CLIMATE

Abundant sunshine is one of the great advantages enjoyed by Californians. California and the other states of the southwest have more sunshine than any other part of North America. In the interior valleys the sun shines every day in summer, and in southern California nearly every day in the year has some sunshine. It has been said that "California owes much of the prosperity of her people and the richness of her agricultural resources to the sunshine she so generously receives at all seasons of the year." The climate varies greatly in the different regions of the state, but in most of them the temperatures are moderate and the weather delightful during a large portion of the year. We do not suffer here from the inconveniences found in places where the climate is severe. Even in the hottest parts of the valleys during midsummer the dry air makes it possible to endure the heat without suffering. In no region do the people suffer from severe cold, for it occurs only on the tops of the highest mountains.

PROBLEMS

1. Give three reasons why so many people come to California to enjoy the climate.

2. How does sunshine help the farmer? _____

3. Why can people live outdoors more in California than they can in New York or Minnesota?

4. Why is the California climate more healthful than the climate of many other states? _____

5. How does the California climate help the grower of raisins, prunes, and other fruits that are to be dried? _____

6. What great business is located in southern California because of the abundant sunshine there?

7. Name two regions in California where you would be sure to find the winter weather mild and pleasant. _____

8. Name two regions in California where you would be sure to find cool, bracing weather in summer.

THE COMING OF THE WHITE MAN

SOCIALIZED RECITATION

In the year 1542, just fifty years after the discovery of America, Juan Cabrillo, sailing under the flag of Spain, discovered California. He worked up the coast to a point a little above San Francisco Bay, but failed to discover that wonderful port. It was not until 1579 that California was again visited,—this time by an English seaman, Francis Drake. He had been engaged in robbing Spanish treasure ships bound for Mexico from the Philippines, and had to put in for repairs. He landed at a point now called Drakes Bay and claimed the country for England.

In 1602, five years before the settlement of Jamestown on the Atlantic coast, California was visited by Sebastian Viscaïno, a Spaniard, who was seeking harbors where the merchant ships from the Philippines might rest and hide from pirates. For the next one hundred and fifty years California seems to have been forgotten.

At last, however, the governor of New Spain decided to send an expedition into California for the purpose of settling it and thereby making it a part of New Spain. In 1769, just six years before the Revolutionary War, Portola, with a little band of followers, reached what is now San Diego. With the expedition was a famous Catholic priest, Father Junipero Serra. This expedition cleared the way for the settling of California and the founding of the missions.

The next seventy-five years are sometimes referred to as "the romantic days of Spanish California." This was the period of the great ranchos. The people lived a happy, care-free life. Their principal amusements were horse-racing, dancing, and bull-fighting. Even the rodeo, when thousands of cattle were gathered to be separated and branded, was made an occasion for a celebration.

As early as 1826 there were people from the United States in California, and by 1840 the United States was casting longing eyes toward this wonderful country. In 1846 the United States declared war upon Mexico. In the same year California was captured by United States soldiers under the leadership of John Frémont, and the Stars and Stripes were raised, never to be taken down.

The real migration from the East to California came with the spreading of the news of the discovery of gold in 1848. Thousands of people left their homes and hurried to the gold fields. Many came by boat around Cape Horn; others landed on the Isthmus of Panama, traveled overland to the Pacific, and then went by boat to San Francisco. The great mass, however, came overland by wagon, a distance of between two and three thousand miles.

During the years of 1849 and 1850 over 100,000 people came from other countries. California was admitted to the Union as a state on September 9, 1850. That is why we celebrate September 9 as Admission Day.

Men soon began to realize that California had greater wealth in her soils and climate than in her mines. Quicker communication with the East was needed. For a while fast overland stages made regular trips between the East and the West, but at best this was a slow and uncertain method of travel. The demand for a railroad was so strong that in 1863 four of California's leading citizens, assisted by the United States government, started to build one. In 1869 the dream was realized, the West and the East were joined with ribbons of steel. With the completion of the railroad dawned a new era for California.

Dating from the period of the establishment of the missions, California has passed through distinct stages of industrial development. Each stage was marked by the advent of some new industry which overshadowed but did not entirely displace its predecessors. Cattle ranching came first, followed by mining. Next came the days of the great grain ranches. These, in turn, have given way to the comparatively small farms, producing fruit, dairy products, and many other crops. Today trade and commerce, in addition to mining and farming, are leading industries of the state.

In the last few years large numbers of people from other parts of the country, and especially from the states in the Mississippi Valley, have come to live in California.

THE SPANISH MISSIONS

Although Spain had claimed the territory of California for more than two hundred years, it was not until 1769 that any attempt was made to colonize this far-western land. Colonists were sent to found towns and to begin the raising of cattle; priests to establish missions for the purpose of civilizing and Christianizing the thousands of Indians; soldiers to protect the proposed missions and towns and to build forts and presidios in order that California might be more easily held for Spain.

Two towns, or pueblos, were established, — San Jose and Los Angeles. Refer to the map in the front of this book, and on the map opposite indicate the location of each of these towns by means of a circle (○).

Four forts, or presidios, were established, — San Francisco, Monterey, Santa Barbara, and San Diego. Indicate the location of each presidio by means of a square (□).

Under the leadership of Father Junipero Serra and his successors twenty-one missions were established, occupying the entire coast line from San Diego to Sonoma. On the map opposite indicate the location of each mission by a cross (†). In the blanks below write the names of the counties in which the missions are located.

NOTE. The San Carlos Borromeo mission was founded at Monterey, but a year later was moved to Carmel. The church at Monterey dates back to mission times, but it is not properly called a mission.

MISSION	COUNTY	MISSION	COUNTY
San Diego de Alcalá	_____	La Purísima Concepción	_____
San Carlos de Borromeo (Carmel)	_____	Santa Cruz	_____
San Antonio de Padua	_____	Nuestra Señora de la Soledad	_____
San Gabriel Arcángel	_____	San José	_____
San Luis Obispo de Tolosa	_____	San Juan Bautista	_____
San Francisco d'Assisi	_____	San Miguel	_____
San Juan Capistrano	_____	San Fernando Rey de España	_____
Santa Clara	_____	San Luis Rey de Francia	_____
San Buenaventura	_____	Santa Ynez	_____
Santa Barbara	_____	San Rafael Arcángel	_____
		San Francisco de Solano	_____

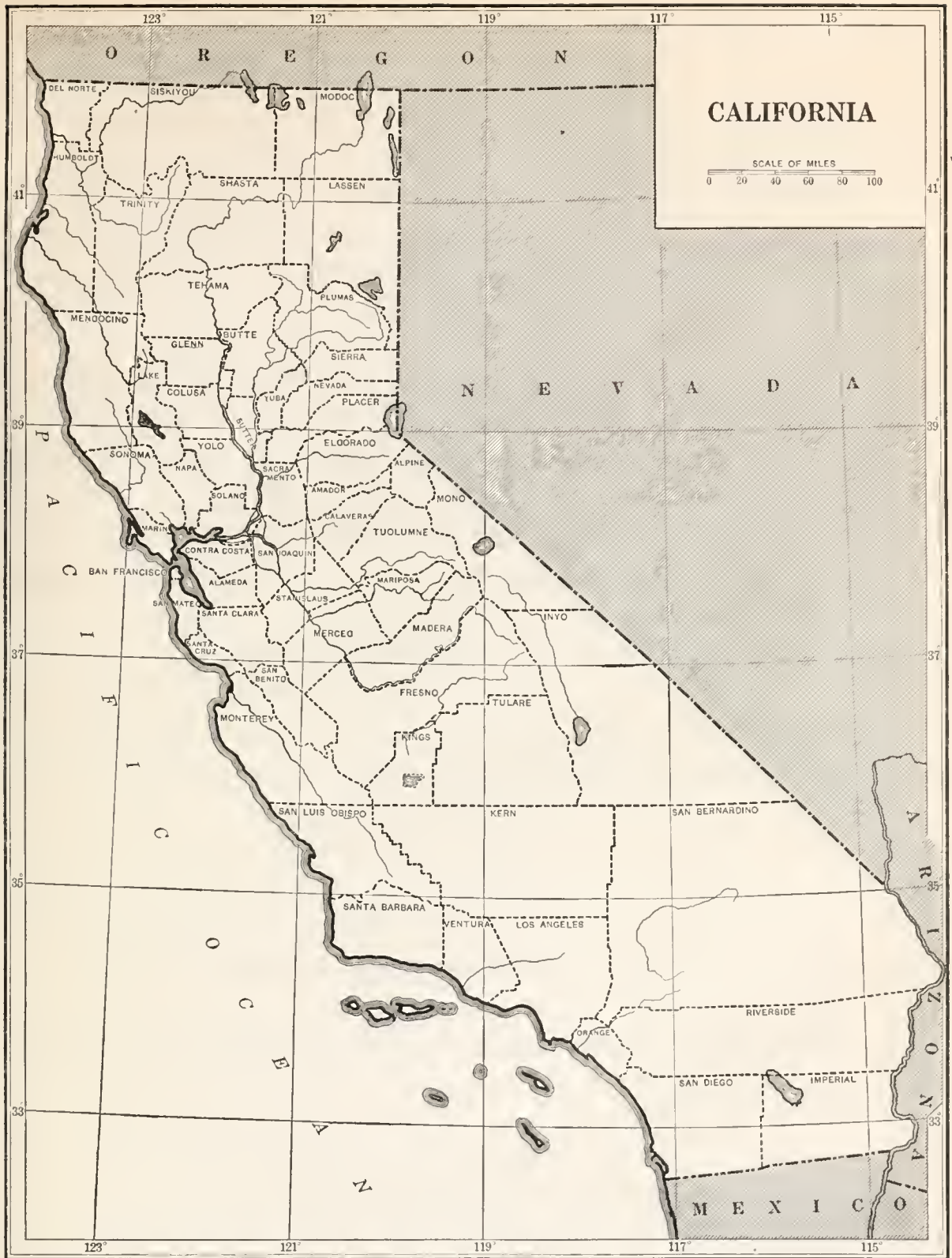
FOLLOW-UP PROBLEMS

1. What was the road called that connected the missions? _____

2. How far apart were the missions planned to be? _____

3. What three things did the fathers look for when selecting the site for a mission? _____

4. At the time of the founding of the missions California was inhabited by thousands of Indians. What evidence is there of early Indian occupation in your county? _____



HOW MANY CALIFORNIANS ARE THERE?

1. In 1900 the population of California was _____; in 1910 it was _____; in 1920 it was _____. The increase from 1900 to 1910 was _____, and from 1910 to 1920 it was _____. In which period of ten years was the increase greater? From _____ to _____.

2. California ranked twenty-first in population among the states in 1900, twelfth in 1910, and eighth in 1920. The seven that now have larger populations than California are _____, _____, _____, _____, _____, _____, and _____.

All these states except _____ lie east of the Mississippi River. California has the largest population of all the states lying west of the _____ Mountains.

3. On the map on the opposite page mark with a plus sign (+) each California county in which the population has increased since 1910. Mark with a minus sign (-) each county that shows a decrease in population since 1910. How many counties have lost in population since 1910? _____

4. Compare this map with the regional map in the front of this book. In what natural region does there seem to be the greatest decrease in population? _____
In what natural regions does the population seem to be increasing most rapidly? _____

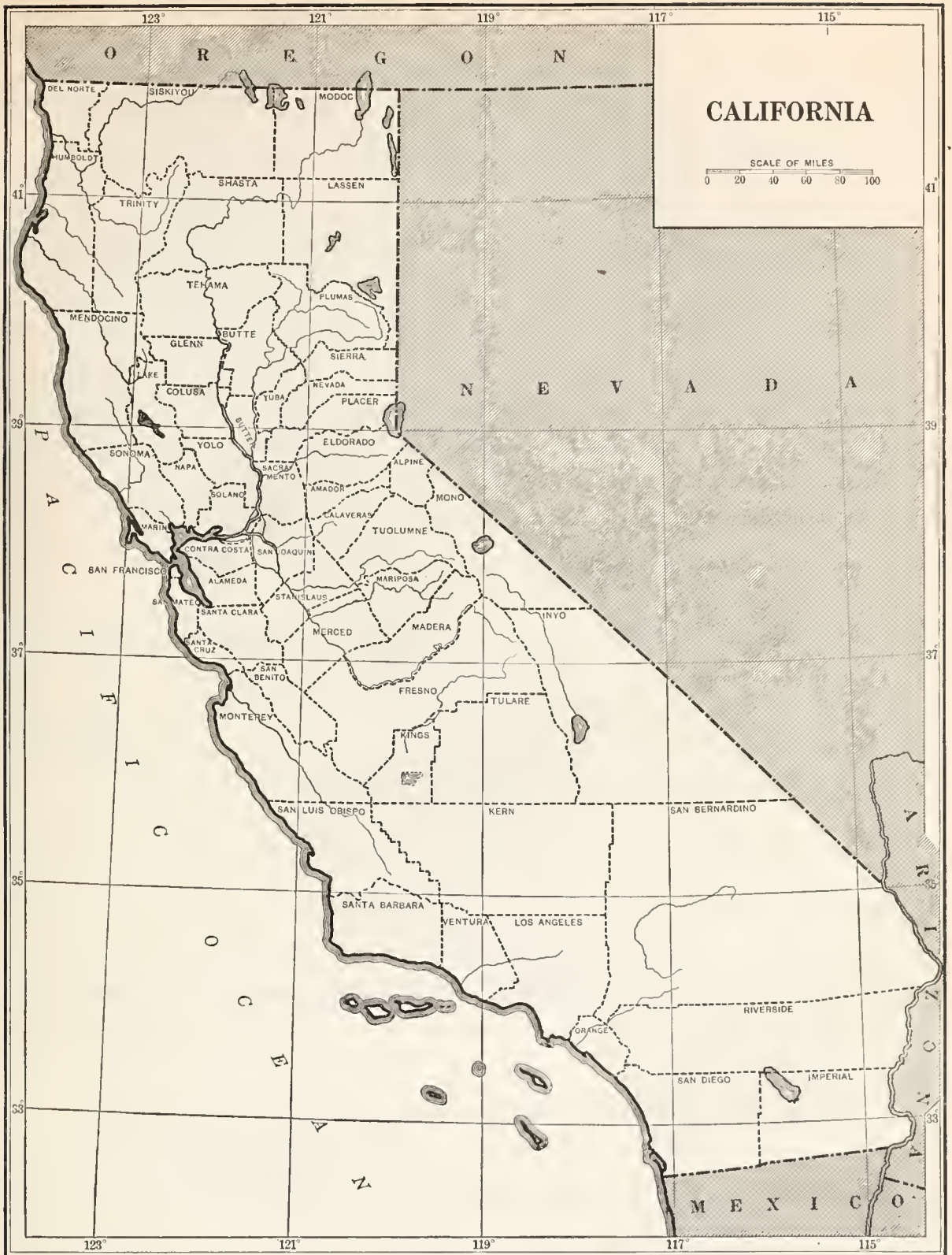
5. In the spaces below write the names of the four counties in which the population shows the greatest growth since 1910, and opposite each give at least one reason for the increase.

_____	_____
_____	_____
_____	_____
_____	_____

6. In general, in what direction does the population seem to be shifting in California? _____

7. Give three reasons why California's population is increasing more rapidly than that of other states.

8. Has your own county gained or lost in population since 1910? _____
Explain briefly why this is so. _____



WHERE WE LIVE IN CALIFORNIA

The map on the opposite page shows the distribution of people in California. You will need to study it carefully, comparing it with the regional map in the front of the book and with the rainfall map on page 13, in order to work out the following problems:

1. In what natural regions of California is the population densest? _____

2. What natural regions have the fewest people per square mile? _____

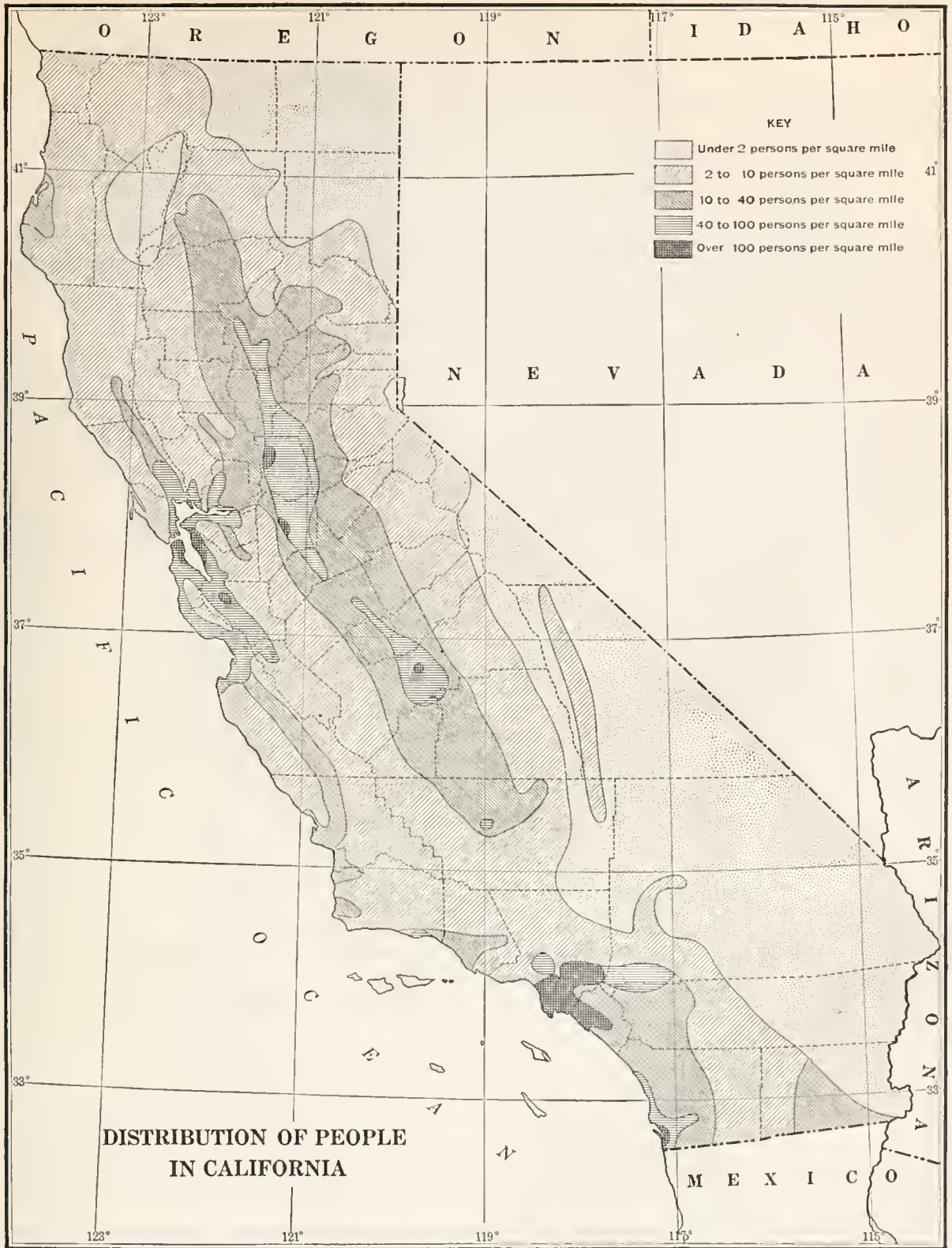
3. What valleys of northern California are most densely populated? _____

4. Study the locations of the areas in which the density of population is 40 or more persons per square mile. In general, do these areas lie in regions where the rainfall is light or where it is heavy? _____
_____ Do these areas contain more lowland country or more mountainous country? _____
5. Around what cities do the areas having over 100 persons per square mile center? _____
_____, _____, _____
_____, and _____ on San Francisco Bay; _____
_____ in the Santa Clara valley; _____ in the Sacramento valley; _____ and _____ in the San Joaquin valley; _____ and _____ in southern California.
6. Give two reasons why the Great Basin and the Volcanic Region have so few people.

