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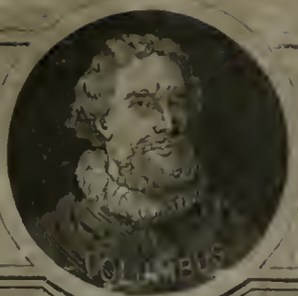

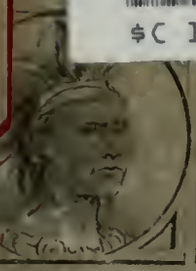

SWINTON'S COMPLETE COURSE IN GEOGRAPHY

IVISON·BLAKEMAN & COMPANY
—NEW YORK & CHICAGO—

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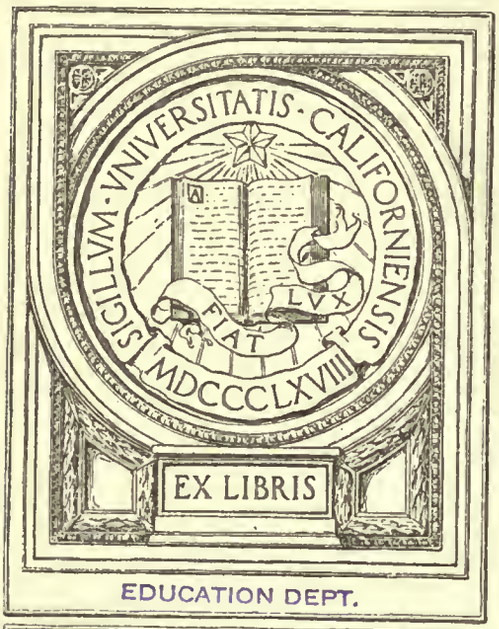

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A

COMPLETE COURSE

IN

GEOGRAPHY

PHYSICAL, INDUSTRIAL, AND POLITICAL

WITH

A SPECIAL GEOGRAPHY FOR EACH STATE

BY

WILLIAM SWINTON

AUTHOR OF WORD-BOOK SERIES, LANGUAGE SERIES, OUTLINES OF HISTORY, ETC.

IVISON, BLAKEMAN AND COMPANY

PUBLISHERS

NEW YORK AND CHICAGO

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SWINTON'S GEOGRAPHIES.

Swinton's Geographical Course comprises two books:—

1.—ELEMENTARY COURSE IN GEOGRAPHY: Designed as a Class-Book for Primary and Intermediate Grades, and as a Complete Shorter Course for Ungraded Schools. 128 pages 8vo.

2.—COMPLETE COURSE IN GEOGRAPHY: Physical, Industrial, and Political; with a Special Geography for each State in the Union. Designed as a Class-Book for Intermediate and Grammar Grades. 136 pages 4to.

*** These two text-books do not bear the usual relation of a Primary to a Grammar-School book; that is, the ELEMENTARY is not a mere condensation of the COMPLETE. Each is an independent book, individual in its plan and method, and constructed with philosophic reference to the mental capacity of youth. They may therefore be used either separately or together.

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PREFACE.

IN preparing this Course in Geography the author's aim has been to produce a book which should be recognized by teachers as striking a just balance between conflicting theories, and as embodying what is best in the modern methods of geographical teaching.

That such a spirit of rational eclecticism is needed in the preparation of a class-book in geography becomes manifest when we consider the extreme one-sidedness of the presentation of the subject in many text-books. To take a single illustration: —

Some geographers have been so absorbed in showing how the earth was built up that they have forgotten that on its surface is the toiling race of *man*, and that it is on *his* account chiefly that the earth is an object of interest. This we may call the hobby of the *physical* geographers. The hobby of the purely *political* geographers is the opposite of this. They overlook the fact that man on the earth is subject to the physical conditions of the planet, and that in each region these conditions determine, to a great degree, the pursuits, character, and total life of the people inhabiting that region, — which fact overlooked, geography becomes a mass of meaningless details, without either cause or correlation, while its study degenerates into the baldest rote-work.

It will sufficiently illustrate the comprehensive spirit of this manual to say that the author treats Physical and so-called "Political" geography as *inseparable*, as one subject, — so that the physical aspects and attributes of the globe, on the one hand, and man's doings on its surface, on the other, form, in place of isolated phenomena, a living, organic whole.

With this statement respecting the general spirit of the book, the attention of teachers is earnestly invited to some of its more salient and novel features. Among these are: —

I. THE ORAL METHOD adopted to introduce the topics coming under the general head of Definitions and Principles. These topics — as the shape, size, and motions of the earth; the manner in which its surface is represented by means of maps; latitude and longitude; the theory of climate, etc. — form the basis of geographical knowledge; and without a genuine understanding of these fundamental principles no satisfactory progress can be made. These subjects are indeed the most abstract in geography; but there seems to be no good reason why they should therefore be presented, as they ordinarily are, in the most abstract manner. The author has here sought to bring these principles really home to the pupil. This is done in the Oral Outlines, which, beginning with the pupil's own experience (see Topic IV., Climate, p. 14; Topic V., Plant-Life, p. 15, etc.), proceed by induction, step by step, till a generalized statement is reached. These generalized statements form the RECITATION part of each topic; and both memorizing and reciting will in this way be easy and pleasant, since the pupil will have made his own definitions and reached the conclusions for himself.

II. THE SPECIAL STATE GEOGRAPHY. The need of a much more minute and detailed study of local geography than is possible with existing text-books is becoming deeply felt. The dozen or the score of vague because generalized and colorless lines usually devoted to great States like New York or Pennsylvania, Ohio or Illinois, are poorly fitted to furnish a pupil with such equipment of geographical knowledge as is necessary either for practical use or ordinary intelligence. But, how to combine any degree of fullness in the text on the individual States with the capacity of the pupil to learn such enlarged matter or the time of the teacher to hear it recited?