7. Why is the population of California so unevenly distributed? _____

8. Do the people tend to gather in greatest numbers in the highland or the lowland regions? _____; in the areas of light or heavy rainfall? _____
9. In what natural regions do you think the population likely to increase in the future? _____

10. Sixty-eight per cent of the people of California live in cities. How does the growth of cities affect the development of manufacturing? _____



WATER IS WEALTH

IRRIGATION WATER IS THE LIFEBLOOD OF THE STATE

Irrigation means the turning of water from a stream, spring, or well onto the soil for the purpose of promoting plant life.

The richest soil in California lies in the regions that receive little rainfall. Fortunately, however, many parts of these regions can be irrigated by using the water of streams that rise in the regions of heavy rainfall and snowfall.

Study the regional map in the front of this book, and the rainfall map on page 13, and in the spaces below write the names of three regions where you would expect to find the farmers depending upon irrigation in order to raise their crops.

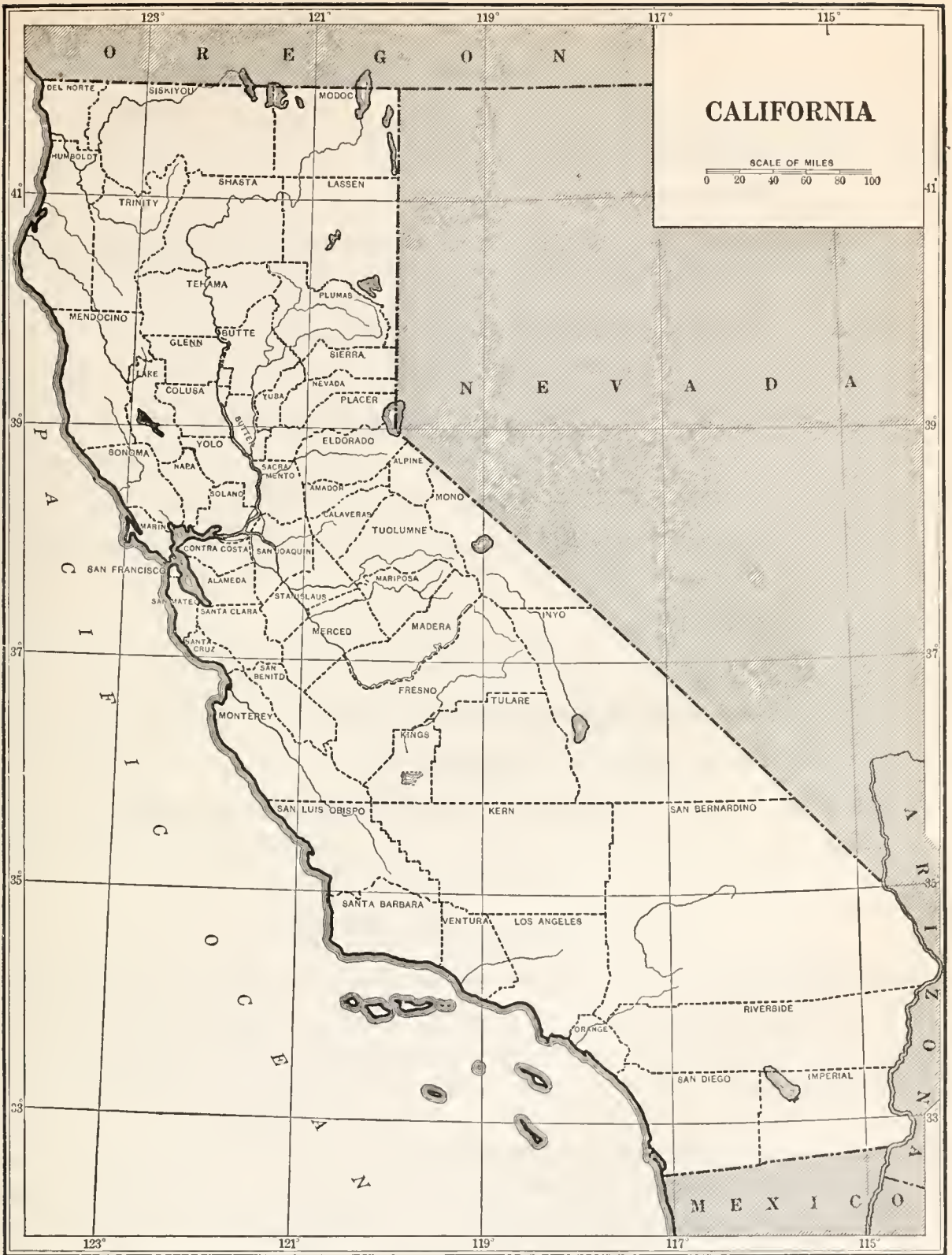
1. _____ with water from _____.
2. _____ with water from _____.
3. _____ with water from _____.

Following is a list of most of the irrigation districts in California. Many new irrigation districts are being organized.

NAME OF DISTRICT	COUNTY	AREA IN ACRES	NAME OF DISTRICT	COUNTY	AREA IN ACRES
Alpaugh	Tulare	7,576	Newport Heights . . .	Riverside	1,503
Alta	Tulare-Fresno	130,000	Newport Mesa	Riverside	670
Anderson-Cottonwood .	Shasta	32,500	Oakdale	San Joaquin-Stanislaus	74,146
Baxter-Creek	Lassen	11,000	Palmdale	Los Angeles	4,000
Big Rock Creek	Los Angeles	30,000	Paradise	Butte	11,200
Blackrock	Inyo	1,210	Princeton-Codora-Glenn	Glenn-Colusa	18,200
Browns Valley	Yuba	44,328	Provident	Colusa-Glenn	20,756
Cardiff	San Diego	700	Redrock Creek	San Diego	485
Carmichael	Sacramento	3,113	San Ysidro	Lassen	3,700
Fairoaks	Sacramento	4,000	Scott Valley	Siskiyou	5,540
Happy Valley	Tehama	18,300	Southern Lassen . . .	Lassen	21,500
Honey Lake Valley . . .	Lassen	33,150	South San Joaquin . .	San Joaquin	71,050
Imperial	Imperial	576,600	Stratford	Kings	9,200
Jacinto	Glenn	19,660	Surprise Valley . . .	Modoc	17,500
La Mesa, Lemon Grove, and Spring Valley . . .	San Diego	14,794	Terra Bella	Tulare	12,000
Lindsay-Strathmore . .	Tulare	15,775	Tulare	Tulare	39,360
Little Rock Creek . . .	Los Angeles	3,000	Turlock	Stanislaus-Merced . . .	175,566
Long Valley Creek . . .	Lassen	34,000	Tranquility	Fresno	11,300
Madera	Madera	350,000	Victor Valley	San Bernardino	71,517
Maxwell	Colusa	8,000	Walnut	Los Angeles	869
Modesto	Stanislaus	81,183	Waterford	Stanislaus	14,434
Mojave River	San Bernardino	27,665	Webster	Madera	15,000
			Westside	San Joaquin	11,700

On the map on the opposite page mark with a cross (×) each county having one or more irrigation districts. Use a colored pencil. Draw the outline of the national irrigation project at Orland, using the map in the front of this book for reference.

If you live in an irrigation district, draw its outline on the map and name it. What are the principal irrigated crops in this district?



WATER IS WEALTH (CONTINUED)

PROBLEMS

1. Judging from the map you have made on the foregoing page, what natural region has the greatest number of irrigation districts? _____ Why? _____

2. What natural region is the source of most of the streams that are used to irrigate these districts?

3. Where is the water obtained for irrigation in the lowlands near Los Angeles? _____
_____ ; in the Imperial Valley? _____
4. Name the regions where production could be increased if more irrigation water were available.

5. Where could this water be obtained? _____

6. What is dry farming? _____

7. Name one region in California where dry farming is practiced. _____
8. What is the great crop produced in the dry-farming areas? _____
9. What does dry farming tell you about the climate of the regions where it is practiced? _____

THE STORY OF A DROP OF WATER

Fill in the blanks in the following story, or, better yet, write a story of your own, using this one as a model :

I am a very busy little drop of water, for my duties are many. I reach the earth in the form of _____ or _____. I dash down the mountain canyons with my brothers and sisters, to be caught behind great _____ that have been built across my path. These places that have been made for us are called _____. I am kept here until the _____ season, when a gate is opened and I start on my long journey down a _____ or _____ to the _____ lands below. Here I am taken out of the _____ and put in smaller _____ that lead to thousands of _____. I do not regret my long, rough ride when I see what joy I bring to _____ that depend entirely upon irrigation.

A LAND OF INTEREST AND VARIETY

1. California has often been called a state of contrasts, because of the striking contrasts found in its geographical features.

2. Within the state is the highest point of land in the United States. This is _____ in _____ County. Its altitude is _____ feet. Not far from this great mountain is _____, the lowest area in the United States. In places this valley is thought to be more than 400 feet below sea level. Another area, larger than the state of Rhode Island, is also below sea level. This is the _____. Still another large area in the state is more than a mile above sea level. This is the _____.

3. The only active volcano in the United States is in California. This is _____ in _____ County.

4. The climate in most parts of the state is mild and pleasant throughout the year, but it too presents many contrasts. Some regions have very heavy rainfall. They are _____. One region has almost no rain. This is the _____. The highest temperature in the United States occurs every summer in one of the regions of California. What region do you think this is? _____ Although California does not have the lowest temperatures in the United States, it has one region in which the winters are very cold, with very heavy falls of snow. This is the _____ region.

5. In some parts of California there are great forests, but there are other regions with little or no timber. The heavily forested regions are _____. The regions that have little or no timber are _____. The big trees of California are the oldest living things in the world. Name three areas where they grow. _____, _____, _____.

6. The agricultural regions of California produce every crop grown elsewhere in the United States, but California produces some crops that are grown in no other state. Some of these special crops are _____

7. California has about _____ miles of seacoast on the _____ Ocean, but very few good harbors. One of these harbors, however, is among the finest and largest in the world. This is _____. Why are there so few good harbors? _____

THE RICHEST AGRICULTURAL DISTRICTS IN THE UNITED STATES ARE IN CALIFORNIA

Below is the list of the fourteen leading agricultural counties of the United States in order of rank. The figures are based on reports of a recent year.

COUNTY AND STATE	VALUE OF CROPS	PRINCIPAL PRODUCTS
Los Angeles, California	\$61,366,608	Oranges, lemons, hay and forage, walnuts
Aroostook, Maine	52,541,205	Potatoes, hay and forage, oats, dairy products
Fresno, California	51,861,252	Grapes, peaches, hay and forage, dairy products
San Joaquin, California	37,956,866	Potatoes, grapes, barley, hay and forage
Lancaster, Pennsylvania	32,458,658	Tobacco, corn, hay and forage, wheat
Yakima, Washington	32,191,536	Apples, hay and forage, potatoes, peaches
Whitman, Washington	30,824,407	Wheat, hay and forage, oats, barley
Tulare, California	30,547,341	Grapes, oranges, hay and forage, dairy products
McLean, Illinois	26,938,018	Corn, oats, wheat, hay and forage
San Bernardino, California	26,517,455	Oranges, lemons, grapes, hay and forage
Orange, California	24,465,231	Oranges, walnuts, lemons, sugar beets
Maricopa, Arizona	24,054,416	Cotton, hay and forage, dairy products, wheat
Champaign, Illinois	23,800,535	Corn, oats, wheat, hay and forage
Santa Clara, California	23,792,684	Plums, prunes, apricots, hay, forage, dairy products

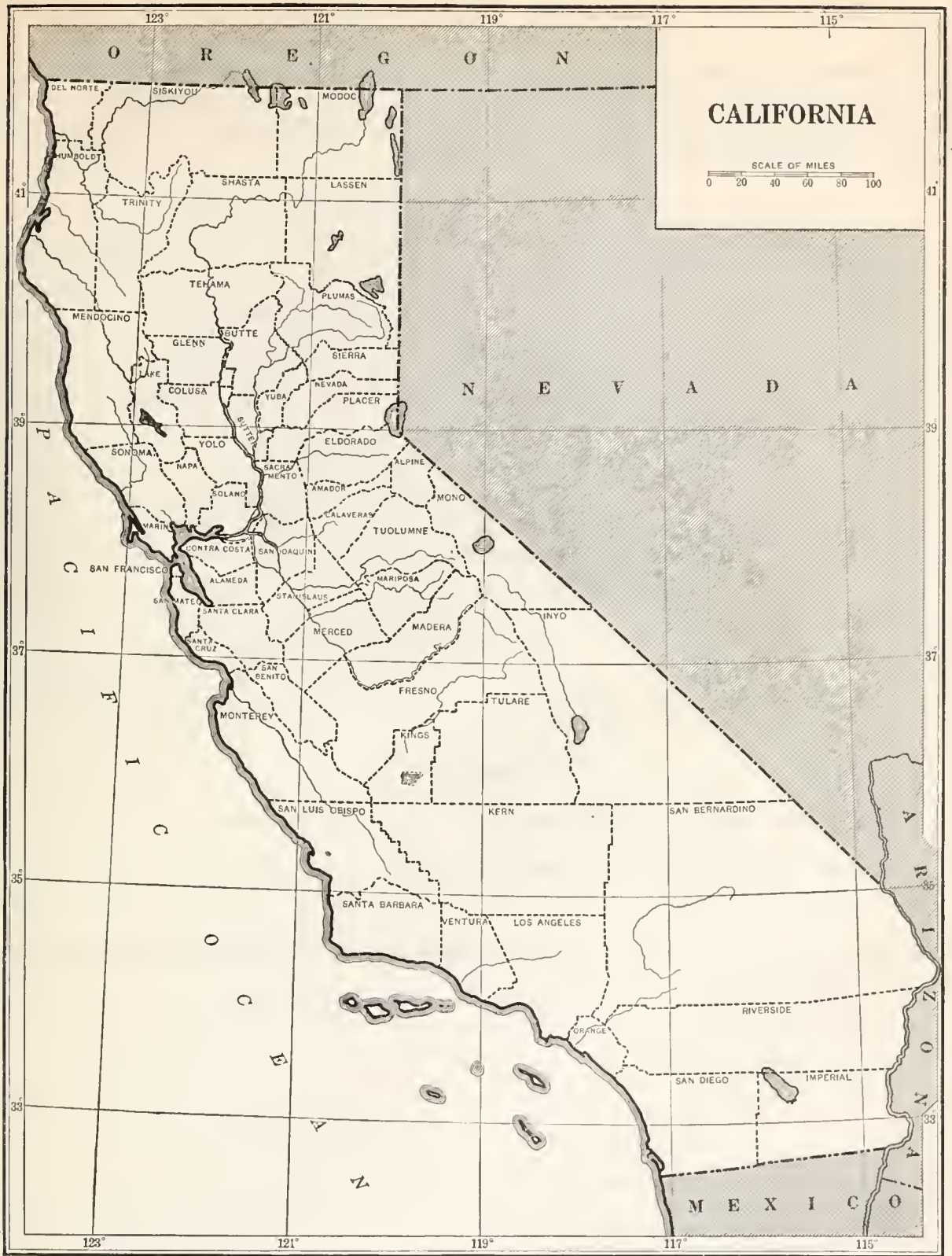
PROBLEMS

1. How many of these counties are in California? _____
2. What other states have more than one county listed here? _____
and _____
3. Judging by this list, what are the most valuable farm products of California? _____

4. On the map opposite, color the California counties that are included in this list. Place in each county the figure that indicates its rank among the fourteen leading agricultural counties.
5. What products of these California counties are shipped to Eastern states? _____

6. What products of these counties are consumed in California? _____

7. Give two reasons why half of the fourteen most productive counties of the United States are located in California. _____



CALIFORNIA FRUIT IS FAMOUS

The following table gives the value of the commercial orchard crops of California for a recent year. After each crop you will find the names of the five counties that are leaders in its production. On the map on the opposite page write the name of each crop in the five counties which lead in its production. Use the abbreviations given for the names of the crops.

COMMERCIAL ORCHARD CROPS

CROP	ABBREVIATION	COUNTIES	VALUE OF CROP
Almonds	Al	Stanislaus, Butte, Yolo, San Joaquin, San Luis Obispo	\$1,980,000
Apples	App	Santa Cruz, Sonoma, Riverside, San Bernardino, Napa	9,605,000
Apricots	Apr	Santa Clara, Riverside, Ventura, Solano, Alameda	9,775,000
Cherries	Ch	Santa Clara, San Joaquin, Solano, Alameda, Napa	3,000,000
Figs	Fi	Fresno, Tulare, Merced, San Bernardino, Stanislaus	900,000
Grapefruit	Gf	San Bernardino, Tulare, Riverside, Los Angeles, Imperial	984,000
Grapes			
Raisin	R G	Fresno, Tulare, Kings, Sutter, Madera	55,800,000
Table	T G	San Joaquin, Fresno, Sacramento, Tulare, Placer	12,000,000
Wine	W G	Fresno, Napa, Sonoma, San Bernardino, San Joaquin	24,700,000
Lemons	Le	Ventura, Orange, Riverside, San Bernardino, Los Angeles	2,700,000
Olives	Ol	Placer, Butte, Riverside, Tulare, Tehama	800,000
Oranges	Or	San Bernardino, Tulare, Riverside, Orange, Los Angeles	51,425,000
Peaches	Pe	Fresno, Placer, Tehama, Merced, Solano	26,220,000
Pears	Ps	Solano, Santa Clara, Placer, Sacramento, Eldorado	8,100,000
Plums	Pl	Placer, Solano, San Joaquin, Napa, Sacramento	3,150,000
Prunes	Pr	Santa Clara, Napa, Solano, Sonoma, Tulare	19,000,000
Walnuts	Wa	Orange, Ventura, Los Angeles, San Joaquin, Santa Barbara	8,600,000
		<i>Total</i>	\$238,739,000

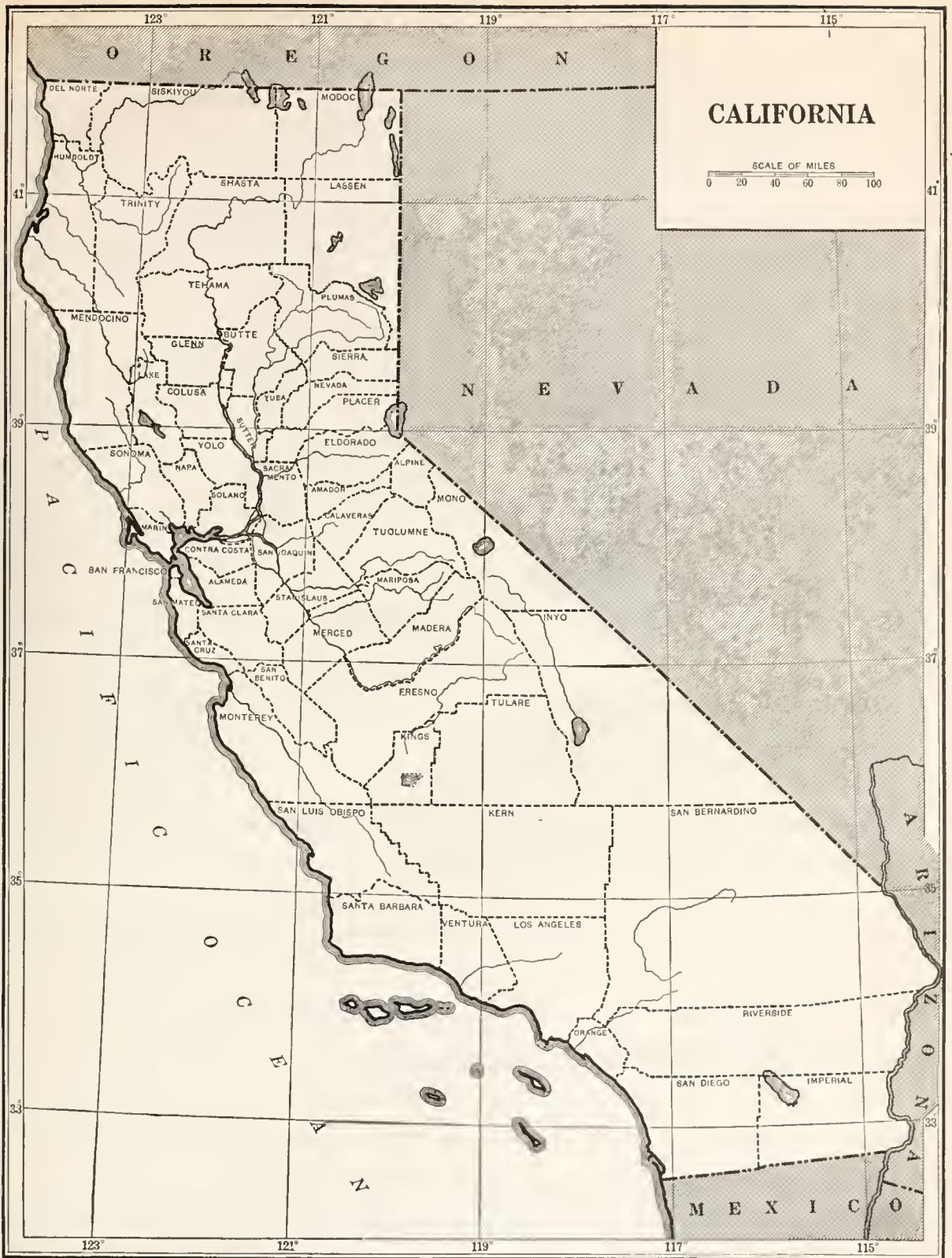
PROBLEMS

1. The two most important California fruits are _____ and _____.

2. In what natural regions are they grown? _____

3. Using the map you have made, name ten counties that are among the leaders in the production of four or more of the commercial orchard crops.

4. My county is one of the leaders in the production of _____,



THE GOLDEN CROP OF TODAY

PRODUCTION OF ORANGES IN CALIFORNIA

COUNTY	BOXES HARVESTED IN A RECENT YEAR	COUNTY	BOXES HARVESTED IN A RECENT YEAR	COUNTY	BOXES HARVESTED IN A RECENT YEAR
Alameda	1,025	Marin	28	San Mateo	
Alpine		Mariposa	1,409	Santa Barbara	6,811
Amador	218	Mendocino		Santa Clara	5,862
Butte	103,444	Merced	5,737	Santa Cruz	633
Calaveras	368	Modoc		Shasta	142
Colusa	7,138	Mono		Sierra	
Contra Costa	270	Monterey	40	Siskiyou	
Del Norte		Napa	580	Solano	3,636
Eldorado	87	Nevada	410	Sonoma	4,087
Fresno	128,546	Orange	3,486,304	Stanislaus	17,301
Glenn	42,941	Placer	10,847	Sutter	8,023
Humboldt		Plumas		Tehama	5,801
Imperial	1,719	Riverside	1,494,602	Trinity	
Inyo		Sacramento	80,019	Tulare	2,107,974
Kern	22,834	San Benito	25	Tuolumne	53
Kings	133	San Bernardino	5,102,958	Ventura	505,038
Lake	13	San Diego	222,808	Yolo	1,596
Lassen		San Francisco		Yuba	1,807
Los Angeles	8,240,673	San Joaquin	3,528	<i>Total for state</i>	21,628,444
Madera	410	San Luis Obispo	566		

PROBLEMS

1. Name the five counties that produce the greatest number of boxes of oranges.

2. Write below the names of the counties north of the Tehachapi that produced 5000 or more boxes of oranges in the year for which the figures are given.

3. What is the northernmost county producing more than 100,000 boxes of oranges? _____

4. What natural regions lead in the production of oranges? _____

5. What can you say of the climate in the regions where oranges are grown? _____

THE GOLDEN CROP OF TODAY (CONTINUED)

6. How has the development of irrigation projects affected the orange-growing in California?

7. List the irrigation districts that supply water in the counties where more than 100,000 boxes of oranges were produced in the year for which the figures on the opposite page are given. (Refer to page 22.)

8. In the same year the state of Florida produced 8,500,000 boxes of oranges. How many more boxes of oranges were produced in California than in Florida? _____ At \$2.20 per box, what was the value of the Florida crop? _____ At \$2.75 per box, what was the value of the California crop? _____ How much greater was the value of the California crop than the value of the Florida crop? _____

9. Visit your grocer and examine the orange boxes in his store. How are the oranges packed?

Where were they packed? (The name and location of the packing house will be found on the box label.)

10. What great association packs and sells a large part of the oranges grown in California? _____

11. Oranges are called citrus fruit. What other citrus fruits are grown in California? _____

12. Look in the magazines in your home for advertisements of oranges and other California fruits. Cut out all you can from old copies and bring them to school.

CALIFORNIA'S BEAN PRODUCTION

(Based on figures of a recent year)

COUNTY	ACREAGE	PRODUCTION 100-LB.SACKS	VALUE	COUNTY	ACREAGE	PRODUCTION 100-LB.SACKS	VALUE
Alameda	300	1,800	\$9,000	Riverside	3,500	14,700	\$75,900
Butte	1,000	6,000	30,000	Sacramento	8,000	43,200	180,000
Colusa	1,000	6,000	28,000	San Benito			
Contra Costa	500	3,000	17,500	San Bernardino	1,200	5,100	25,500
Eldorado	200	1,200	600	San Diego	12,500	52,500	313,700
Fresno	100	360	1,800	San Joaquin	20,000	108,000	486,000
Glenn	100	720	3,600	San Luis Obispo	10,000	42,000	168,000
Humboldt				San Mateo			
Inyo				Santa Barbara	41,000	221,400	922,500
Kern	100	360	1,800	Santa Clara	100	600	3,500
Kings				Santa Cruz	200	1,440	5,200
Lake				Shasta	100	600	350
Lassen				Siskiyou			
Los Angeles	40,000	252,000	1,386,000	Solano	2,000	12,000	62,000
Madera	500	2,100	11,375	Sonoma			
Mendocino	100	480	3,200	Stanislaus	18,000	107,200	502,200
Merced	3,000	12,600	63,000	Sutter	4,000	28,800	120,000
Modoc	100	700	4,200	Tehama	200	1,200	600
Monterey	8,000	48,000	224,000	Tulare	500	2,100	8,750
Napa	300	1,800	8,500	Ventura	70,000	504,000	3,150,000
Nevada	100	600	5,000	Yolo	8,000	48,000	252,000
Orange	30,000	180,000	1,140,000	Yuba	3,000	18,000	120,000
Placer	300	21,100	7,800	<i>Totals</i>	287,900	1,730,660	\$9,269,325

PROBLEMS

1. Make a map on the opposite page which will show the production of beans by counties. Shade the counties according to the following scheme :

Counties producing 25,000 sacks or more



Counties producing from 1,000 to 10,000 sacks



Counties producing from 10,000 to 25,000 sacks



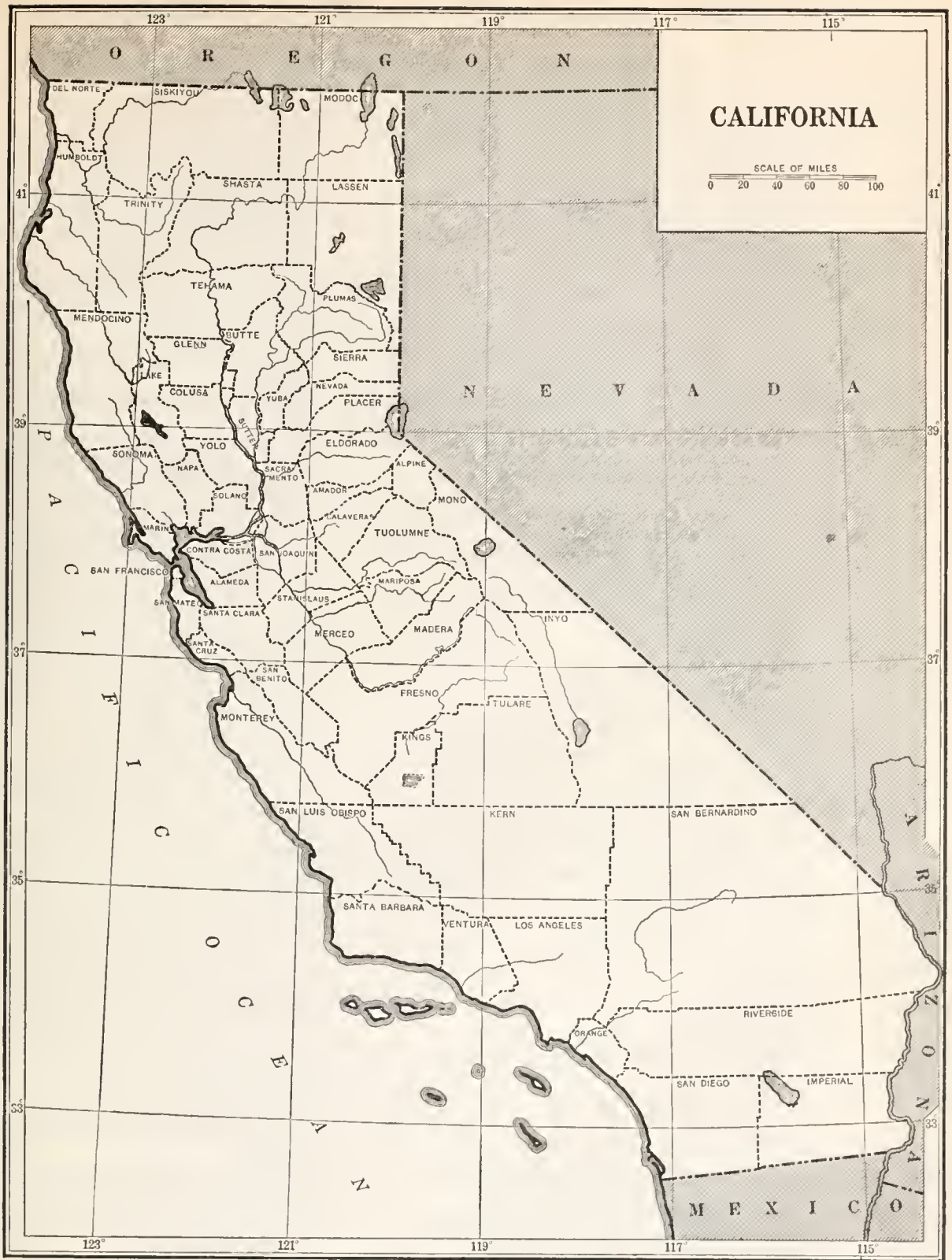
Counties producing less than 1,000 sacks



2. What natural regions seem best adapted to the growing of beans? _____

3. The four counties that lead in bean production are _____

4. Give as many reasons as you can why beans are grown most successfully in these counties.



CALIFORNIA FARM PRODUCTS LISTED BY COUNTIES

COUNTY	PRODUCTS	COUNTY	PRODUCTS
Alameda	Hay (alfalfa), potatoes, vegetables, sugar beets, peaches, apricots, prunes, grapes, wheat, barley	Plumas	Live stock, hay
Alpine	Hay, apples, cattle [grapes	Riverside . . .	Oranges, lemons, dates, barley, hay, cotton, grapes, sugar beets, apples, apricots, peaches, almonds, walnuts
Amador	Oats, wheat, barley, hay, peaches, prunes,	Sacramento . .	Pears, asparagus and other vegetables, grapes, peaches, prunes, plums, almonds, olives, hay, beans, corn, seeds, wheat, barley, live stock, berries, oranges
Butte	Wheat, barley, rice, hay (alfalfa), peaches, prunes, oranges, almonds, sheep	San Benito . . .	Live stock, hay, apricots, prunes, grapes
Calaveras	Cattle, sheep, oats, wheat, barley, hay, apples, peaches, prunes	San Bernardino	Barley, kafir corn, hay, sugar beets, potatoes, apples, apricots, peaches, lemons, oranges, grapes, walnuts
Colusa	Sheep, wheat, barley, rice, lemons, grapes, almonds, hay	San Diego . . .	Live stock, barley, beans, hay, apples, peaches, lemons, oranges, grapes, walnuts, almonds
Contra Costa . .	Poultry, bees, wheat, barley, potatoes, hay, pears, prunes, and other orchard fruits, almonds, walnuts	San Francisco	City with only a few vegetable gardens and dairy farms
Del Norte	Live stock, oats, potatoes, hay, apples	San Joaquin . .	Live stock, corn, wheat, barley, potatoes, hay, vegetables, peaches, prunes, grapes, almonds, beans, sugar beets
Eldorado	Live stock, oats, potatoes, hay, apples, peaches, pears	SanLuisObispo	Live stock, hay, wheat, barley, pears, apples, peaches, prunes, grapes, almonds
Fresno	Live stock, honey, wheat, barley, kafir corn, alfalfa and other hay, cotton, figs, lemons, oranges, apricots, peaches, prunes, plums, grapes	San Mateo . . .	Hay, live stock, prunes, vegetables, artichokes
Glenn	Live stock, wheat, barley, hay, rice, peaches, prunes, oranges, almonds	Santa Barbara	Beans, sugar beets, potatoes, onions, barley, hay, avocados, cherimoyas, live stock, apples, apricots, lemons, grapes, walnuts
Humboldt	Live stock, oats, barley, potatoes, berries, hay, apples, walnuts	Santa Clara . .	Prunes, live stock, hay, barley, vegetables, berries, apricots, peaches, pears, grapes, almonds, walnuts, cherries
Imperial	Live stock, berries, hay, corn, kafir corn, cotton, grapes, grapefruit, oranges, figs, cantaloupes	Santa Cruz . . .	Live stock, poultry, potatoes, hay, apples, apricots, prunes, grapes
Inyo	Alfalfa, cattle, sheep	Shasta	Live stock, hay, wheat, apples, peaches, prunes, grapes, almonds
Kern	Live stock, alfalfa, peaches, apricots, olives, oranges, rice, cotton, grapes	Sierra	Cattle, sheep, hay, potatoes
Kings	Raisin grapes, peaches, apricots, prunes, alfalfa and other hay, live stock, wheat, barley	Siskiyou	Live stock, hay, wheat, potatoes, apples
Lake	Pears, prunes, almonds, beans, live stock, hay	Solano	Live stock, poultry, hay, wheat, barley, beans, potatoes, apricots, peaches, pears, prunes, grapes, almonds, cherries
Lassen	Live stock, hay, apples	Sonoma	Live stock, poultry, oats, potatoes, hay, apples, peaches, pears, prunes, walnuts
Los Angeles . . .	Live stock, poultry, honey, barley, beans, potatoes, hay, vegetables, apricots, peaches, pears, prunes, lemons, oranges, grapes, walnuts	Stanislaus . . .	Live stock, hay, barley, oats, wheat, peaches, apricots, figs, grapes, almonds, olives
Madera	Live stock, hay, grapes, figs, olives, cotton, peaches, wheat, barley	Sutter	Live stock, beans, grapes, peaches, wheat, barley, rice, prunes, almonds, hay
Marin	Dairy cattle and other live stock, poultry, oats, potatoes, hay, grapes	Tehama	Olives, hay, live stock, honey, poultry, wheat, barley, peaches, prunes, apples, almonds
Mariposa	Live stock, barley, hay, apples	Trinity	Live stock, wheat, barley, potatoes, hay, apples
Mendocino	Live stock, hops, pears, grapes, prunes, hay, barley, wheat	Tulare	Wheat, barley, hay, beans, kafir corn and milo maize, peaches, prunes, pears, apricots, olives, figs, plums, almonds, walnuts, grapes, oranges, lemons, berries, live stock, poultry, avocados
Merced	Live stock, sweet potatoes, figs, grapes, peaches, almonds, vegetables, poultry, wheat, barley, hay [live stock	Tuolumne . . .	Live stock, hay, potatoes, apples
Modoc	Wheat, barley, apples, vegetables, hay,	Ventura	Sugar beets, hay, live stock, beans, apricots, barley, prunes, lemons, oranges, grapes, walnuts
Mono	Live stock, hay	Yolo	Live stock, wheat, barley, beans, rice, hay, vegetables, apricots, peaches, pears, prunes, grapes, almonds
Monterey	Sugar beets, barley, prunes, apricots, cherries, almonds, berries, live stock, wheat, barley, hay, beans, apples	Yuba	Live stock, wheat, rice, barley, hay, peaches, grapes, almonds, pears
Napa	Prunes, pears, grapes, live stock, hay, apples		
Nevada	Live stock, pears, prunes, potatoes, apples, hay		
Orange	Oranges, olives, grapes, lima beans, sugar beets, lemons, walnuts		
Placer	Peaches, olives, plums, pears, cherries, berries, grapes, live stock, hay, oats, wheat, oranges		

PROBLEMS ON CALIFORNIA FARM PRODUCTS LISTED BY COUNTIES

(Refer to the table on the opposite page)

1. Name the products that are found in nearly every county. _____

2. Name some farm products of your own county that are not given in this table. _____

3. In what counties are sugar beets grown? _____

In a recent year California produced 666,900 tons of sugar beets, with a value of \$8,669,258. How much was this per ton? _____ The sugar-beet factories are located as near as possible to the districts where the beets are grown. Why is this so? _____

4. Name the counties in which rice is an important product. _____

Is rice culture a new or an old industry in California? _____ Name at least two essentials for the successful production of rice. _____

5. In what counties is cotton raised? _____

In a recent year California produced 46,418 bales of cotton at a value of \$9,237,182. How much is this per bale? _____ Short-staple cotton is most commonly raised, as less care is required in producing a crop, but in recent years the Egyptian long-staple cotton has been experimented with and successfully grown in some parts of California. This cotton is in great demand and brings a higher price than the short-staple varieties.