In the present book an effort is made to meet the desideratum of fullness on each State, and at the same time to avoid the danger of overtasking the pupil, by the device of a *double text* on the United States. There is in the case of each State: 1. A *General* text, which comes first and is printed in the larger type: this is to be studied by *all classes*. 2. A *Special Geography* of each State, which is designed for use only by classes in the State under review. In order further to facilitate the study of local State Geography, there is given (see p. 30) a Topical Outline, the filling up of which may profitably occupy the attention of classes for several weeks. It is hoped that the elastic arrangement of a general and a special text will meet all requirements.

III. ATTENTION TO INDUSTRIAL AND COMMERCIAL GEOGRAPHY. In the treatment both of the United States and the world at large considerable space has been devoted to the important but neglected subjects of *industrial* and *commercial* geography. It has seemed

very manifest to the author that, as a preparation for practical life in a country like ours, it is of the highest importance to lodge in the minds of youth vivid and definite knowledge of how different peoples make their living, of what they contribute to the commerce of the world, of why the productive industry of a nation takes one form rather than another. He doubts not that teachers will gladly suffer the absence of the conventional jejune descriptions of the Irishman, the Italian, the Esquimaux, and the Chinese, when they find the space occupied with matters of solid importance.

IV. Teaching Features. Great care has been taken, in the construction of the work, to make it in the best sense a *text*-book. A brief examination will reveal that it is not loosely thrown together, but has an organism of its own. Among the features which it is hoped teachers will notice with satisfaction are the following two: 1. The paragraphs are cast in a form convenient both for memorizing and recitation. By introducing each paragraph with bold type a suitable question spontaneously frames itself in the minds of pupil and teacher, thus obviating the old and inconvenient form of questions far removed from the text. 2. The method of study pursued by the best teachers being largely topical, ample provision has been made to further this plan, by numerous carefullv constructed topical synopses, reviews, tables, and questions.

V. The Maps. An inspection of the maps will reveal certain novel features of the greatest practical value, — as (1) the system of dotting the lines of latitude and longitude in such a way that the exact degree may be at once determined on any part of the map; (2) the marking of *time*-longitude on all the maps, and (3), on the maps of the Grand Divisions, the noting the length of the longest day in each division of latitude.

In regard to the maps of the United States, a device similar to the "double text" in the matter has been adopted, — that is to say, there are maps for *general study* and maps for *particular reference* to be used in connection with the State specialties. The general or section maps are obtained by an equal division of the United States into seven sections. These maps are, accordingly, on a uniform scale: their teaching, therefore, is true teaching, and not false teaching, as must be the case when, for example, the map of New England is made the same size as the map of the whole of the Great West. The maps for special reference in connection with State Geography show all the county lines, together with the county seats, or shire towns. They will enable the pupil to make what most school maps do not permit — a study of the political geography of his State, while for *reference* these maps will be found of permanent value.

VI. The Illustrations. The pictorial embellishments of the book speak for themselves. They were designed and cut expressly for this work by the most eminent artists and engravers. They are not only of great excellence as works of art, but, being original designs made with close reference to the text, they are of positive educational value.

The preparation of this work, with the accompanying Elementary Geography, has occupied most of the author's time and his most earnest efforts for about five years. It is therefore not without anxiety that he awaits the verdict of those who alone are competent to pass judgment upon it, — the teachers of our country. It affords him, however, a good hope of a favorable reception for the book that it is the fruit of a careful study of the best methods of geographical teaching as practiced in the leading cities of our country from Boston to San Francisco.

Cambridge, July, 1875. WILLIAM SWINTON.

NOTE TO REVISED EDITION (1876).

In the present edition the maps have been newly engraved in relief process, and the author has taken the opportunity to make a considerable reduction in the number of places formerly named on the section maps of the United States. An additional feature of great value will be found in the approved system of Map-Drawing by the Messrs. Apgar, now embodied in this series of geographies. In the suggestive table under "Wants of Man" (p. 18), the author takes great pleasure in acknowledging indebtedness to Superintendent Pickard's able Report of the Chicago Schools for 1874.

CONTENTS.

LIST OF MAPS.

GEOGRAPHY.

DEFINITIONS AND PRINCIPLES.

THE SUBJECT DEFINED.

GEOGRAPHY is a description of the earth's surface, considered as the abode of man.

2. Its Divisions. — Its main divisions are Physical Geography and Political Geography.

3. Physical Geography relates to the earth's surface in its natural state.

4. Political Geography relates to the earth's surface as the seat of nations.

Physical Geography may be said to be the geography *of nature;* Political Geography, the geography *of man.*

Physical Geography.		Political Geography.	
Topics	Land.	Topics	Races.
	Water.		Nations.
	Climate.		Industries.
	Animals.		Governments.
	Plants, etc.		Civilization, etc.

5. Illustrations. — That Pennsylvania has rich deposits of coal and iron is a fact of Physical Geography; that Pennsylvania is a State in the United States is a fact of Political Geography. That Russia is a great plain is a fact of Physical Geography; that Russia exports wheat, hemp, and leather, and is ruled by a monarch called the Czar, are facts of Political Geography.

6. Mathematical Geography is the term given to certain facts of astronomy and mathematics which are used in geography. The astronomical part treats of the earth as a planet of the solar system, — with its size, motions, etc.; the mathematical part teaches us how to represent the earth's surface on maps and globes.

7. Utility of Geography. — The particular character of each country greatly influences the pursuits and the condition of the people inhabiting it. From this fact we may reason thus: —

That which teaches us the relations between the earth and man must be the most useful of studies.

Geography teaches us the relations between the earth and man.

Therefore, *Geography must be the most useful of studies.*

SECTION I. — MATHEMATICAL GEOGRAPHY.

TO THE TEACHER. — An Oral Outline, distinctly so named, precedes the regular Recitation Lesson, which is in larger type. The use to be made of the Oral Outlines is left to the discretion of the teacher. They may be merely read over in the class or they may be made the basis of lively exposition by the instructor. The attention of faithful teachers, who wish to do more than mere rote-work, is earnestly invited to this feature of the book.

TOPIC I.

SHAPE AND SIZE OF THE EARTH.