6. In what county are dates produced? _____

7. In how many counties are walnuts one of the important crops? _____ In a recent year the state produced 19,977 tons of walnuts. How many pounds is this? _____

8. In what counties are hops an important product? _____

9. California produces nearly every farm product grown in any other part of the United States. Why is this possible? _____

TALKING IN MILLIONS

VALUE OF ALL CALIFORNIA CROPS BY COUNTIES IN A RECENT YEAR

COUNTY	CEREALS	OTHER GRAINS AND SEEDS	HAY	VEGETABLES	FRUITS AND NUTS	ALL OTHER CROPS	TOTALS
Alameda	\$1,482,574	\$19,579	\$2,351,161	\$1,681,982	\$2,765,805	\$331,828	\$8,632,929
Alpine	12,016		60,804	3,566	7,356		83,742
Amador	145,706	818	253,223	36,417	246,022		682,186
Butte	6,872,198	154,380	1,325,494	96,221	2,832,671	301,766	11,582,730
Calaveras	73,543	2,195	282,121	83,917	151,668	166	593,610
Colusa	11,024,649	84,989	742,304	43,919	1,311,903	33,021	13,240,785
Contra Costa	2,345,587	439,702	2,356,785	3,311,935	1,587,962	2,900	10,044,871
Del Norte	14,207	240	293,423	39,575	10,910		358,355
Eldorado	46,263	94	226,025	86,012	508,689		867,083
Fresno	2,267,323	44,253	6,702,870	166,100	42,287,283	393,423	51,861,252
Glenn	9,653,717	3,020	1,410,089	24,143	479,583	461	11,571,013
Humboldt	158,781	31,742	2,982,506	517,606	306,628	85,292	4,082,555
Imperial	4,993,233	65,017	2,562,696	3,541,078	123,078	6,005,632	17,200,734
Inyo	300,901	6,893	1,071,284	67,692	55,898	527	1,593,195
Kern	2,542,033	16,558	2,610,781	297,377	424,745	193,927	6,085,421
Kings	3,797,094	5,784	2,032,372	63,532	5,957,274	84,313	11,940,369
Lake	334,012	59,578	475,426	53,778	662,977	33,657	1,619,428
Lassen	373,275	65,063	1,513,177	98,242	55,177		2,104,934
Los Angeles	855,659	2,586,128	5,620,444	7,904,309	42,117,820	2,282,248	61,366,608
Madera	2,256,056	12,140	1,170,076	61,745	1,195,010	2,911	4,697,938
Marin	100,481	5,462	771,537	460,940	76,344	37,570	1,452,334
Mariposa	43,178	169	119,719	37,464	59,505	29	260,064
Mendocino	469,947	5,030	1,114,175	281,873	1,369,706	884,093	4,124,824
Merced	3,940,198	217,185	5,865,441	935,002	2,325,357	5,731	13,288,914
Modoc	301,638	111,334	1,983,625	103,983	64,321		2,564,901
Mono	7,523	42	163,536	45,385	3,200		219,686
Monterey	2,408,114	1,224,759	2,389,755	575,175	1,158,199	1,837,268	9,593,270
Napa	560,923	785	779,394	82,182	3,299,379		4,722,663
Nevada	11,661	320	163,576	61,333	162,496	75	399,461
Orange	319,878	2,335,901	874,429	1,473,097	17,995,347	1,466,579	24,465,231
Placer	681,124	338	261,788	49,538	4,075,216	12,789	5,080,793
Plumas	62,136		475,322	20,033	5,237		562,728
Riverside	1,556,241	261,148	2,583,202	838,194	9,689,920	4,003,744	18,932,449
Sacramento	3,285,385	3,097,539	1,978,778	3,228,680	6,346,873	1,908,603	19,845,858
San Benito	472,112	1,322,442	1,050,191	104,613	1,151,025	15,288	4,115,671
San Bernardino	605,190	93,307	1,815,296	452,718	23,429,055	121,889	26,517,455
San Diego	795,348	570,914	1,639,621	706,861	4,065,611	50,686	7,829,041
San Francisco			45	150,639			150,684
San Joaquin	10,748,208	3,067,428	4,497,117	9,989,852	9,432,595	221,666	37,956,866
San Luis Obispo	2,991,194	1,925,401	1,959,807	209,177	571,287	414,947	8,071,813
San Mateo	176,050	215,349	552,482	1,453,634	45,191	2,320	2,445,026
Santa Barbara	584,572	6,004,922	1,335,180	335,371	2,293,238	713,362	11,266,645
Santa Clara	264,707	673,551	1,871,097	1,455,863	19,513,693	13,773	23,792,684
Santa Cruz	128,531	134,096	399,401	322,666	5,654,942	67,288	6,706,924
Shasta	376,853	6,391	973,093	104,398	467,347	17	1,928,099
Sierra	6,943	9	286,623	16,954	5,027		314,656
Skisyou	724,849	26,825	2,086,118	208,953	90,010	20	3,136,775
Solano	3,992,953	722,381	1,517,488	754,009	4,244,608	15,000	11,246,439
Sonoma	519,743	10,216	2,435,540	2,294,990	10,029,335	2,187,546	17,477,370
Stanislaus	5,368,193	1,308,311	5,454,448	1,468,143	3,522,936	18,383	17,140,414
Sutter	4,363,202	1,449,601	900,514	54,710	4,781,698	90,408	11,640,133
Tehama	1,252,073	39,873	1,135,254	62,500	1,084,337	5,268	3,579,395
Trinity	28,432	4,369	226,159	59,983	36,615		355,558
Tulare	3,335,240	30,460	7,598,204	139,871	19,416,780	26,786	30,547,341
Tuolumne	61,473	592	124,626	104,739	137,691		429,121
Ventura	163,954	7,932,756	823,050	93,008	8,304,370	1,003,186	18,320,324
Yolo	7,526,318	1,779,460	1,532,730	425,395	2,642,253	1,021,059	14,927,215
Yuba	877,077	172,438	340,424	37,749	271,495	372,935	2,072,118
<i>Totals for state</i>	<i>\$108,570,469</i>	<i>\$38,349,277</i>	<i>\$96,121,846</i>	<i>\$47,377,921</i>	<i>\$270,910,698</i>	<i>\$26,270,380</i>	<i>\$587,600,591</i>

TALKING IN MILLIONS (CONTINUED)

PROBLEMS

1. Consult the table on the opposite page and then list the counties that produce \$5,000,000 worth or more of cereals.

What is a cereal? _____

2. California leads all the states in the production of seeds. List the six counties that lead in the production of seeds and grains, other than cereals.

Underline in red those of the six counties that border on the Pacific; underline in blue those that lie in the Sacramento and San Joaquin valleys.

3. Name the five counties that lead in the production of hay.

Are these counties also among the largest producers of beef and dairy cattle? (Refer to page 42)

4. Name six counties that produce more than \$2,000,000 worth of vegetables.

Are most of the California vegetables grown on irrigated or nonirrigated land? _____

5. List the counties that produce \$5,000,000 worth or more of fruits and nuts.

Underline in red those producing more than \$40,000,000 worth; underline in blue those producing from \$10,000,000 to \$40,000,000 worth.

6. How many California counties produce more than \$10,000,000 worth of farm crops annually?

7. What is the most valuable farm crop grown in California? _____

DOES CALIFORNIA RAISE MUCH BARLEY, HAY, AND RICE ?

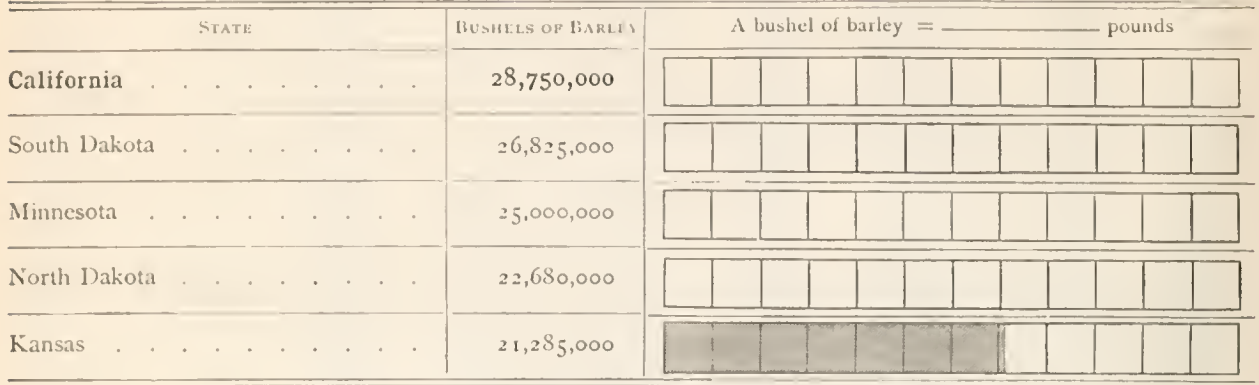
(Based on figures of a recent year)

PROBLEMS

1. How does California rank among the states raising barley ? _____

Complete the graph.

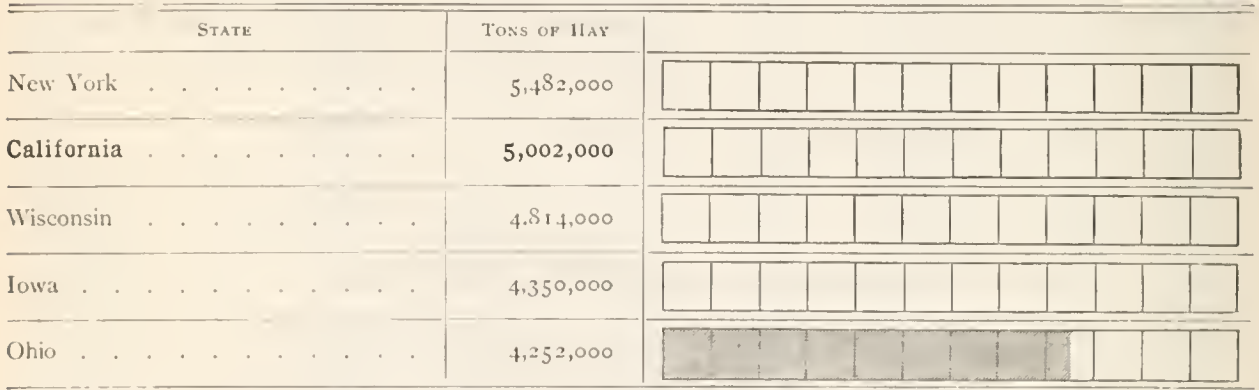
SCALE: 3,000,000 bushels



2. How does California rank among the states raising hay ? _____

Complete the graph.

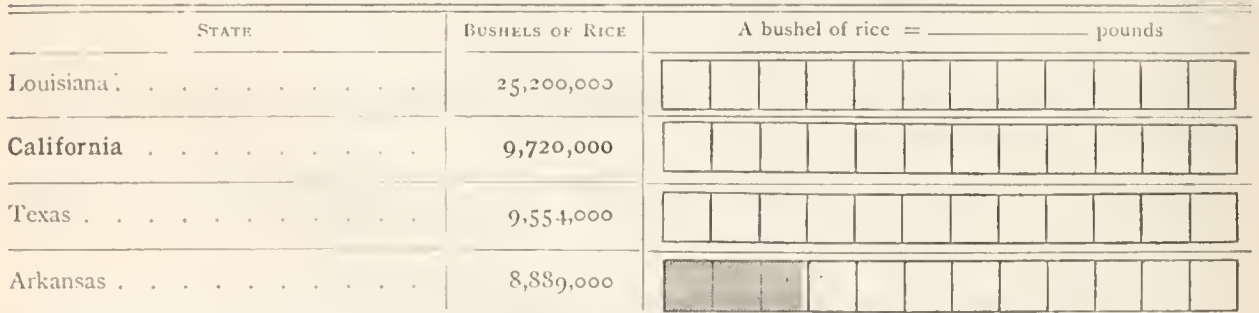
SCALE: 500,000 tons



3. How does California rank among the states raising rice ? _____

Complete the graph.

SCALE: 3,000,000 bushels



CALIFORNIA LEADS IN RAISING PEACHES, PEARS, PLUMS, AND PRUNES

(Based on figures of a recent year)

PROBLEMS

PRODUCTION OF PEARS IN FIVE LEADING STATES

Complete the graph.

SCALE: 500,000 bushels

STATE	BUSHELs RAISED	A bushel of pears = _____ pounds
California	3,600,000	<input type="text"/>
New York	2,375,000	<input type="text"/>
Washington	2,246,000	<input type="text"/>
Michigan	1,100,000	<input type="text"/>
New Jersey	843,000	<input type="text"/>

PRODUCTION OF PEACHES IN FIVE LEADING STATES

Complete the graph.

SCALE: 2,000,000 bushels

STATE	BUSHELs RAISED	A bushel of peaches = _____ pounds
California	13,800,000	<input type="text"/>
Georgia	3,799,000	<input type="text"/>
New York	2,307,000	<input type="text"/>
Ohio	2,241,000	<input type="text"/>
North Carolina	1,909,000	<input type="text"/>

PRODUCTION OF PLUMS AND PRUNES IN FOUR LEADING STATES

Complete the graph.

SCALE: 2,000,000 bushels

STATE	BUSHELs RAISED	A bushel of plums or prunes = _____ pounds
California	13,200,805	<input type="text"/>
Oregon	2,151,864	<input type="text"/>
Washington	785,920	<input type="text"/>
Idaho	485,325	<input type="text"/>

THE "NETHERLANDS" OF OUR STATE

On the map in the front of this book find the section of the state between Benicia (on the Carquinez Straits), Sacramento, and Stockton. This is delta land, lying along the lower reaches of the Sacramento and San Joaquin rivers, and is therefore very fertile. Much of it is broken up into islands by branches of the rivers, or "sloughs." The land is so low that in many places it is protected from overflow by great dikes, and the level of the water in the streams is higher than the farm lands on either side.

Before the dikes were built, most of this land was a great swamp covered with tules. After the dikes were thrown up, the water was pumped out into drainage canals and carried off to the rivers. This pumping has to be continued from year to year, and agriculture in this district depends upon drainage instead of irrigation. The dikes along the river banks are so broad on top that they are used for roads, and in some places paved highways have been constructed on them.

Great crops of onions, potatoes, peas, barley, sugar beets, celery, asparagus, and other vegetables and grains are grown on these low, fertile delta lands. Fruit trees and vineyards have also been started here.

PROBLEMS

1. Why is this part of the state called "The Netherlands"? _____

2. What are tules? _____

3. Why is this land so fertile and productive? _____

4. How are the crops of this great delta shipped to San Francisco? _____

5. In what two ways are the vegetables of this region shipped to Eastern cities? _____

6. What counties share this delta region? _____

7. In southern California there is another great agricultural district, most of which lies below sea level. This is the _____ Valley. It is part of the delta of the _____ River.

8. Agriculture in this district is carried on by means of irrigation. Would "The Netherlands" be an appropriate name for this section of the state? _____. Explain your answer. _____

9. In what county does most of this agricultural district lie? _____

10. Name six different crops that are raised in the Imperial Valley (refer to page 34).

TEAMWORK IN CALIFORNIA

The California farmers and ranchers have not always been prosperous. In past years they have sometimes found that the prices they received for raisins, oranges, peaches, prunes, and other products were not enough to pay for the cost of growing, harvesting, and selling. Some of the crops would be sold too early, some would be sold too late, and one grower might make money while another lost. The fruits were not packed in standard sizes, and so the buyers in distant markets could not always be sure of the quality of the California fruit that was offered for sale. Sometimes great quantities of one fruit were sent to one place, causing prices to drop there, while there would be a shortage of the same fruit somewhere else. Besides, people in the East did not know about the fine qualities of the California figs, raisins, oranges, nuts, prunes, apricots, and other products, and no one grower could afford to advertise them.

Many of these problems have been solved by the associations that have been formed to sell the California products. Most of the growers of raisins, for example, have joined the California Sun Maid Raisin Growers. Working together, they can afford to engage experts who see that all the raisins are picked at the right time, and that they are dried and packed in just the right way. They know just where and when to sell the raisins in order to get the best prices. Besides, they can afford to advertise raisins in many magazines and papers that reach millions of people. As a result of this teamwork the demand for raisins has been increased, the growers make much more money than they did before the association was organized, and no one grower has an advantage over any other. For the same grade and quality of raisins each grower is paid the same price. With the help of these associations the fruit growers now make a good profit where once they sold at a loss. At the same time consumers get a far higher quality of fruit at much lower prices.

There are many of these coöperative associations. Some of the most important are

- | | |
|--|---|
| California Prune and Apricot Growers, Incorporated | California Walnut Growers' Association |
| California Date Association | California Almond Growers' Exchange |
| California Sun Maid Raisin Growers, Incorporated | Avocado Association of California |
| California Peach and Fig Growers | Central California Berry Growers' Association |
| California Sunkist Fruit Growers' Exchange (Citrus fruits) | Central California Poultry Producers' Association |
| | Honey Producers' Exchange |

PROBLEMS

1. Name some coöperative marketing associations, in addition to those listed above, that sell products grown in your county. _____

2. Look through all the recent magazines you can find at home for California products advertised by our great marketing associations. Fill in the blanks below.