I. ORAL OUTLINE.

1. What *appears* to be the shape of the earth, — does it appear to be, in general, *flat* or *round?*

2. [The teacher should explain that for thousands of years people supposed the earth to be a great extended plain, but that about three hundred and fifty years ago a navigator named Magellan sailed around, or *circumnavigated,* the world, thus proving that the earth is *round.* It will add interest to trace on the globe or the wall-map of the hemispheres the course of Magellan, viz. from Spain across the Atlantic and through the Strait of Magellan, then across the Pacific, touching at the Philippine Islands; thence by the Indian Ocean and around the Cape of Good Hope to Spain again.]

3. Do we not now often hear of tourists making a trip around the world? Do you know what time the trip requires?

4. You have said that the earth is round; but a thing may be round like a penny, or round like a pillar, or round like a ball: in which of these three meanings is the earth round? [Let the teacher now state that an object of the form of a ball is called a *sphere,* or *globe.* It may be well also to put on the blackboard a diagram of a sphere, as in Fig. 1, page 2.] What is meant by "rotundity"? *Roundness.*

5. Is an orange exactly round? Which parts are flattened? Correct; the stem and the part opposite are flattened. *Our* globe, the earth, is in like manner somewhat flattened at two opposite parts of its surface; still, the earth is so nearly sphere-like in form that we may think of it as exactly of that shape.

6. [*Teacher pointing to the school globe,* which should be introduced at the very outset as an indispensable aid to geographical study.] Here is a *terrestrial globe,* or globe of the earth: what is its shape? [Elicit from the pupils the term *spherical.*] THE SCHOOL GLOBE IS SPHERICAL IN SHAPE; IT IS A CORRECT REPRESENTATION OF THE EARTH'S FORM.

7. The constant circumnavigation of the world proves that the earth is of what shape? There are other proofs that the earth is spherical. [Let the teacher give the proof from the appearance of ships at sea; also from the fact that the shadow cast by the earth on the moon, during an eclipse of the moon, is circular. The teacher may illustrate the latter

fact by so placing an apple or a ball that its shadow will fall upon the wall or upon a piece of white paper, and then contrasting it with the shadow of a cube or of a book: this will show that the shadow represents the shape of the body that casts it.]

8. Suppose we wish to determine the size of a globe-shaped object, such as an orange, may we not do so by passing a knitting-needle through the center from some point on the surface to the opposite point? [The teacher may give the term DIAMETER, and define it as *measure through.*] Now, how may we measure around such a body? [Give the term CIRCUMFERENCE, and define it as *measure around.*]

9. Can we by any *such* means ascertain the size of an immense globe like the earth? [The teacher may state that learned men have by mathematical calculation ascertained that our globe is about 8,000 miles in diameter, and 25,000 miles in circumference.]

10. Is 25,000 miles a great distance? If the earth were all dry land, and one were to attempt to walk around it, journeying at the rate of twenty-five miles a day, how many days would the journey require? In one thousand days there are how many years? How many days would a railroad train, moving constantly night and day, at the rate of twenty miles an hour, take to go around the globe? What is the longest journey you ever made? This distance is what part of the "girdle round the earth"?

II. FOR RECITATION.

1. A sphere is a solid bounded by a curved surface every point of which is equally distant from a point within called the center. (See diagram.)

2. The circumference of a sphere is a line drawn around its surface so as to divide the surface into two equal parts. (See diagram.) Each half-sphere is called a HEMISPHERE. (See diagram.)

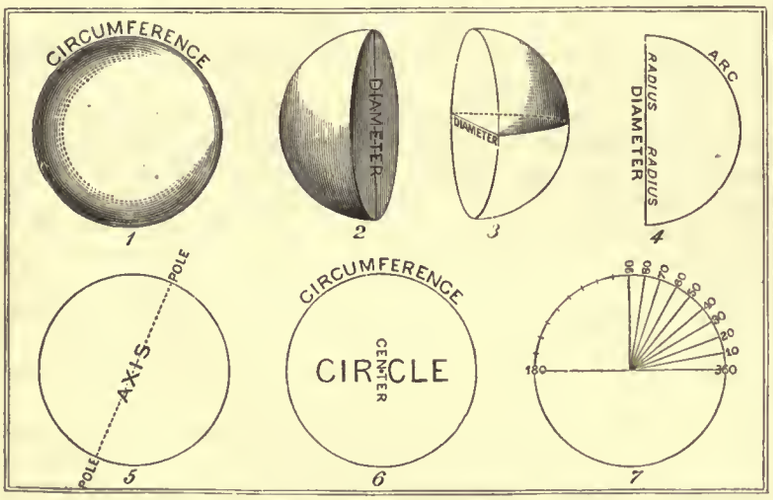


DIAGRAM OF MATHEMATICAL FIGURES.

3. The diameter of a sphere is a straight line passing through the center, and terminating in the circumference. (See diagram.)

4. The shape of the earth is that of a sphere, or globe, slightly flattened at the Poles; in exact language, an oblate spheroid.

NOTE. — *Spheroid* means like a sphere; *oblate* means *flattened* at two opposite sides, and an *oblate* spheroid contrasts with a *prolate* spheroid, which means a sphere *extended* at two opposite sides. An orange is an example of an oblate spheroid, and a lemon, of a prolate spheroid.

5. Proofs of Sphericity.—The sphericity of the earth is shown by many proofs, among which are the following:—

I. The continual circumnavigation of the earth. This shows that the earth is round from *east to west* at least.

II. The appearance presented by a ship, approaching or receding, at sea or on any great lake. If the earth were flat we should first see the hull of the ship, that being largest; but in fact we see first the tops of the masts and then the sails, etc., because the curve of the earth's surface hides the low, large hull of the distant ship, while it shows the tops of the slender but tall masts.

III. The form of the shadow of the earth seen in an eclipse of the moon. When the earth comes between the sun and the moon, the shadow cast by the earth on the moon is circular; and only a spherical body can in all positions cast a circular shadow.