MAGAZINE	DATE	PRODUCT ADVERTISED	ADVERTISED BY

LIVE STOCK ON FARMS AND RANGES

COUNTY	HORSES	BEEF CATTLE	DAIRY CATTLE	SHEEP	HOGS	CHICKENS
Alameda	8,841	19,347	17,434	25,812	9,171	307,092
Alpine	169	1,147	310	355	128	767
Amador	1,856	17,501	1,975	9,964	5,648	22,443
Butte	6,253	21,879	9,530	46,686	21,040	109,815
Calaveras	2,458	21,214	1,327	24,792	4,711	23,061
Colusa	3,812	10,484	4,521	51,948	23,511	59,340
Contra Costa	8,418	12,772	15,792	27,068	14,415	127,436
Del Norte	435	785	6,302	655	805	4,662
Eldorado	2,103	12,097	3,880	10,985	3,163	26,526
Fresno	24,829	44,103	37,073	232,612	46,451	307,727
Glenn	4,776	14,784	8,628	136,852	22,844	123,297
Humboldt	5,928	29,818	34,495	56,153	13,524	69,122
Imperial	11,627	23,212	43,165	60,176	44,839	264,123
Inyo	3,682	21,760	3,693	43,542	4,357	20,946
Kern	10,885	119,505	11,760	147,719	33,805	125,180
Kings	8,614	11,920	29,943	41,605	34,195	131,184
Lake	2,138	7,524	3,042	14,880	8,198	29,506
Lassen	8,290	35,919	4,724	92,961	5,910	25,521
Los Angeles	19,731	19,205	35,238	26,200	38,768	1,307,976
Madera	4,856	23,662	8,078	14,185	15,132	58,463
Marin	2,778	860	35,187	10,207	23,780	195,712
Mariposa	1,561	11,389	262	5,464	8,378	10,362
Mendocino	5,562	22,519	10,351	99,918	24,061	83,144
Merced	15,754	80,427	49,461	85,005	35,621	166,959
Modoc	9,889	44,072	3,756	108,062	4,858	22,555
Mono	504	1,461	285	30,285	368	2,282
Monterey	13,292	52,862	22,213	10,829	23,286	101,514
Napa	3,845	9,116	7,141	16,500	8,541	123,535
Nevada	1,523	6,789	2,958	11,475	3,096	24,570
Orange	7,355	9,113	5,957	178	6,843	184,401
Placer	3,852	4,307	3,330	23,829	5,364	72,667
Plumas	1,285	6,322	3,845	4,395	1,027	6,291
Riverside	10,035	10,607	8,205	13,964	15,599	219,791
Sacramento	11,019	13,327	18,695	42,637	16,373	240,632
San Benito	5,219	27,928	5,169	14,875	9,003	64,878
San Bernardino	6,819	12,890	7,608	3,919	20,651	191,949
San Diego	9,739	34,644	11,904	7,311	15,731	392,359
San Francisco	105		254	4	209	3,191
San Joaquin	18,050	14,329	31,927	68,874	34,284	290,239
San Luis Obispo	11,820	62,311	26,366	11,609	17,451	85,459
San Mateo	2,469	1,051	10,959	1,060	8,437	57,258
Santa Barbara	10,652	39,951	8,143	31,741	14,356	67,838
Santa Clara	10,395	25,176	17,213	531	10,317	219,729
Santa Cruz	3,445	2,991	5,177	2,061	6,122	222,306
Shasta	4,505	36,477	2,665	23,258	26,270	39,406
Sierra	822	4,811	2,517	3,656	482	2,776
Siskiyou	7,676	42,204	11,436	19,093	11,787	37,423
Solano	5,891	10,542	12,897	98,669	14,529	94,273
Sonoma	12,011	9,865	36,242	62,846	22,040	2,986,883
Stanislaus	14,364	23,563	55,292	38,627	26,849	330,488
Sutter	5,081	5,548	8,131	68,775	11,759	82,672
Tehama	5,698	32,726	5,104	192,634	20,561	82,001
Trinity	1,196	10,731	723	2,344	6,392	9,048
Tulare	20,177	45,144	47,401	45,191	60,828	373,999
Tuolumne	1,409	14,185	1,337	2,051	3,690	18,020
Ventura	8,357	8,783	3,493	9,920	8,453	60,770
Yolo	6,388	11,461	11,429	96,598	26,196	88,446
Yuba	2,254	9,966	3,008	66,606	5,065	26,635
<i>Totals for state</i>	402,407	1,229,086	778,951	2,400,151	909,272	10,426,648

THE FARM ANIMALS OF CALIFORNIA

California is one of the leading states in every line of live-stock production. The mild winters and the abundance of green feed are of great help to the stockgrower and the dairyman.

PROBLEMS

1. What are the counties that lead in the production of (a) dairy cattle? (Write here names of counties with more than 20,000.) _____

(b) beef cattle? (List all counties with more than 30,000.) _____

(c) sheep? (List all counties with more than 75,000.) _____

2. What great crop is used largely to feed our live stock? _____

3. The greatest poultry district in the state is around Petaluma. Why is this a particularly desirable location for poultry raising? _____
Name two other poultry districts of California. _____, _____.

4. What is the total number of horses in the state? _____ How does this compare with the number of automobiles? (See page 60.) _____ Have automobiles led to a decrease in the number of horses? _____

5. Name three breeds of cattle that are found on California ranches. _____

6. Are cattle raised more largely for beef or for dairy purposes? _____

7. The following are breeds of sheep and swine: Cheviot, Cotswold, Berkshire, Duroc-Jersey, Shropshire, Poland-China, Southdown. Underline breeds of sheep in red and breeds of swine in blue.

THE DAIRY PRODUCTS OF CALIFORNIA

BUTTER PRODUCTION IN THE DIFFERENT COUNTIES OF THE STATE DURING A RECENT YEAR

COUNTY	POUNDS	COUNTY	POUNDS	COUNTY	POUNDS
Alameda	666,205	Marin	2,519,490	San Mateo	496,786
Alpine	5,000	Mariposa		Santa Barbara	402,298
Amador	110,281	Mendocino	728,024	Santa Clara	310,370
Butte	994,714	Merced	4,311,842	Santa Cruz	455,389
Calaveras	59,848	Modoc	316,480	Shasta	116,341
Colusa	759,941	Mono		Sierra	344,078
Contra Costa	924,359	Monterey	907,213	Siskiyou	1,256,050
Del Norte	1,042,542	Napa	622,877	Solano	715,703
Eldorado	311,589	Nevada	222,164	Sonoma	4,297,366
Fresno	3,264,092	Orange	12,000	Stanislaus	6,524,986
Glenn	1,000,574	Placer	235,886	Sutter	555,071
Humboldt	6,377,516	Plumas	246,393	Tehama	351,184
Imperial	5,648,099	Riverside	23,560	Trinity	
Inyo	303,571	Sacramento	1,476,780	Tulare	4,685,140
Kern	1,001,219	San Benito	323,124	Tuolumne	28,230
Kings	4,548,172	San Bernardino	15,652	Ventura	3,800
Lake	389,962	San Diego	430,951	Yolo	956,334
Lassen	311,936	San Francisco		Yuba	442,556
Los Angeles	77,959	San Joaquin	2,353,005	<i>Total</i>	68,126,560
Madera	1,085,620	San Luis Obispo	2,555,238		

VALUE OF DAIRY PRODUCTS

PRODUCTS	VALUE
Butter	\$42,136,276
Cheese	4,162,511
Condensed, evaporated, and powdered milk	11,612,926
Casein	791,924
Milk sugar, crude and refined	870,147
Market milk, cream, and ice cream	38,946,731
Skim milk and buttermilk	213,920
Curds, lactein, semisolid buttermilk	269,923
<i>Total</i>	\$99,004,358

PROBLEMS

1. What is California's pure-milk law? _____

2. What is pasteurized milk? _____

THE DAIRY PRODUCTS OF CALIFORNIA (CONTINUED)

3. List below the eight counties that lead in the production of butter. Write after the name of each county the region in which it is located.

COUNTY	REGION

4. Why do these counties lead in dairy products? _____

5. The city and county of San Francisco and Trinity County have no dairy products. Why is this so? _____

6. What portion of the total amount of butter produced in California comes from your county? _____ At the present market price, what is its value in dollars? _____

7. In addition to butter, what are the other most valuable dairy products? _____

8. Name the two breeds of cattle commonly found on our dairy farms? _____ and _____

9. What counties do you think supply San Francisco with milk? _____

What counties supply Los Angeles with milk? _____

NOTE TO THE TEACHER. If possible, have the pupils visit a dairy farm. If not, have them construct a model of a dairy farm. Pupils will be able to find a great deal of material at home that can be used for such a project. A four-foot square will usually be large enough for this project.

CALIFORNIA'S LUMBER

About one half of the standing timber in the United States is in the Pacific coast states, and nearly a third of this is in California. The following table shows the six most important kinds of timber in this state and the number of board feet of each cut in a recent year. In addition, considerable quantities of spruce, hemlock, and oak were cut.

CALIFORNIA'S CUT OF LUMBER BY COUNTIES

COUNTY	DOUGLAS FIR	WESTERN PINE	REDWOOD	CEDAR	SUGAR PINE	WHITE FIR
Alameda		15,573	2,400	3,232,847	33,588	
Amador		148,889				
Butte	7,275,769	18,940,900		1,729,079	2,173,000	10,375,400
Calaveras	300,000	2,200,000			50,000	
Del Norte	4,444,000		8,054,000			
Eldorado	2,165,175	19,355,768		1,595,086	12,547,907	4,301,784
Fresno	75,000	4,465,981	1,725,430	190,744	2,564,622	1,146,293
Humboldt	31,106,729	231,804	253,697,247	20,000		905,046
Inyo		80,000				20,000
Kern		60,000			60,000	60,000
Lake	20,000	245,000				
Lassen	2,450,000	83,941,247		1,565,409	20,600,000	21,372,000
Madera		13,408,400		4,340,000	11,414,000	8,180,000
Mariposa		22,500		5,500		
Mendocino	28,214,262	29,040,868	146,131,767			3,250,000
Modoc	30,000	605,000				
Nevada	275,000	18,326,085		191,028		4,242,064
Placer		379,110		42,000		637,120
Plumas	8,569,175	39,128,071		3,074,573	7,538,129	8,627,336
Riverside		200,000		40,000	60,000	
San Bernardino		671,477				
San Mateo	300,000		6,500,000			1,000,000
Santa Cruz	5,147,642		13,060,949			
Shasta	7,591,542	2,824,763		262,536	3,633,660	941,815
Sierra		10,425,000		382,000		625,000
Siskiyou	15,486,231	190,521,640		735,796	13,942,405	9,682,604
Sonoma	110,000		159,000		12,000	
Trinity	1,123,000	131,000				
Tulare	125,000	263,020	40,000	170,820	212,420	397,920
Tuolumne	886,937	28,071,211		4,820,339	26,425,240	14,092,005
Yuba	250,000	1,176,816		105,400	8,500	4,500
<i>Totals</i>	115,939,462	464,853,223	429,370,793	22,503,157	101,275,471	89,860,887

On the map on the opposite page show the counties that produced more than a million board feet of Douglas fir, western pine, redwood, cedar, sugar pine, and white fir in the year for which the figures are given. Use the following symbols :

- + Counties producing more than 1,000,000 board feet of Douglas fir
- × Counties producing more than 1,000,000 board feet of western pine
- ⊙ Counties producing more than 1,000,000 board feet of redwood
- Counties producing more than 1,000,000 board feet of cedar
- ⊕ Counties producing more than 1,000,000 board feet of sugar pine
- ⊗ Counties producing more than 1,000,000 board feet of white fir

Mark the proper symbol in *each* county which produced more than a million board feet of the kind of timber which the symbol represents.

CALIFORNIA'S LUMBER (CONTINUED)

PROBLEMS

(In solving these problems use the table on page 46 and the map that you have made on page 47.)

1. Of the lumber cut in California what two kinds are of the greatest commercial value? _____
_____ and _____.
2. In what part of the state is the "redwood belt" of California? _____

3. What four counties produce more than a million board feet each of Douglas fir, western pine, cedar, sugar pine, and white fir? _____, _____, _____, _____
_____. Is redwood cut in any of these counties? _____
4. Name the county that leads in the production of each of the following kinds of lumber:
Douglas fir _____ Cedar _____
Western pine _____ Sugar pine _____
Redwood _____ White fir _____
5. What natural regions seem to lead in the production of lumber? _____

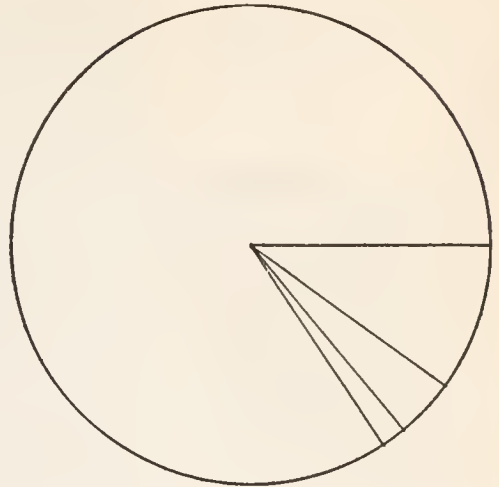
6. Is most of the lumber of the state cut in northern or in southern California? _____
_____ Why? _____
7. What can you say of the relation between the rainfall of California and the location of the chief lumbering districts? (Refer to the map on page 13.) _____

8. Name one use for each of the following kinds of wood:
Douglas fir _____
Western pine _____
Redwood _____
Cedar _____
Sugar pine _____
White fir _____
9. What is being done by our government to conserve our state forests?

HOW IMPORTANT ARE THE MINERALS OF CALIFORNIA?

MINERAL PRODUCTION IN CALIFORNIA IN A RECENT YEAR

MINERAL	VALUE	PER CENT
Petroleum and natural gas . . .	\$139,018,663	84.5
Gold	16,695,955	10.
Copper	2,397,610	1.5
Other minerals	6,882,610	4.
Silver	\$1,240,051	
Quicksilver	1,217,077	
Magnesite	677,661	
Basalt	635,588	
Granite	563,485	
Limestone	540,987	
Lead and zinc	261,454	
Clay	177,246	
Miscellaneous	1,569,061	
<i>Total</i>	\$164,994,838	100.



Let the circle above represent the total value of all the minerals, or 100 per cent. It is divided into parts which represent the per cents of petroleum, gold, copper, and all others. Print the name of each mineral in its part.

PROBLEMS

1. What important minerals essential to industry are not found in California? _____

2. In what ways can this handicap be overcome? _____

3. What are the leading mineral products in your county? _____

4. In early days, how was gold mining carried on in California? (Refer to any California history.)

5. How is most of the gold mined today? _____

6. Give the most important use for each of the following minerals found in California :
 Petroleum _____
 Gold _____
 Copper _____
 Quicksilver _____

PETROLEUM, OUR LEADING MINERAL PRODUCT

The United States produces more than two thirds of the petroleum of the world. The leading states in its production are Oklahoma, California, and Texas.

CALIFORNIA'S RANK IN THE PRODUCTION OF PETROLEUM IN A RECENT YEAR

Complete the graph.

SCALE: 10,000,000 barrels

STATE	BARRELS	A barrel = 42 gallons
Oklahoma	105,725,000	
California	103,377,361	
Texas	96,000,000	
Kansas	38,501,000	
Louisiana	35,649,000	
West Virginia	17,071,000	
Illinois	10,772,000	

PRODUCTION OF OIL BY COUNTIES

Complete the graph.

SCALE: 5,000,000 barrels

COUNTY	BARRELS	
Kern	50,660,438	
Orange	15,462,741	
Fresno	15,375,454	
Los Angeles	14,026,536	
Santa Barbara	5,803,583	
All others	2,048,609	
<i>Total</i>	<i>103,377,361</i>	

These counties are designated as "All others" :

	BARRELS PRODUCED
Ventura	1,989,681
San Luis Obispo	42,511
Santa Clara	16,095
San Mateo	322

PETROLEUM, OUR LEADING MINERAL PRODUCT (CONTINUED)

PROBLEMS

1. How does California rank among the states in the production of petroleum? _____

2. In the space below write in order of production the names of the six leading petroleum-producing counties of California. Opposite each one write its rank among the counties in the production of minerals as a whole. Refer to the table on page 50.

COUNTY	MINERAL RANK	COUNTY	MINERAL RANK

3. How do the five leading petroleum-producing counties rank in the production of minerals as a whole? _____

4. In what natural regions is most of the petroleum found? _____

5. The oil is carried in railroad tank cars or is pumped from the fields through pipe lines to Richmond, Los Angeles, Martinez, Fresno, San Luis Obispo, Monterey, Bakersfield, and other cities, where it is refined. It is then shipped abroad or sold in California and other states. What is meant by the refining of petroleum? _____

6. What is a tank farm? _____

7. Where are some of the California tank farms located? _____

8. What are some of the important products obtained from our California petroleum? _____

9. What is the usual depth of an oil well? _____

10. What oil field is nearest your home? _____

11. At an average price of \$1.73 a barrel, what was the total value of the oil produced in California during the year for which the figures are given on the opposite page? _____

CALIFORNIA THE GOLDEN

It was the discovery of gold in 1848 that led to the settlement of California by Americans. Many thousands of men made their way across the plains or came by sea to California in the hope of gaining wealth from the gold diggings. These settlers were called the "forty-niners."

Gold is no longer one of the most important products of the state, but California still leads all other states in its production. From 1848 to 1919 California produced a total of \$1,706,546,203 in gold.

In a recent year the gold production by counties was as follows :

COUNTY	PRODUCTION	COUNTY	PRODUCTION	COUNTY	PRODUCTION
Amador	\$2,920,492	Mariposa	\$253,392	Shasta	\$378,283
Butte	378,297	Modoc	6,478	Sierra	301,172
Calaveras	1,550,574	Mono	29,428	Siskiyou	226,525
Del Norte	867	Nevada	2,981,312	Trinity	538,494
Eldorado	30,121	Orange	1,488	Tuolumne	471,021
Fresno	5,540	Placer	170,609	Yuba	4,195,732
Humboldt	16,260	Plumas	83,600	Merced	} 162,471
Inyo	69,560	Riverside	213	San Joaquin	
Kern	150,589	Sacramento	1,714,193	Stanislaus	
Lassen	300	San Bernardino	39,769	<i>Total</i>	\$16,695,955
Madera	17,705	San Diego	1,470		

About half of this gold came from deep mines. Most of the remainder was secured by the use of gold dredges.

PROBLEMS

1. What counties led in the production of gold in the year for which the figures are given? Write the names of the counties that produced gold worth \$1,000,000 or more. _____

2. Are most of the gold-producing counties increasing in population? (Refer to the map on page 19.)
 _____ Why? _____

3. Where was gold first discovered in California, and by whom? _____

4. Compare the value of California's gold production with that of Alaska, Colorado, and South Dakota.

Complete the graph.

SCALE: \$2,000,000

STATE	VALUE	
California	\$16,695,955	<div style="border: 1px solid black; width: 100%; height: 20px; display: flex; justify-content: space-between;"><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div></div>
Colorado	10,249,300	<div style="border: 1px solid black; width: 100%; height: 20px; display: flex; justify-content: space-between;"><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div></div>
Alaska	9,963,500	<div style="border: 1px solid black; width: 100%; height: 20px; display: flex; justify-content: space-between;"><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div></div>
South Dakota	5,289,700	<div style="border: 1px solid black; width: 100%; height: 20px; display: flex; justify-content: space-between;"><div style="width: 10%; background-color: #cccccc;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div><div style="width: 10%;"></div></div>

THE "WHITE COAL" OF CALIFORNIA

1. In many places in the mountains of California the water from the rainfall and the melting snows is collected and stored in immense reservoirs. From these reservoirs it is taken down the steep mountain sides in mammoth pipes to power plants, where it is made to turn water wheels. The power of this rushing water is so great that the wheels are able to run great generators for the purpose of developing electricity. From the power plants the electricity is sent by transmission lines all over the state of California, and is used for _____, _____, _____, _____, and _____.