6. Size of the Earth. — The circumference of the earth is nearly 25,000 miles, and its diameter nearly 8,000 miles.

NOTE. — These are the dimensions in round numbers. The earth, being flattened at the Poles, has a longest and a shortest diameter.

Longest diameter (equatorial) . .	7,925.65 miles.	Difference of 26.48 miles.
Shortest " (axial). . . .	7,899.17 "	
Greatest circumference	24,899 "	

TOPIC II.

DIRECTION ON THE EARTH'S SURFACE.

I. ORAL OUTLINE.

1. When we wish to state *where one place is* with regard to another, we do so by stating in what DIRECTION the one place is from the other. What are the names of the four principal points of direction, or points of the compass?

2. Who knows how to tell the points of the compass? There are two ways of doing this:—

First Way. — Stand with your right shoulder toward the sunrise and extend your right hand; that will be toward the east: the west will be at your left hand, the north before you, and the south behind you.

Second Way. — Stand with your back toward the sun at noon, so that your shadow is exactly before you, then the head of your shadow will be toward the north, your back will be toward the south, the right hand toward the east, and the left hand toward the west.

3. Point to the east, — to the west, — to the north, — to the south. In which wall or walls of the school-room are windows? Which walls have blackboards? Name some one in the room who is east from you, — south from you, etc. Point toward your home: in what direction is it? Let any pupil who lives north from here rise, — any who lives south, — east, — west. Does the street in which the school-house is located extend from north to south or from east to west? In what direction from here is the nearest city, town, or village? In what direction from here is the capital of our State?

4. [The teacher should now introduce the names of the intermediate, or *semi-cardinal points*, NE, SE, etc., as shown in this diagram representing the face of a compass.] Where is northeast? Midway between north and east. Northwest? Southeast? Southwest?

5. Who knows what a compass is? What kind have you ever seen?

☞ **The successful teacher will by repeated reviews train the pupil to a thorough practical knowledge of Direction.**

II. FOR RECITATION.

1. Direction on the earth's surface is indicated by means of certain names of points called Points of the Compass.

2. Cardinal Points. — The Cardinal Points are North, South, East, and West.

3. How found. — North is toward the North Pole; South, toward the South Pole. Looking toward the North Pole with the arms extended, East is to the right hand, West to the left.

4. The semi-cardinal points are four intermediate directions, called Northeast and Northwest, Southeast and Southwest.

TOPIC III.

AXIS AND POLES.

I. ORAL OUTLINE.

☞ **The teacher may, in this instance, have the paragraphs made the topics of a conversational lesson.**

1. If I twirl an orange on a knitting-needle, it turns, or *rotates*, on the knitting-needle. But suppose I could cause a body that floats in the air, such as a soap-bubble, to rotate, on *what* would it rotate? It would rotate *on itself*. Still, we may imagine a line or diameter on which it turns; and this is called its Axis (a Latin word meaning *axle-tree*).

2. The earth rotates, or turns completely round, once every twenty-four hours, and it is said to turn on its axis. The rotation of the earth on its axis causes day and night, by bringing, in turn, different parts of the earth's surface toward or away from the sun.

3. When a ball or soap-bubble is set rotating, there are two points which do not whirl around in a circle, but which remain stationary, or, rather, *turn upon themselves as pivots*. In like manner, at the ends of the axis of *every* rotating body there are two pivot-points.

THE NORTH STAR.

4. It is the same with the earth. Now, in the case of the earth these points are called the Poles (from a Greek word meaning *turning-points*).

5. One pole is almost directly beneath a famous star called the North Star, or Polar Star. This star may be seen in our country on any clear night, and may be found by attention to what follows.

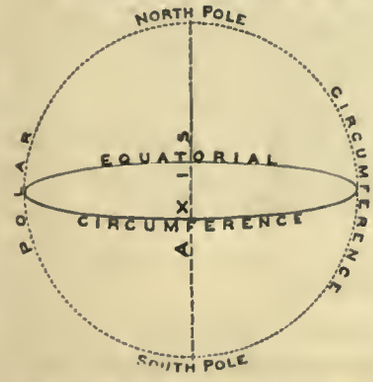
6. In the northern part of the heavens is a constellation called the "Great Bear," or, popularly, the *Great Dipper*, from the fancied resemblance of seven of the stars to the outline of a dipper or ladle. The two stars forming the outer side of the bowl of the dipper, called *pointers*, point very nearly to a bright star that forms the end of the handle of the "Little Dipper." This is the Polar Star. What pupils have ever seen the North Star?

7. The pole or end of the earth's axis under the North Star is called the North Pole. The opposite pole is called the South Pole; it is the point on the earth farthest away from the North Star.

8. So far as is known, no human being has ever been at the North Pole, though many brave explorers have periled or lost their lives in the attempt to reach it.

II. FOR RECITATION.

1. **The earth's Axis** is the imaginary line, or diameter, on which the earth rotates once every twenty-four hours.



2. **The Poles** of the earth are the two stationary points at the ends of the earth's axis. They are distinguished as the North Pole and the South Pole.

3. **The North Pole** is the pole nearest the North Star. The **South Pole** is the opposite extremity of the earth's axis; it is the point on the earth's surface farthest from the North Star.

TOPIC IV.

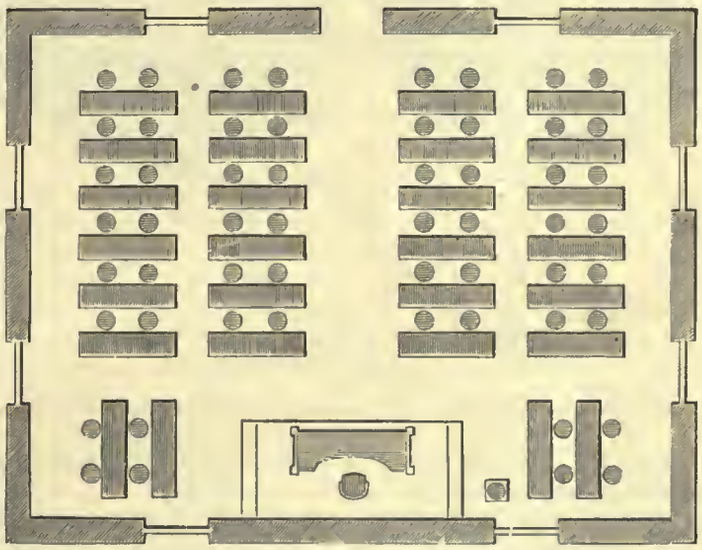
MAP-MAKING.