2. A few years ago these same generators were run by steam power. What kind of fuel do you think the power plants used at that time? _____

3. Give two reasons to show why water power, or white coal, as it is sometimes called, should be used in California in place of steam power for generating electricity. _____

4. Following is a list of the twelve great power companies in California :

Southern California Edison Company	Coast Valleys Gas and Electric Company
San Diego Consolidated Gas and Electric Company	San Joaquin Light and Power Company
Southern Sierras Power Company	Western States Gas and Electric Company
Pacific Gas and Electric Company	Great Western Power Company
Los Angeles City	Snow Mountain Water and Power Company
California Oregon Power Company	County and City of San Francisco

5. Does any one of these companies furnish you with electricity? If so, write its name here.

6. The map in the front of this book shows the locations of the larger hydroelectric power plants in California. What rivers are used most extensively for the development of hydroelectric power?

7. In what natural regions do the sources of these rivers lie? _____

8. What is the average annual rainfall in these regions? From _____ to _____ inches. (Refer to the map on page 13.)

9. During the fall of 1920 many cities were asked to economize in the use of electricity. Explain the reason for this request. _____

Has the same necessity occurred this year? _____

IS CALIFORNIA A GREAT MANUFACTURING STATE ?

The factors necessary for manufacturing are raw materials, power and fuel, transportation facilities, markets, labor, capital, and a healthful climate. Discuss the relation of each to manufacturing.

PROBLEMS

1. Has California the necessary factors for manufacturing? (Review your previous lessons and fill in the blanks below with suitable words.)

a. California has the following raw materials : _____

b. California has little or no coal. Upon what resources can she depend for power and fuel ?

c. California enjoys good railroad transportation to the following states and countries : _____

d. The following states and countries are easily reached by water from California : _____

e. The following countries offer good markets for California products : _____

f. California has _____ people, more than two thirds of whom live in the cities. Labor is _____. Is the population increasing? _____

g. California is a rich state, with _____ to invest in manufacturing.

h. The climate of California offers _____ working conditions.

2. In the spaces below write the names of the chief manufactured products of each city listed.

CITY	PRODUCTS MANUFACTURED
San Francisco . . .	_____
Los Angeles . . .	_____
Oakland	_____
Berkeley	_____
Sacramento . . .	_____
Richmond	_____

CALIFORNIA LEADS IN CANNING AND PRESERVING FRUITS AND VEGETABLES

(Figures are for a recent year)

DRIED FRUIT	TONS	CANNED FRUIT	24-QUART CASES	CANNED VEGETABLES	24-QUART CASES
Apples	5,000	Apples	9,041	Asparagus	1,024,813
Apricots	10,750	Apricots	2,312,020	Chilies and Pimentos	400,000
Figs	11,500	Blackberries	161,359	Kraut	20,000
Grapes	25,000	Cherries	647,977	Peas	366,679
Peaches	25,000	Grapes	114,886	Pumpkin	150,000
Pears	2,500	Loganberries	14,267	Spinach	685,228
Prunes	95,000	Olives	300,000	Squash	75,000
Raisins	185,000	Peaches	6,753,198	String Beans	99,269
<i>Total</i>	359,750	Pears	1,184,288	Sweet Corn	2,000
		Plums	164,740	Tomatoes and	
		Strawberries	5,525	Tomato products	2,691,841
		Other fruits	15,562	Other vegetables	382,116
		<i>Total</i>	11,682,863	<i>Total</i>	5,896,946

PROBLEMS

1. Why are California canned fruits and vegetables in demand all over the world? _____

2. Where is the leading prune district of the state? _____

Where is the leading peach district? _____

3. What are the most important canned fruits? _____, _____,

_____, _____. What are the most important dried fruits?

_____, _____, _____.

What are the most important canned vegetables? _____, _____,

_____, _____, _____.

4. In what natural regions are the California fruits dried? _____

5. Tell how California fruit is dried. _____

6. Why is it possible to dry fruits in this way in California and not in other states? _____

RAILROAD TRIPS IN CALIFORNIA

On the map on the opposite page trace the principal railroads of the state and write on each road the abbreviation of its name. These railroads are indicated on the map in the front of this book. Refer also to folders issued by the railroad companies and to a railroad map.

Tell below how you would travel by railroad between the places named.

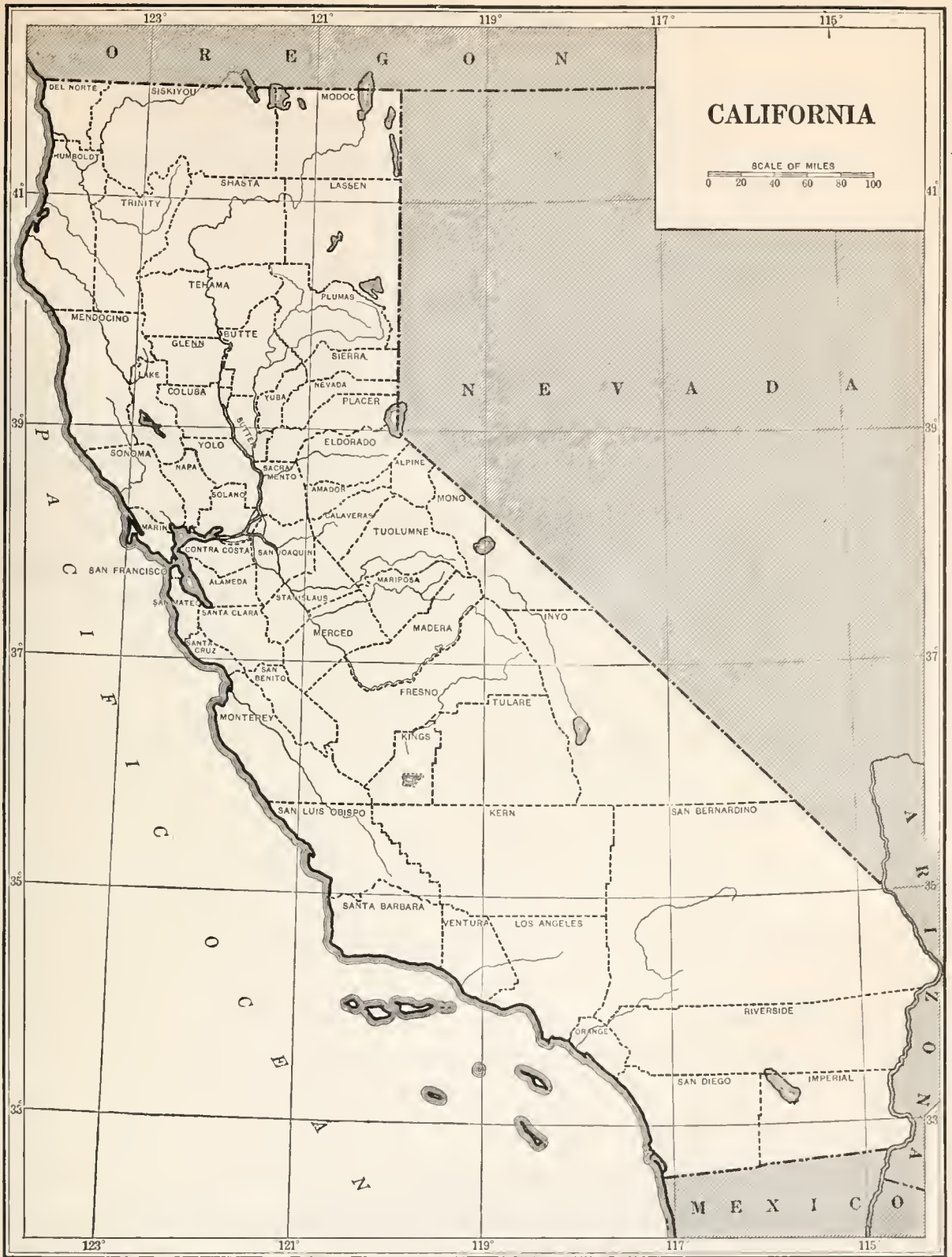
FROM	To	ON RAILROAD OR RAILROADS	NUMBER OF MILES
San Francisco . . .	Los Angeles . . .		
Fresno	San Diego		
Eureka	San Francisco . .		
Calexico	Redding		
Oroville	Oakland		
Bakersfield	Stockton		
Chico	Vallejo		
Santa Rosa	Truckee		
San Jose	Los Angeles		
Santa Cruz	Modesto		
Chico	Turlock		
San Diego	Calexico		
Your home	San Francisco		
Your home	Los Angeles		
Your home	Sacramento		
Los Angeles	Yosemite Valley . .		
San Francisco	Lake Tahoe		

PROBLEMS

1. Over what railroads could you ship goods (*a*) from Los Angeles to Chicago? _____

 (*b*) from Los Angeles to Salt Lake City? _____ (*c*) from San Francisco to New York? _____
 _____ (*d*) from Oakland to Seattle? _____
2. What natural regions in California have the most railroads? _____

3. What fuel is used by the railroads in California? _____
4. Study the population map on page 21. Are more railroads found in the populous regions or in the thinly-settled regions? _____



MOTOR TRIPS

California is truly a paradise for motorists. In proportion to population more automobiles are used here than in any other state. In a recent year 645,522 automobiles were registered in California, or one for every _____ persons in the state. One of the greatest attractions that we have to offer to the tourist is our hundreds of miles of paved highways. One may travel all the way from the Oregon line to the Mexican border over paved boulevards.

PROBLEMS

1. Draw our main state highways on the map on the opposite page.
2. Plan at least one of the following trips. Indicate your route on the map by placing arrows along the highway over which you would travel.
 - From San Francisco to San Diego. Follow the coast route going and the valley route returning.
 - From San Francisco to Redding. Follow the east side of the Sacramento Valley going and the west side returning.
 - From Los Angeles to the Imperial Valley. Go by way of Redlands, thence across the desert ; return via El Centro and San Diego.
 - From Fresno to Yosemite Valley. In going follow the Wawona route ; return via the Big Oak Flat road.
 - From Sacramento to Lake Tahoe. In going follow the Truckee route ; return via Placerville.
 - From your home to any place that you wish to visit.

3. For your first trip fill in the following log. Make a new log for each trip you take.

From _____ to _____

Important cities and towns visited : _____

Natural regions passed through : _____

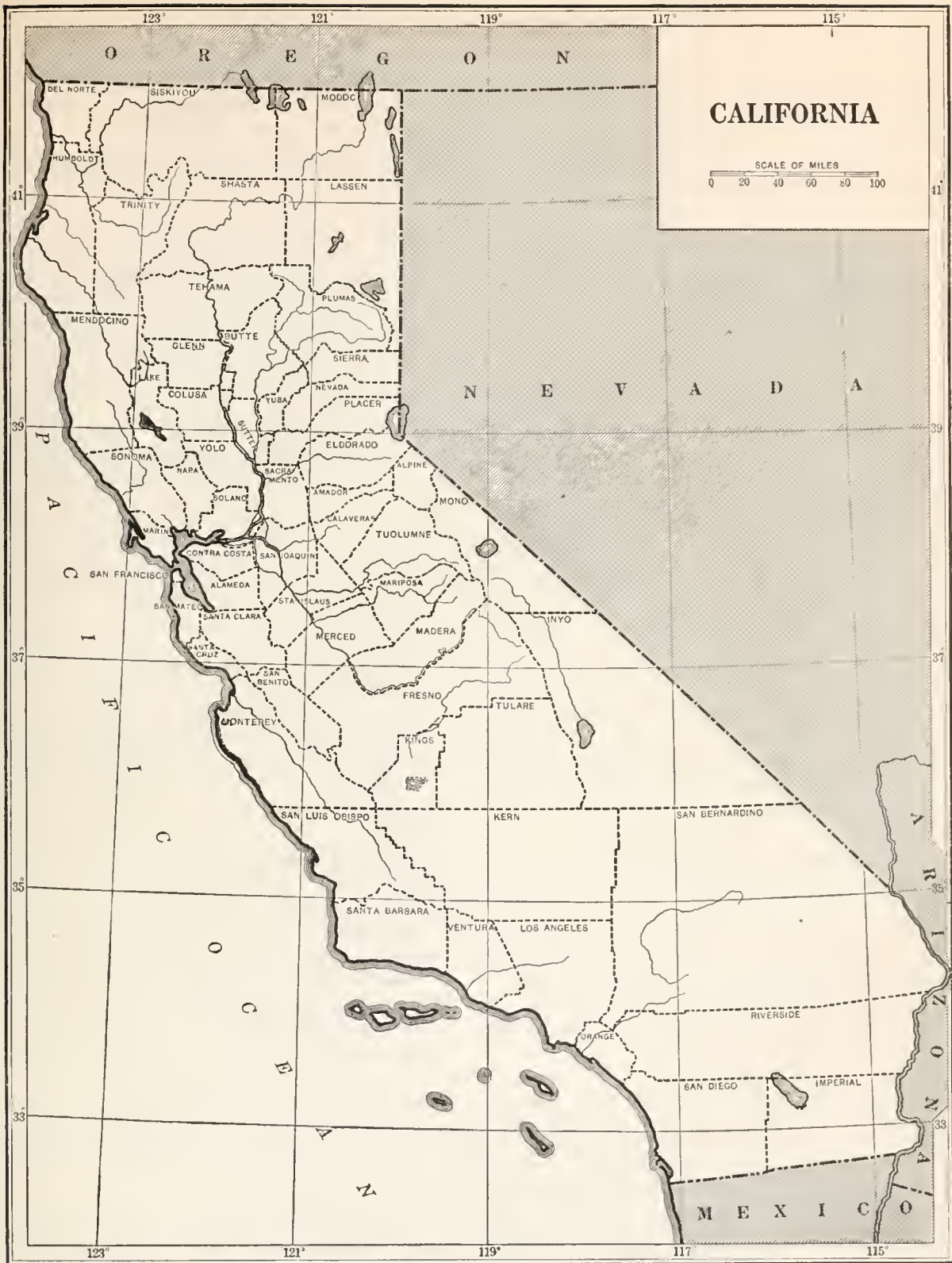
Counties passed through : _____

Interesting things observed : _____

Approximate mileage traveled : _____

NOTE TO THE TEACHER. California offers unlimited possibilities for motor trips. Plan additional trips and have the children indicate each journey on the map and prepare a log for each trip.

Automobile tour books will be very valuable for this work. Many of the leading newspapers of the state publish tours which may be had for the asking.



THE PLAYGROUND OF THE NATION

1. The citizens of California have unlimited opportunities for out-of-door recreation and rest. One fourth of the entire state is reserved for public playgrounds. Hundreds of thousands of tourists and visitors come to California every year from other states and from all parts of the world.

2. California has four national parks, six national monuments, two state parks, and twenty national forests. Their names and locations are given in the lists below.

NATIONAL PARKS

Yosemite National Park, in Mariposa, Mono, Madera, and Tuolumne counties
General Grant National Park, in Tulare and Fresno counties
Sequoia National Park, in Tulare County
Lassen Volcanic National Park, in Lassen, Shasta, Tehama, and Plumas counties

NATIONAL MONUMENTS

Cinder Cone National Monument, in Shasta County
Lassen Peak National Monument, at the point where Lassen, Plumas, Shasta, and Tehama counties meet
Muir Woods National Monument, in Marin County
Devil Postpile National Monument, in Madera County
Pinnacles National Monument, in San Benito County
Cabrillo National Monument, in San Diego County

STATE PARKS

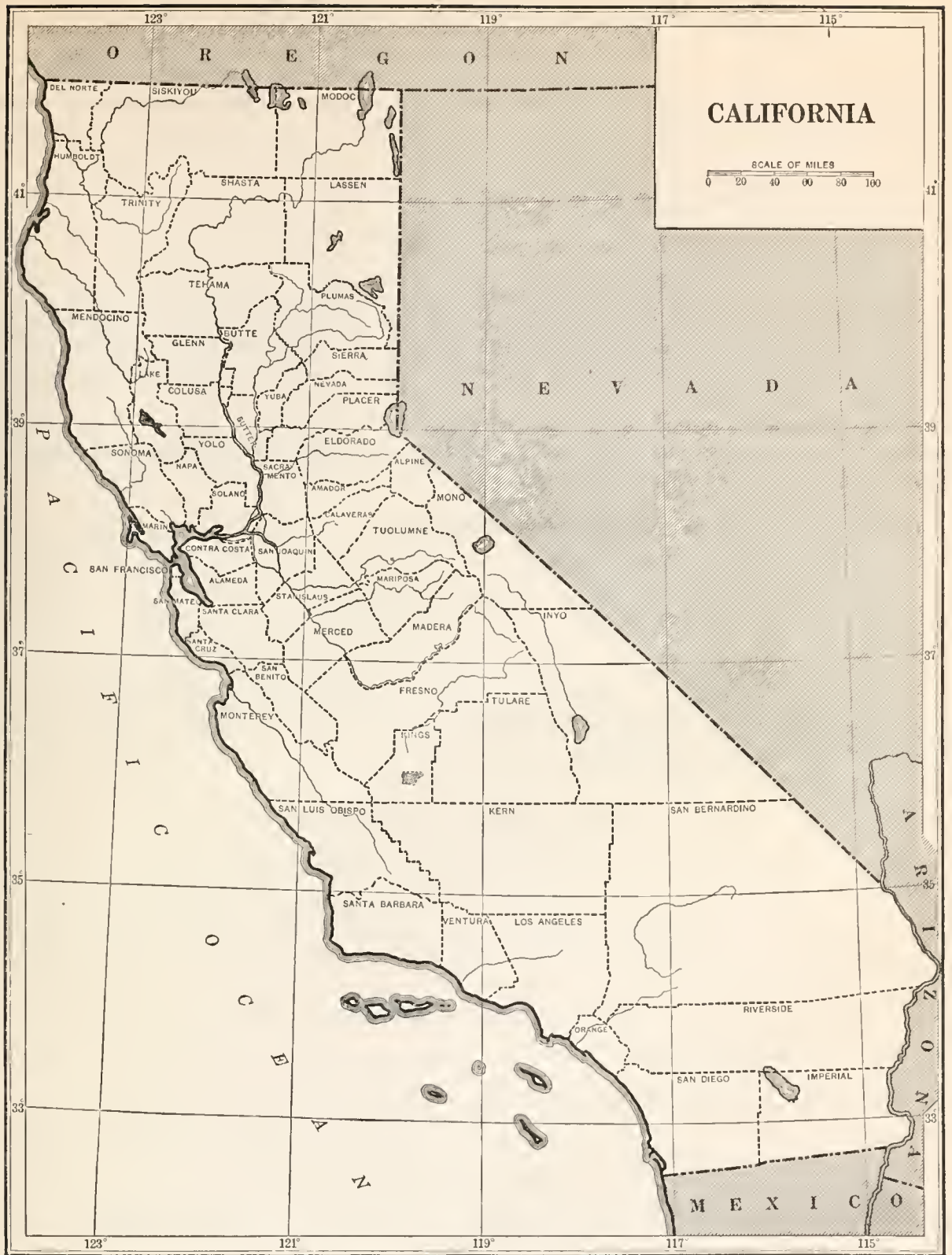
Mount Diablo State Park, in Contra Costa County
California Redwood Park, in Santa Cruz County

NATIONAL FORESTS

Angeles National Forest, in Los Angeles and San Bernardino counties
California National Forest, in Mendocino, Glenn, Colusa, and Lake counties
Cleveland National Forest, in Orange, Riverside, Imperial, and San Diego counties
Crater National Forest, in Modoc County (mostly in Oregon)
Eldorado National Forest, in Eldorado County
Inyo National Forest, in Inyo County
Klamath National Forest, in Siskiyou, Humboldt, and Del Norte counties
Lassen National Forest, in Shasta and Lassen counties
Modoc National Forest, in Modoc and Lassen counties
Mono National Forest, in Alpine and Mono counties
Monterey National Forest, in Monterey and San Benito counties
Plumas National Forest, in Plumas, Butte, and Lassen counties
Santa Barbara National Forest, in San Luis Obispo, Santa Barbara, Ventura, and Los Angeles counties
Sequoia National Forest, in Fresno, Tulare, and Kern counties
Shasta National Forest, in Siskiyou, Shasta, and Trinity counties
Sierra National Forest, in Mariposa, Madera, and Fresno counties
Siskiyou National Forest, in Siskiyou County, extending into Oregon
Stanislaus National Forest, in Calaveras, Alpine, Tuolumne, and Mariposa counties
Tahoe National Forest, in Sierra, Butte, Yuba, Nevada, and Placer counties
Trinity National Forest, in Trinity and Humboldt counties

3. On the map on the opposite page draw the outline of each of the national parks and shade its area lightly. (Refer to the map in the front of this book.) Indicate the location of each national monument by a square (□), and the location of each state park by a circle (○). Put a cross (×) in each county that has one or more national forests. If possible, use a green pencil.

4. Among the popular coast resorts of California are the following: Santa Cruz, Santa Barbara, Ventura, Venice, Long Beach, La Jolla, Coronado, Carmel, Pismo, Santa Monica, and Santa Catalina Island. Indicate the location of each one by a dot on your map.



THE PLAYGROUND OF THE NATION (CONTINUED)

PROBLEMS

1. In what natural region are the Yosemite, Sequoia, and General Grant national parks?

2. In what natural region is the Lassen Volcanic National Park? _____

3. In what natural region are most of the national forests? _____

Some of the cities of California have established camps for their citizens in the national forests. Only residents of the cities operating the camps are eligible as guests. On account of the low cost of the outing each person is required to render an average of one hour's service per day for the length of his stay. In 1920 four such camps were operated in California, — two by the city of Los Angeles and one each by Sacramento and Oakland.

Anyone is permitted to camp in the national forests and to fish and hunt there during the legal seasons. Plan a vacation trip in one of the national forests. Tell how you would get there, where you would camp, and what you would do for amusement.

4. Why is California called the playground of the nation? _____

5. Why is it important that California should encourage tourists to visit the state? _____

6. In the space below make a "Strangers' Directory." In the first column write the names of ten places that every visitor to California ought to see. Opposite each one, in the second column, give the things of special interest to be seen there.

STRANGERS' DIRECTORY

PLACE	INTERESTING THINGS TO SEE
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

SAN FRANCISCO AND THE METROPOLITAN DISTRICT AROUND SAN FRANCISCO BAY

San Francisco and the other cities that border on San Francisco Bay have a combined population of over 1,000,000.

On the opposite page make a map of the San Francisco Bay Region. Draw the boundaries of the principal cities that border on the bay and name each one. Indicate the harbors, rivers, railroad trunk lines, principal highways, and two great universities.

San Francisco owes its prosperity, first, to the size and magnificence of its harbor, — the largest and finest port on the Pacific coast; second, to the richness of its adjoining territory and the open waterways leading into it; and, third, to its convenience of access from all parts of the world.

San Francisco is one of the leading cities of the West in variety and value of manufactured products, and it takes first rank among all the Western cities in foreign trade. Some of the principal industries of San Francisco are printing and publishing, canning and preserving, meat-packing, and iron and steel manufacturing.

PROBLEMS

1. Give two reasons why San Francisco leads the West in foreign trade. _____

2. Give five reasons why it is a great manufacturing center. _____

3. What two inland waterways connect San Francisco with the great interior valleys? _____
_____ What is the general character of the cargoes carried by the river boats to San Francisco? _____; from San Francisco to the interior? _____
4. Name three great transcontinental railroads that have their terminals on San Francisco Bay.

5. Name two steamship lines plying between San Francisco and coast ports. _____

6. Name four steamship lines plying between San Francisco and foreign ports. _____

7. Name two important industries of each of the following cities:
Oakland _____
Berkeley _____
Alameda _____
Richmond _____

MAP OF THE SAN FRANCISCO BAY REGION

LOS ANGELES, THE LARGEST CITY IN THE WEST

In 1900 Los Angeles had a population of approximately 102,000. If you multiply 102,000 by _____, you will obtain its approximate population today. Los Angeles is the _____ largest city in the United States.

On the opposite page draw a map of Los Angeles County, indicating the principal towns, harbors, valleys, and highways, the railroad trunk lines, and two important colleges.

The early settlers came to Los Angeles to enjoy its mild, pleasant climate and its beautiful scenery, but in recent years the city has become a great manufacturing center. Almost three thousand factories are in operation in the county. Some of the most important industries are the production of moving pictures, the manufacture of clothing, iron and steel, furniture, automobile bodies, food products, and brick and clay products, printing and publishing, and shipbuilding.

PROBLEMS

1. Name three industrial products of Los Angeles. _____

2. Why has Los Angeles become a large industrial center? _____

3. What facilities has it for shipping its products by rail? _____

How can it ship its products by water? _____

4. What effect has irrigation had upon the development of Los Angeles? _____

5. What is the Owens River project, and what has its completion meant to Los Angeles? _____

6. Why do Los Angeles and the other cities of southern California attract so many tourists? _____

7. Why is Los Angeles the leading city in the world in the production of moving pictures? _____

8. Name some of the residence districts in and near Los Angeles that are noted for their beautiful homes. _____

9. What important mineral product is obtained in Los Angeles City? _____

MAP OF LOS ANGELES COUNTY

SCHOOL DAYS IN CALIFORNIA

Boys and girls who go to school in California are fortunate indeed. Experts who have made a study of the schools in all the states tell us that ours are surpassed by those of no other state in the Union. Let us see just why we rank so high.

1. Teachers are well paid and well trained.
2. All schools are in session at least 160 days in each year, as required by law; and the majority of them are in session for a somewhat longer period.
3. The people of California give great sums of money for the support of their schools.
4. In both cities and rural communities beautiful, modern school buildings are fast displacing the old, obsolete structures.
5. The county libraries help the schools greatly by supplying them with books for home reading, supplementary books, maps, globes, periodicals, music records and rolls, stereographs, stereoscopes, slides, pictures, and charts.

The people of California, realizing that the boys and girls of today will be the men and women of tomorrow, are doing all in their power to make it possible for them to become useful and intelligent citizens.

PROBLEMS

1. On the map opposite show the location of each state teachers college by a square (□). Locate and name the other educational institutions listed below. Underline in red the school that you expect to attend.

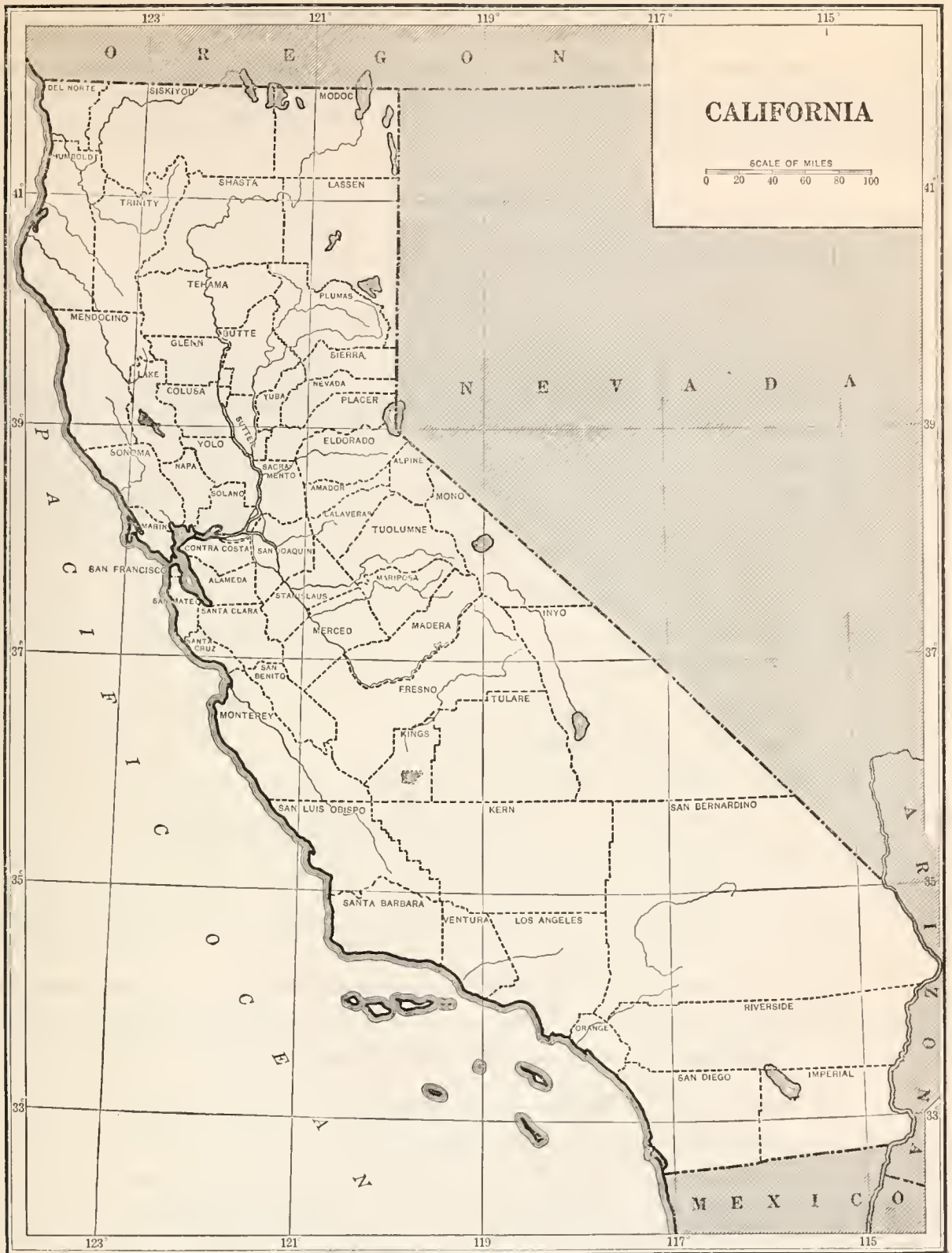
EDUCATIONAL INSTITUTIONS DEPENDING ON THE STATE FOR SUPPORT

NAME	LOCATION	NAME	LOCATION
State Teachers College	San Diego	University of California	Berkeley
State Teachers College	Santa Barbara	University of California, Southern Branch	Los Angeles
State Teachers College	Fresno	University of California, Branch of the College of Agriculture	Davis
State Teachers College	San Jose	California Polytechnic School	San Luis Obispo
State Teachers College	San Francisco	State School for the Deaf	Berkeley
State Teachers College	Chico	State School for the Blind	Berkeley
State Teachers College	Arcata		

PRIVATE UNIVERSITIES AND COLLEGES

NAME	LOCATION	NAME	LOCATION
Leland Stanford Junior University . .	Palo Alto	California Institute of Technology . .	Pasadena
Mills College (for women)	Oakland	Redlands University	Redlands
University of Southern California . . .	Los Angeles	St. Mary's College	Oakland
Pomona College	Claremont	St. Ignatius College	San Francisco
College of the Pacific	San Jose	College of the Holy Name	Oakland
Occidental College	Los Angeles	Dominican College	San Rafael
University of Santa Clara	Santa Clara		

2. What is a junior high school? _____
 Is there one in your district? _____ What is a junior college? _____
 _____ What one is nearest your home? _____



OUR OCEAN AND ITS TRADE ROUTES

One of the great advantages of California is its location on the Pacific Ocean. This location offers almost unlimited possibilities for the development of trade and commerce by sea. At the back of this book is a map showing the more important trade routes of the Pacific. Study this map carefully and answer the questions and problems below.

PROBLEMS

1. The three leading seaports of California are _____, _____, and _____.

2. Which of these ports is nearest Honolulu? _____

3. In the table below, ten Pacific trade routes are indicated. Figure out the number of miles a ship must travel in following each one, and the number of days that each trip would require. Refer to the map at the back of the book for the distances between ports of call. Calculate the number of days needed for each trip if the vessel made 15 nautical miles per hour.

ROUTE	MILES	DAYS
San Francisco → Yokohama → Hongkong		
San Francisco → Sitka → Unalaska → Cape Nome		
Los Angeles → Honolulu → Sydney		
San Diego → Apia → Wellington → Hobart		
Los Angeles → Honolulu → Manila → Singapore		
San Francisco → Levuka → Auckland → Sydney		
San Francisco → Tahiti → Wellington → Melbourne		
Los Angeles → Honolulu → Vladivostok		
San Diego → Honolulu → Tahiti → Punta Arenas		
Los Angeles → Honolulu → Midway Islands → Yokohama		

4. The distance from Punta Arenas to New York is 6947 miles. What is the total distance from San Francisco to New York by way of Punta Arenas? _____; by way of the Panama Canal? _____ How many miles are saved by using the Panama Canal route? _____

5. The San Francisco and Los Angeles newspapers publish the shipping news each day. Get a recent copy of one of these papers and fill in the following blanks.

Date: _____, 192____. Port of _____.

Number of ships arriving from American ports: _____; from foreign ports: _____.

Number of ships sailing for American ports: _____; for foreign ports: _____.

THE FOREIGN TRADE OF CALIFORNIA

PROBLEMS

1. Make a list of ten things used in your home that come from foreign countries, and name the country from which each one comes.

ARTICLE	COUNTRY	ARTICLE	COUNTRY

2. Make a list of ten California products, and name a country to which each might be shipped.

PRODUCT	COUNTRY	PRODUCT	COUNTRY

3. Two products brought to California from Japan are _____ and _____.

4. Two products brought to California from Hawaii are _____ and _____.

5. We import _____ and _____ from the Philippine Islands.

6. We import _____ and _____ from South America.

7. We import _____ from Mexico.

8. We export to South America _____ and _____.

9. We export _____ to China.

10. Our two most important exports to Australia are _____ and _____.

11. Our two most important imports from Australia are _____ and _____.

12. Do manufactured goods or raw materials form the greater part of our exports? _____
 _____; of our imports? _____.

THE FUTURE OF CALIFORNIA

In our study of the population of California we found that the number of people in the state is increasing rapidly. California will continue to grow, for it can support many more millions of people. The population in 1920 was nearly three times as great as the population in 1890. If it increases at the same rate during the next thirty years, the population will be _____ in 1950.

In order that all these people may be prosperous and happy, even a rich state like California should plan carefully for the future. All our great resources should be conserved, that the state may always be rich and prosperous. The climate will continue to be the same, but some of our resources may be lost if they are used extravagantly.

PROBLEMS

1. Tell in a few words how the following resources should be used in order to prevent waste and to make sure that they will be available in future years.

a. Soils : _____

b. Forests : _____

c. Petroleum (oil) : _____

d. Minerals : _____

2. How could our water supplies be used to greater advantage?

a. For farming : _____

b. For manufacturing : _____

3. How would the people of California be benefited if we manufactured more of the goods that we use? _____

THE COUNTIES OF CALIFORNIA

(Refer to the table on page 78 and to a map of the state)

1. There are _____ counties in California.
2. In area, the largest county is _____; the smallest is _____.
In population, the largest county is _____; the smallest is _____.
3. How many counties border on the Pacific Ocean? _____
4. These counties border on Oregon: _____
5. How many counties border on Nevada? _____
6. These counties border on Arizona: _____
7. These counties border on Lower California (Mexico): _____
8. One county is entirely in one city and has a combined city and county government. This is _____.
9. Compare the areas of some of the California counties with the areas of some of our Eastern states.

Complete the graph.

SCALE: 2000 square miles



	AREA IN SQUARE MILES	
San Bernardino County	20,175	
Vermont and New Hampshire	18,905	
Kern County	8,003	
Massachusetts	8,266	
Fresno County	5,950	
Connecticut	4,965	
Butte County	1,698	
Rhode Island	1,248	

WHAT I KNOW ABOUT MY COUNTY

1. I live in _____ County. It is in the _____ natural region of California and embraces parts of _____ natural regions.

2. Use the scale of miles on the map in the front of this book. My county is about _____ miles wide and _____ miles long. According to page 78 it has an area of _____ square miles and a population of _____. It ranks _____ in size and _____ in population among the counties of California.

3. The county seat is _____. Some of the important cities and towns in the county are _____

Put a cross (×) after the name of every city and town that is on a paved state or county highway.

4. The following are important farm products raised in my county: _____

5. The following railroads pass through my county: _____

6. The products of my county can be transported to other places in the following ways: _____

7. The important minerals found in my county are _____

8. The leading manufactured products of my county are _____

9. The following high schools are located in my county: _____

10. The county library system of California leads the world in library service to people living outside the cities. The county library supplies books, periodicals, and other materials to communities throughout the county, and books and supplementary materials to schools desiring the service. Is there a county library in your county? _____

A MAP OF _____ COUNTY

PROBLEM

Draw a map of your county on this page. Show the areas of land or water surrounding it, the county seat, the important towns and cities, the railroads, rivers, paved highways, national forests, hydroelectric power plants, and any other features of interest.