PICTURE OF A SCHOOL-ROOM.

1. What do you see in this picture of the interior of a school-room? "I see three walls." What else? etc., etc.

2. This picture represents the various objects in the school-room in the relative positions in which we should see them if we stood at the door and looked in. Such a representation is said to be *in perspective*.

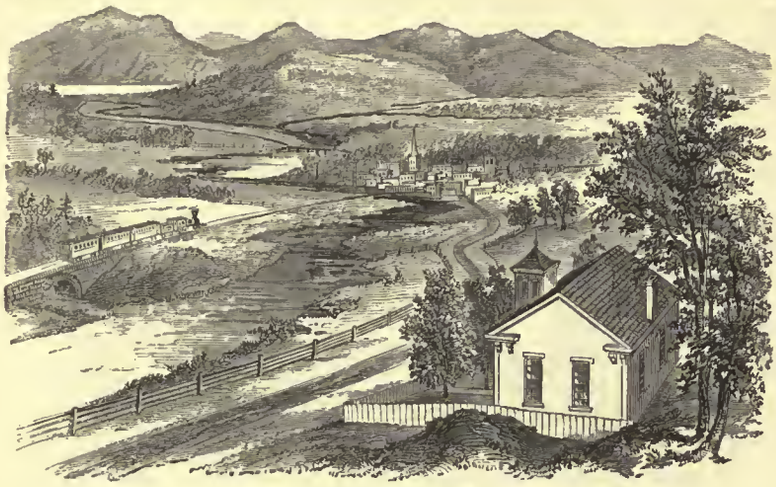
3. If the roof could be lifted off the school-room, and we should then look down, what should we see? Should we not see what is on the floor, or *ground*?


PLAN OF THE SCHOOL-ROOM.

4. [The teacher should now draw the plan on the blackboard, eliciting from the pupils *how* it is to be drawn. The pupils must then be required to copy the plan, first on their slates, then on paper.] The drawing which we have made does not much resemble the picture, for we have merely represented by certain signs the different objects seen on the floor, or ground. Such a representation is called a *ground-plan*.

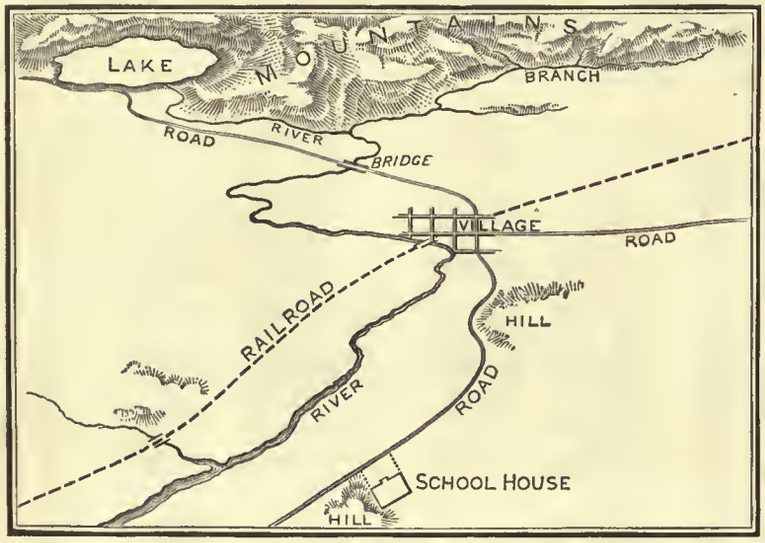
Exercise. — For additional practice, the pupils should be required to draw a ground-plan of *their* school-room. They should be shown that it is necessary to draw it to some definite scale. Thus, suppose that the room is shown to be 40 × 30 feet; pupils will readily understand that it would be impracticable to draw lines 30 or 40 feet in length. Let the scale be 1 inch to 5 feet; then the line representing the longest side of the school-room will be 8 inches in length, and that representing its width 6 inches.

5. A map is constructed in somewhat the same manner as a ground-plan of a room or of a building. That is, we use certain marks and signs to represent the various objects, locating them in the relative situations in which we should see the objects themselves if we looked down from a great height.



LANDSCAPE FOR MAPPING.

6. Here is a picture of a landscape; it is a view of a part of the earth's surface. We wish to make a map of it. How do we proceed? We indicate the various objects, as the mountains and hills, the rivers and the lake, the road and railroad, the village and school-house, by the marks shown in this map.



MAP OF THE SAME LANDSCAPE.

7. What is a Map? *A map is a representation, on a plane, of any part (or the whole) of the earth's surface.*

☞ The successful teacher will not be satisfied with a single exercise of this kind, but will give repeated exercises in drawing plans of the school-house and grounds, surrounding buildings or fields, etc. To more advanced pupils, local maps of the city, town, or county may profitably be given at this stage.

TOPIC V.

GEOGRAPHICAL POSITION.

I. ORAL OUTLINE.

1. [*Teacher placing on the desk a terrestrial globe.*] What is the shape of this globe? It represents the shape of what? Put your finger on the North Pole, — on the South Pole. This globe can rotate: what else rotates? On what does the earth rotate? What is the earth's axis?

2. You see various lines [*the teacher showing the parallels and meridians*] crossing the globe in different directions: do you suppose there are any such lines on the surface of our globe, the earth?

3. When we wish to tell the location of a building in a city, how do we do so? Can we in any such way describe the position of a fly on an orange? Why not?

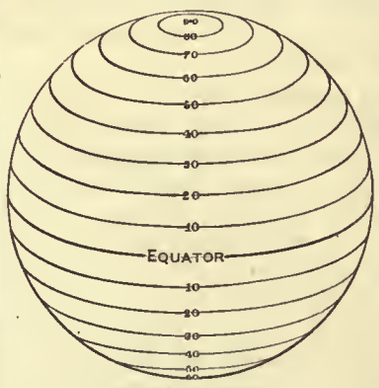
4. Now, it would be as difficult, without the help of these lines on globes and maps, to denote the position of a vessel on the pathless ocean as to tell the location of a fly on an orange or a smooth ball.

5. The first line that geographers use is the Equator. [*The teacher will point it out on the globe.*] It represents the earth's surface as divided into two half-spheres, or *hemispheres.*

6. The half-sphere between the Equator and the North Pole [*the teacher showing it*] is called the Northern Hemisphere, and that between the Equator and the South Pole the Southern Hemisphere.

7. By means of the Equator we may describe a place as in the Northern or in the Southern Hemisphere; that is, as somewhere between the Equator and the North or the South Pole. But this is still very indefinite, between the Equator and either Pole being more than 6,000 miles.

8. Now, we may describe locality more definitely by subdividing this distance by a number of lines parallel to the Equator. These are called Parallels of Latitude. In the cut here given we have a figure of a globe with such parallels.

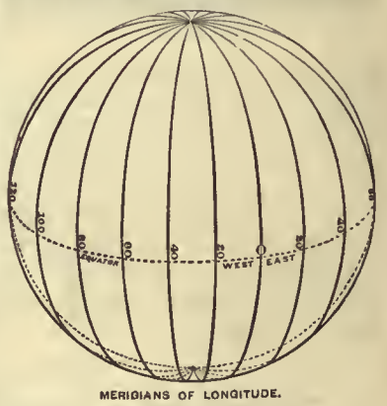


PARALLELS OF LATITUDE.

9. Counting from the Equator upward toward the North Pole, near the top of the cut, how many of these parallel lines or circles do we see? Into how many belts do these eight circles divide the distance between the Equator and the North Pole? (The same is the case with the distance between the Equator and the South Pole, but the figure does not allow of all these lines being marked.) By means of these parallels we can state the latitude of a place. How is this done? It is done by stating the number of *degrees* any place is distant from the Equator. [Let the teacher explain.]

10. It is not enough that we are able to speak of a place as north or south from the Equator: we must have the means of denoting its position east or west. For this purpose we draw a number of semicircles from the North to the South Pole, called Meridians. With these we measure longitude, which is locality east or west.

11. But east or west from *what?* We must fix upon some meridian as the starting-point for reckoning. On many American maps the meridian of Washington, the capital of our country, is chosen; but the meridian most used is that of Greenwich, near London, where there is a famous naval observatory. Calling the meridian of Greenwich zero, we count longitude eastward 180 degrees, that is, halfway round the globe, and also westward the same distance.



MERIDIANS OF LONGITUDE.

12. When we know the latitude and the longitude of a place or of a ship at sea, we can ascertain its exact position on the earth's surface, because the latitude shows us how far it is from the Equator, and the longitude gives its situation east or west of some fixed point. Thus, if we should see it announced that a sailor had been cast away on an island in South latitude 33½ degrees and West longitude 79 degrees (Greenwich), we should know, by looking at the map, that this was the island called Juan Fernandez, or Robinson Crusoe's Island.

II. FOR RECITATION.

1. The geographical position of places is determined by reference to certain circles drawn on maps and globes. These are called circles of situation.

2. The circles of situation are: the Equator, the Parallels of Latitude, and the Meridian circles.

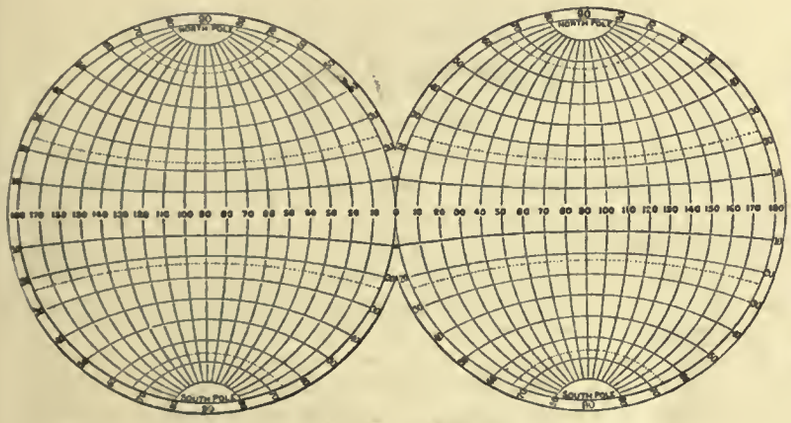
3. The Equator is an imaginary circle around the earth, midway between the Poles. It divides the earth into a Northern Hemisphere and a Southern Hemisphere.

4. Parallels of Latitude are circles around the earth parallel to the Equator.

5. The latitude of a place is its distance in degrees north or south of the Equator.

NOTE. — A DEGREE (marked °) is the 360th part of any circle. The 60th part of a degree is called a MINUTE (marked ′), and the 60th part of a minute is called a SECOND (marked ″).

6. Latitude is reckoned thus: North Latitude, from the Equator, where the latitude is zero, to the North Pole, which is in 90° north latitude; South Latitude, from the Equator to the South Pole, which is in 90° south latitude.



PARALLELS AND MERIDIANS.

7. Meridians (from a word signifying *midday*) are semicircles extending half round the globe, north and south, from Pole to Pole.

8. The longitude of a place is its distance in degrees east or west from a given meridian, called the Prime meridian.

GREENWICH OBSERVATORY.—THE THAMES.—LONDON.

NOTE. — The meridian of the British Royal Observatory at Greenwich, near London, England, is the prime meridian generally used. The meridian of Washington also is used in our country. In this book the numbers at the top of the maps indicate longitude counted from the Greenwich meridian, and those at the bottom, longitude counted from the Washington meridian.