AREAS, POPULATION, AND COUNTY SEATS OF CALIFORNIA COUNTIES

COUNTY	LAND AREA IN SQUARE MILES	POPULATION IN 1910	POPULATION IN 1920	COUNTY SEAT
Alameda	732	246,131	344,177	Oakland
Alpine	776	309	243	Markleeville
Amador	601	9,086	7,793	Jackson
Butte	1,698	27,301	30,030	Oroville
Calaveras	1,927	9,171	6,183	San Andreas
Colusa	1,140	7,732	9,290	Colusa
Contra Costa	714	31,674	53,889	Martinez
Del Norte	1,024	2,417	2,759	Crescent City
Eldorado	1,737	7,492	6,426	Placerville
Fresno	5,950	75,657	128,779	Fresno
Glenn	1,337	7,172	11,853	Willows
Humboldt	3,575	33,857	37,413	Eureka
Imperial	4,089	13,591	43,453	El Centro
Inyo	9,991	6,974	7,031	Independence
Kern	8,003	37,715	54,843	Bakersfield
Kings	1,159	16,230	22,031	Hanford
Lake	1,238	5,526	5,402	Lakeport
Lassen	4,531	4,802	8,507	Susanville
Los Angeles	4,115	504,131	936,455	Los Angeles
Madera	2,112	8,368	12,203	Madera
Marin	529	25,114	27,342	San Rafael
Mariposa	1,463	3,956	2,775	Mariposa
Mendocino	3,539	23,929	24,116	Ukiah
Merced	1,995	15,148	24,579	Merced
Modoc	3,823	6,191	5,425	Alturas
Mono	3,030	2,042	960	Bridgeport
Monterey	3,330	24,146	27,980	Salinas
Napa	783	19,800	20,678	Napa
Nevada	974	14,955	10,850	Nevada City
Orange	795	34,436	61,375	Santa Ana
Placer	1,411	18,237	18,584	Auburn
Plumas	2,593	5,259	5,681	Quincy
Riverside	7,223	34,696	50,297	Riverside
Sacramento	983	67,806	91,029	Sacramento
San Benito	1,392	8,041	8,995	Hollister
San Bernardino	20,175	56,706	73,401	San Bernardino
San Diego	4,221	61,665	112,248	San Diego
San Francisco	42	416,912	506,676	San Francisco
San Joaquin	1,448	50,731	79,905	Stockton
San Luis Obispo	3,334	19,383	21,893	San Luis Obispo
San Mateo	447	26,585	36,781	Redwood City
Santa Barbara	2,740	27,738	41,097	Santa Barbara
Santa Clara	1,328	83,539	100,676	San Jose
Santa Cruz	435	26,140	26,269	Santa Cruz
Shasta	3,858	18,920	13,361	Redding
Sierra	923	4,098	1,783	Downieville
Siskiyou	6,256	18,801	18,545	Yreka
Solano	822	27,559	40,602	Fairfield
Sonoma	1,582	48,394	52,090	Santa Rosa
Stanislaus	1,450	22,522	43,557	Modesto
Sutter	608	6,328	10,115	Yuba City
Tehama	2,925	11,401	12,882	Red Bluff
Trinity	3,096	3,301	2,551	Weaverville
Tulare	4,856	35,440	59,031	Visalia
Tuolumne	2,190	9,979	7,768	Sonora
Ventura	1,858	18,347	28,724	Ventura
Yolo	1,014	13,926	17,105	Woodland
Yuba	632	10,042	10,375	Marysville

INCORPORATED PLACES HAVING 2500 OR MORE PEOPLE IN 1920

CITY OR TOWN	COUNTY	POPULATION IN 1910	POPULATION IN 1920	CITY OR TOWN	COUNTY	POPULATION IN 1910	POPULATION IN 1920
Alameda . . .	Alameda . . .	23,383	28,806	Palo Alto . . .	Santa Clara . . .	4,486	5,900
Alhambra . . .	Los Angeles . . .	5,021	9,096	Pasadena . . .	Los Angeles . . .	30,291	45,354
Anaheim . . .	Orange . . .	2,628	5,526	Petaluma . . .	Sonoma . . .	5,880	6,226
Bakersfield . . .	Kern . . .	12,727	18,638	Piedmont . . .	Alameda . . .	1,719	4,282
Benicia . . .	Solano . . .	2,360	2,693	Pittsburg . . .	Contra Costa . . .	2,372	4,715
Berkeley . . .	Alameda . . .	40,434	56,036	Pomona . . .	Los Angeles . . .	10,207	13,505
Brawley . . .	Imperial . . .	881	5,389	Porterville . . .	Tulare . . .	2,696	4,097
Burbank . . .	Los Angeles . . .	540	2,913	Red Bluff . . .	Tehama . . .	3,530	3,104
Burlingame . . .	San Mateo . . .	1,565	4,107	Redding . . .	Shasta . . .	3,572	2,962
Calexico . . .	Imperial . . .	797	6,223	Redlands . . .	San Bernardino . . .	10,449	9,571
Chico . . .	Butte . . .	3,750	9,339	Redondo Beach . . .	Los Angeles . . .	2,935	4,913
Coalinga . . .	Fresno . . .	4,199	2,934	Redwood City . . .	San Mateo . . .	2,442	4,020
Colton . . .	San Bernardino . . .	3,980	4,282	Richmond . . .	Contra Costa . . .	6,802	16,843
Corona . . .	Riverside . . .	3,540	4,129	Riverside . . .	Riverside . . .	15,212	19,341
Coronado . . .	San Diego . . .	1,477	3,289	Roseville . . .	Placer . . .	2,608	4,477
Daly City . . .	San Mateo . . .		3,779	Sacramento . . .	Sacramento . . .	44,696	65,908
Dinuba . . .	Tulare . . .	970	3,400	Salinas . . .	Monterey . . .	3,736	4,308
Dunsmuir . . .	Siskiyou . . .	1,719	2,528	San Bernardino . . .	San Bernardino . . .	12,779	18,721
East San Diego . . .	San Diego . . .	4,500	4,148	San Diego . . .	San Diego . . .	39,578	74,683
El Centro . . .	Imperial . . .	1,610	5,464	San Fernando . . .	Los Angeles . . .		3,204
Eureka . . .	Humboldt . . .	11,845	12,923	San Francisco . . .	San Francisco . . .	416,912	506,676
Fort Bragg . . .	Mendocino . . .	2,408	2,616	San Gabriel . . .	Los Angeles . . .		2,640
Fresno . . .	Fresno . . .	24,892	45,086	San Jose . . .	Santa Clara . . .	28,946	39,642
Fullerton . . .	Orange . . .	1,725	4,415	San Leandro . . .	Alameda . . .	3,471	5,703
Gilroy . . .	Santa Clara . . .	2,437	2,862	San Luis Obispo . . .	San Luis Obispo . . .	5,157	5,895
Glendale . . .	Los Angeles . . .	2,746	13,536	San Mateo . . .	San Mateo . . .	4,384	5,979
Grass Valley . . .	Nevada . . .	4,520	4,006	San Rafael . . .	Marin . . .	5,934	5,512
Hanford . . .	Kings . . .	4,829	5,888	Sanger . . .	Fresno . . .		2,578
Hayward . . .	Alameda . . .	2,746	3,487	Santa Ana . . .	Orange . . .	8,429	15,485
Hollister . . .	San Benito . . .	2,308	2,781	Santa Barbara . . .	Santa Barbara . . .	11,659	19,441
Huntington Park . . .	Los Angeles . . .	1,299	4,513	Santa Clara . . .	Santa Clara . . .	4,348	5,220
Inglewood . . .	Los Angeles . . .	1,536	3,286	Santa Cruz . . .	Santa Cruz . . .	11,146	10,917
Lindsay . . .	Tulare . . .	1,814	2,576	Santa Maria . . .	Santa Barbara . . .	2,260	3,943
Lodi . . .	San Joaquin . . .	2,697	4,850	Santa Monica . . .	Los Angeles . . .	7,847	15,252
Long Beach . . .	Los Angeles . . .	17,809	55,593	Santa Paula . . .	Ventura . . .	2,216	3,967
Los Angeles . . .	Los Angeles . . .	319,198	576,673	Santa Rosa . . .	Sonoma . . .	7,817	8,758
Madera . . .	Madera . . .	2,404	3,444	Sausalito . . .	Marin . . .	2,383	2,790
Martinez . . .	Contra Costa . . .	2,115	3,858	Selma . . .	Fresno . . .	1,750	3,158
Marysville . . .	Yuba . . .	5,430	5,461	South Pasadena . . .	Los Angeles . . .	4,649	7,652
Merced . . .	Merced . . .	3,102	3,974	S. San Francisco . . .	San Mateo . . .	1,989	4,411
Mill Valley . . .	Marin . . .	2,551	2,554	Stockton . . .	San Joaquin . . .	23,253	40,296
Modesto . . .	Stanislaus . . .	4,034	9,241	Taft . . .	Kern . . .	300	3,317
Monrovia . . .	Los Angeles . . .	3,576	5,480	Tulare . . .	Tulare . . .	2,758	3,539
Monterey . . .	Monterey . . .	4,923	5,479	Turlock . . .	Stanislaus . . .	1,573	3,394
Monterey Park . . .	Los Angeles . . .		4,108	Upland . . .	San Bernardino . . .	2,384	2,912
Napa . . .	Napa . . .	5,791	6,757	Vallejo . . .	Solano . . .	11,340	21,107
National City . . .	San Diego . . .	1,733	3,116	Venice . . .	Los Angeles . . .	3,119	10,385
Needles . . .	San Bernardino . . .		2,807	Ventura . . .	Ventura . . .	2,945	4,342
Oakland . . .	Alameda . . .	150,174	216,261	Visalia . . .	Tulare . . .	4,550	5,753
Ontario . . .	San Bernardino . . .	4,274	7,280	Watsonville . . .	Santa Cruz . . .	4,446	5,013
Orange . . .	Orange . . .	2,920	4,884	Watts . . .	Los Angeles . . .	1,922	4,529
Oroville . . .	Butte . . .	3,859	3,340	Whittier . . .	Los Angeles . . .	4,550	7,997
Oxnard . . .	Ventura . . .	2,555	4,417	Woodland . . .	Yolo . . .	3,187	4,147
Pacific Grove . . .	Monterey . . .	2,384	2,974				

POPULATION OF CALIFORNIA FROM 1890 TO 1920

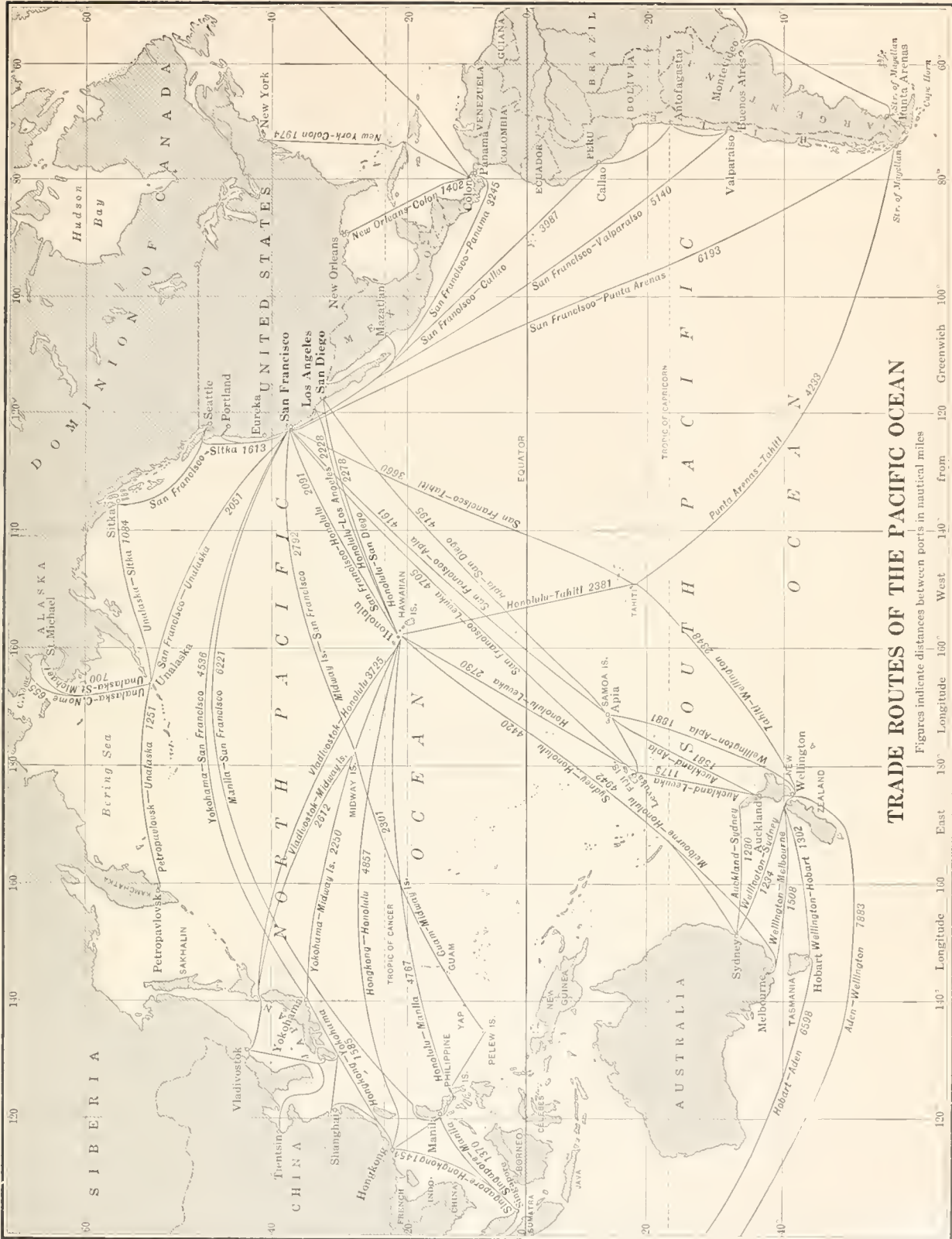
1890	1,213,398	1910	2,377,549
1900	1,485,053	1920	3,426,861

POPULATION AND AREA OF EACH STATE IN THE UNITED STATES

STATE	SQUARE MILES	POPULATION IN 1920	STATE	SQUARE MILES	POPULATION IN 1920	STATE	SQUARE MILES	POPULATION IN 1920
Alabama . . .	51,998	2,348,174	Louisiana . . .	48,506	1,798,509	Ohio	41,040	5,759,394
Arizona . . .	113,956	334,162	Maine	33,040	768,014	Oklahoma . . .	70,057	2,028,283
Arkansas . . .	53,335	1,752,204	Maryland . . .	12,327	1,449,661	Oregon	96,699	783,389
California . . .	158,297	3,426,861	Massachusetts .	8,266	3,852,356	Pennsylvania .	45,126	8,720,017
Colorado . . .	103,948	939,629	Michigan	57,980	3,668,412	Rhode Island .	1,248	604,397
Connecticut . .	4,965	1,380,631	Minnesota . . .	84,682	2,387,125	South Carolina	30,989	1,683,724
Delaware . . .	2,370	223,003	Mississippi . . .	46,865	1,790,618	South Dakota .	77,615	636,547
District of Columbia . . .	70	437,571	Missouri	69,420	3,404,055	Tennessee . . .	42,022	2,337,885
Florida	58,666	968,470	Montana	146,997	548,889	Texas	265,896	4,663,228
Georgia	59,265	2,895,832	Nebraska	77,520	1,296,372	Utah	84,990	449,396
Idaho	83,888	431,866	Nevada	110,690	77,407	Vermont	9,564	352,428
Illinois	56,665	6,485,280	New Hampshire .	9,341	443,083	Virginia	42,627	2,309,187
Indiana	36,354	2,930,390	New Jersey . . .	8,224	3,155,900	Washington . .	69,127	1,356,621
Iowa	56,147	2,404,021	New Mexico . . .	122,634	360,350	West Virginia .	24,170	1,463,701
Kansas	82,158	1,769,257	New York	49,204	10,385,227	Wisconsin . . .	56,066	2,623,067
Kentucky . . .	40,598	2,416,630	North Carolina .	52,426	2,559,123	Wyoming	97,914	194,402
			North Dakota . .	70,837	646,872			

POPULATION OF THE ONE HUNDRED LARGEST CITIES IN THE UNITED STATES IN 1920

CITY	POPULATION	CITY	POPULATION	CITY	POPULATION
Akron, Ohio	208,435	Houston, Texas	138,276	Rochester, New York . . .	295,750
Albany, New York . . .	113,344	Indianapolis, Indiana . . .	314,194	St. Joseph, Missouri . . .	77,939
Allentown, Pennsylvania . . .	78,890	Jacksonville, Florida . . .	91,558	St. Louis, Missouri	772,897
Atlanta, Georgia	200,616	Jersey City, New Jersey . . .	298,103	St. Paul, Minnesota	234,698
Baltimore, Maryland	733,826	Kansas City, Kansas	101,177	Salt Lake City, Utah	118,110
Bayonne, New Jersey	76,754	Kansas City, Missouri	324,410	San Antonio, Texas	161,379
Birmingham, Alabama	178,806	Knoxville, Tennessee	77,818	San Diego, California	74,683
Boston, Massachusetts	748,060	Lawrence, Massachusetts	94,270	San Francisco, California	506,676
Bridgeport, Connecticut	143,555	Los Angeles, California	576,673	Savannah, Georgia	83,252
Buffalo, New York	506,775	Louisville, Kentucky	234,891	Schenectady, New York	88,723
Cambridge, Massachusetts	109,694	Lowell, Massachusetts	112,759	Scranton, Pennsylvania	137,783
Camden, New Jersey	116,309	Lynn, Massachusetts	99,148	Seattle, Washington	315,312
Canton, Ohio	87,091	Manchester, New Hampshire	78,384	Sioux City, Iowa	71,227
Chicago, Illinois	2,701,705	Memphis, Tennessee	162,351	Somerville, Massachusetts	93,091
Cincinnati, Ohio	401,247	Milwaukee, Wisconsin	457,147	South Bend, Indiana	70,983
Cleveland, Ohio	796,841	Minneapolis, Minnesota	380,582	Spokane, Washington	104,437
Columbus, Ohio	237,031	Nashville, Tennessee	118,342	Springfield, Massachusetts	129,614
Dallas, Texas	158,976	Newark, New Jersey	414,524	Syracuse, New York	171,717
Dayton, Ohio	152,559	New Bedford, Massachusetts	121,217	Tacoma, Washington	96,965
Denver, Colorado	256,491	New Haven, Connecticut	162,537	Toledo, Ohio	243,164
Des Moines, Iowa	126,468	New Orleans, Louisiana	387,219	Trenton, New Jersey	119,289
Detroit, Michigan	993,678	New York, New York	5,620,048	Troy, New York	72,013
Duluth, Minnesota	98,917	Norfolk, Virginia	115,777	Tulsa, Oklahoma	72,075
Elizabeth, New Jersey	95,783	Oakland, California	216,261	Utica, New York	94,156
El Paso, Texas	77,560	Oklahoma City, Oklahoma	91,295	Washington, District of Columbia	437,571
Eric, Pennsylvania	102,093	Omaha, Nebraska	191,601	Waterbury, Connecticut	91,715
Evansville, Indiana	85,264	Paterson, New Jersey	135,875	Wichita, Kansas	72,217
Fall River, Massachusetts	120,485	Peoria, Illinois	76,121	Wilkes-Barre, Pennsylvania	73,833
Flint, Michigan	91,599	Philadelphia, Pennsylvania	1,823,779	Wilmington, Delaware	110,168
Fort Wayne, Indiana	86,549	Pittsburgh, Pennsylvania	588,343	Worcester, Massachusetts	179,754
Fort Worth, Texas	106,482	Portland, Oregon	258,288	Yonkers, New York	100,176
Grand Rapids, Michigan	137,634	Providence, Rhode Island	237,595	Youngstown, Ohio	132,358
Harrisburg, Pennsylvania	75,917	Reading, Pennsylvania	107,784		
Hartford, Connecticut	138,036	Richmond, Virginia	171,667		



TRADE ROUTES OF THE PACIFIC OCEAN

Figures indicate distances between ports in nautical miles

Longitude 120 East 140 West 160 Greenwich 180

Latitude 40 20 0 20 40 60

100 120 140 160 180

100 120 140 160 180

100 120 140 160 180

100 120 140 160 180

100 120 140 160 180

100 120 140 160 180

THE TEACHING OF GEOGRAPHY

By MENDEL E. BRANOM, Department of Geography, Harris Teachers College, St. Louis, and FRED K. BRANOM, Department of Geography, Chicago Normal College

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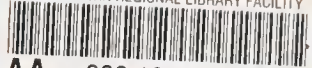
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