9. Longitude is reckoned from the prime meridian both eastward and westward 180°, or half-way around the globe.

10. Length of a degree. — The length of every degree of latitude is 69½ statute miles. The length of a degree of longitude is not uniform: it is 69½ statute miles at the Equator; but the degrees constantly lessen from the Equator to the Poles, where they cease to have any length, since all meridians meet there.

TOPIC VI.

MAP REPRESENTATION OF THE EARTH.

☞ **This topic may best be treated in a conversational lesson.**

1. We have learned in regard to the terrestrial globe, that it is the best representation of the earth's surface. It is a *map* of the earth drawn on a sphere.

2. But it is often necessary to represent the earth, and particularly parts of the earth, on a plane surface, like a sheet of paper. We shall see how the whole of the earth's surface may be represented on a plane surface.

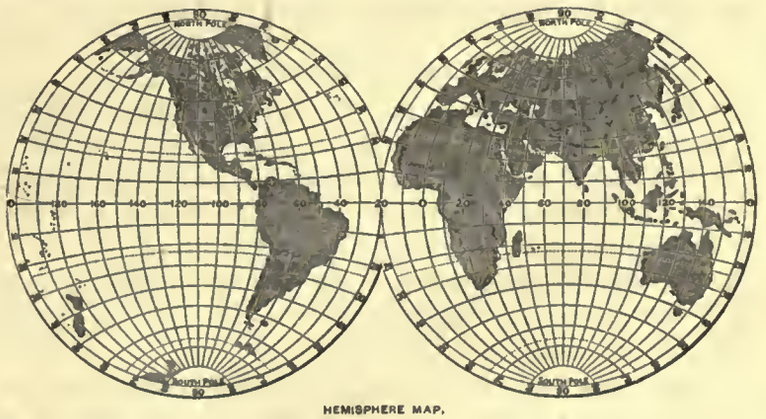
3. [*The teacher turning toward the class first the Western and then the Eastern Hemisphere on the school globe.*] The dry land on the surface of the earth is gathered together in two great masses, called continents. How shall we represent these two continents and the surrounding oceans on a flat surface?

4. If we divide a globe (as we may divide an orange) into halves, and lay each half, or hemisphere, on its flat side, we shall be able — shall we not? — to see both halves, or hemispheres, at the same time.

HEMISPHERE PICTURE

5. Here we have a sort of *picture* of the two hemispheres as we should see them if we could look down on the earth from a great height. This, however, is not a map.

6. But now, if we draw on paper two circles with a frame-work of parallels and meridians, we may represent in them the outline of the earth's surface, and show the relative position of the lands and waters.



HEMISPHERE MAP.

7. These are not exactly like the two hemispheres into which we imagined the globe divided, because the globe hemispheres have a *curved* surface; but they are as close a representation as can be made on a *flat* surface.

NOTES. — 1. The parallels do not seem to be parallel with one another; but they are drawn as they are in order to represent the rotundity of the earth.

2. The meridians are drawn from top to bottom in such a way as to show the globular form of the earth; but they must all be *supposed* to cross the Equator at right angles, and *the direction of the meridians indicates due north and south.*

3. If the figures, or degrees, marked on the Equator to measure longitude increase from left to right, the longitude is east; if from right to left, it is west.

TOPIC VII.

MOTIONS OF THE EARTH.

I. ORAL OUTLINE.

1. Does the earth seem to us to move? Do we feel it move? *Does* the earth move?

2. Can you mention one of its movements? The earth turns, or rotates, on its axis once every twenty-four hours. [The teacher may state that it has been proved by observation of the stars that the earth rotates on its axis.] Has it always been known that the earth has this movement?

3. From what heavenly body does daylight come? If we hold a globe up to a light, how much of its surface will receive light, or be illuminated, at the same time? [Let the teacher illustrate.]

4. What will be the condition of the other half as regards light? What may we do with the globe so that every part shall in succession be illuminated?

5. As the earth turns on its axis the sun is always shining on one half of its surface. What is this period called? What is the other period, when half the earth is *in its own shadow*, called?

6. Does the earth *appear* to rotate? Does not the sun rather seem to move around the earth? In what part of the horizon does the sun seem to rise, — to set?

7. If we carry the light around the school globe, will not every part be in turn illuminated, just as if we make the globe rotate in front of the light? Which of these two ways is the easier way of lighting in succession every part of the school globe?

8. The sun is many thousand times larger than *our* globe, the earth: what conclusion, then, do you draw, — that the sun really wheels around the earth, as it appears to do, or that the earth rotates on its axis?

9. Now you are to learn that the earth has another movement. Like all the heavenly bodies which we call planets, it revolves around the sun. The time it takes to perform this motion is called a year. How long is a year? You see, then, that the earth has two motions, and these two motions are going on all the time. [A good illustration is presented by a spinning top, which while spinning, that is, rotating on its axis, may also be moving around some point on the floor.]

10. The yearly revolution of the earth around the sun produces wonderful effects. It causes the change of seasons, and also the varying length of day and night in different parts of the earth.

FOR RECITATION.

1. The motions of the earth are two: a daily, or diurnal, *rotation* on its axis; and a yearly, or annual, *revolution* around the sun.

2. The effect of the rotation of the earth on its axis from west to east is the alternation of day and night; the rotation makes the sun seem to rise in the east and set in the west.

3. The effect of the revolution of the earth around the sun, combined with a peculiar inclination of the earth's axis and its unchanging direction, is the *change of seasons.*

4. Explanation. — In winter the Pole nearest us is turned *from* the sun, which therefore, even at midday, appears very low in the heavens, and its rays fall upon us in a slanting direction. In summer the Pole nearest us is turned *toward* the sun, which therefore appears high in the heavens, and its rays consequently fall more directly upon us. The more nearly overhead the sun is to us, the more do we feel its heat. When it is highest we have the heat of summer, and when it is lowest we have the cold of winter.

Cause of the Seasons. — If it is thought advisable to enter into the difficult subject of the astronomy of the seasons, the teacher may make a fuller explanation, using the following facts and the accompanying diagram: —

TO ILLUSTRATE THE SEASONS.

1. The earth's orbit is its path around the sun.
2. The plane of its orbit is the surface included within the orbit.
3. The earth's axis is inclined 23½° toward the plane of its orbit.
4. The earth's axis also preserves a parallel position in every part of the orbit, because the North Pole continually points toward the North Star.
5. The diagram given above shows the position of the earth at four marked periods in the earth's journey. *The change of seasons is produced by the earth's revolution around the sun, coupled with the fact that the earth's axis is constantly inclined to the plane of its orbit, and always points in the same direction.*

TOPIC VIII.

ZONES OF CLIMATE.

I. ORAL OUTLINE.

1. In our own country which part of the day is the cooler, — morning or noon, — noon or evening? When is the sun highest, — at noon or in the morning or evening?

2. We must understand why it is hotter at noon than in the morning or evening, because the knowledge of this will help us to understand why the earth is divided into belts, or *zones*, according to the *temperature*, or amount of heat received in each throughout the year.

3. From what heavenly body do we receive our heat? When do you think the rays of the sun fall most *slantingly*, in the morning or at noon? Correct; in the morning the rays of the sun fall in a *slanting* direction, and we receive comparatively few of the rays, because they are spread over a great surface. At noon, when the sun is more or less nearly overhead, the sun's rays fall more or less *directly* upon us, and we receive more of them because they fall upon a comparatively small space.

4. Rays falling from directly overhead are said to be *vertical;* those falling in a slanting direction are said to be *oblique.* [The following diagram put upon the blackboard will bring the matter home to the pupil's comprehension.]

VERTICAL AND OBLIQUE RAYS.

NOTE. — This figure represents what we may call three *sheafs* of the sun's rays. The vertical sheaf of rays, striking the earth at noon, falls upon the small surface between C and D. In the middle of the forenoon or afternoon the rays, falling obliquely, are spread over the greater surface D E. At sunrise or sunset no part of the sheaf touches the earth's surface except its lower side, and most of the rays are lost in the atmosphere beyond.

5. Now remember these two facts: 1. The more nearly *vertical* the rays of the sun are at any place, the hotter, as a general rule, it is there; 2. The more *obliquely* the rays of the sun fall upon any part of the earth, the cooler, as a general rule, it is there.

6. In our part of the world, when is the sun the more nearly overhead, — in the summer or in the winter? At which of these two seasons, then, are the sun's rays the more nearly vertical to us? Which season, then, must be the colder, — summer or winter?

7. In our part of the world is the sun *ever* directly overhead? [The teacher should explain that in our country the sun is never directly

overhead, and that his rays fall upon us in the *most nearly vertical direction* on the longest summer day (from 14½ to 15½ hours long, in June). It will add interest if the teacher, by reference to an almanac, will state the exact length of the longest day for each locality.]

8. If we direct a stream of water through a pipe upon a large ball, which part of the ball will the stream strike with most force? Will it be that part directly opposite the pipe? Is the earth of the same shape as the ball? Which part of the earth's surface, then, will the sun's rays strike most directly? [The teacher should here state that the sun always shines vertically, or nearly so, on the Equator and on a considerable belt beyond the Equator on each side of it. Give the name Torrid Zone, and point out the Tropics on the globe; but there is no need, at this point, to enter into any mathematical considerations involved in the situation of these circles.] In the Torrid Zone the climate is very hot all the year round.

9. On what parts of the earth's surface must the sun's rays fall most slantingly? Where, then, do you think the coldest parts of the earth are? [The teacher will give the name Frigid Zones, and show them on the globe; also the Arctic and Antarctic Circles.]

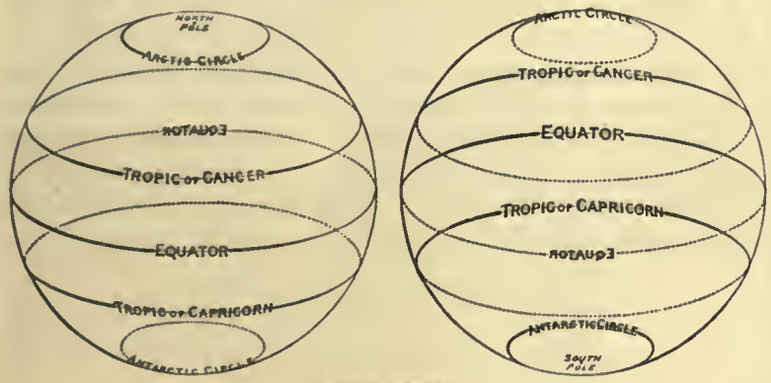
10. Since there is a region on each side of the Equator (where the sun's rays fall most directly) that is constantly hot, and a region around each of the Poles (where the sun's rays fall most slantingly) that is constantly cold, what may you conclude about the two belts between the very hot zone and each of the two Frigid Zones? [*Teacher pointing to the Temperate Zones on the terrestrial globe.*] Do the sun's rays fall on *these* belts as vertically as on the Torrid region? Do they fall as obliquely as on the Frigid regions? Can the regions in these middle belts be as constantly hot as in the Torrid Zone? Can they be as constantly cold as in the Frigid Zones? [Let the teacher give the name Temperate Zones.] We live in the North Temperate Zone.

☞ **A thorough globe-study of the Zones should here be made.**

II. FOR RECITATION.

1. The boundaries of climate are marked on maps and globes by means of certain circles, called climatic circles.

2. The climatic circles are: the Tropic of Cancer, the Tropic of Capricorn, and the two Polar Circles.



CLIMATIC CIRCLES.

3. The Tropic of Cancer is a parallel 23½° to the north of the Equator; the **Tropic of Capricorn,** a parallel 23½° to the south of it.

NOTE. — The Tropic of Cancer marks the northern limit of places that can have the sun directly overhead, or vertical; the Tropic of Capricorn marks the southern limit of places that can have the sun vertical.

4. The Polar Circles are the Arctic Circle, 23½° from the North Pole, and the Antarctic Circle, 23½° from the South Pole.

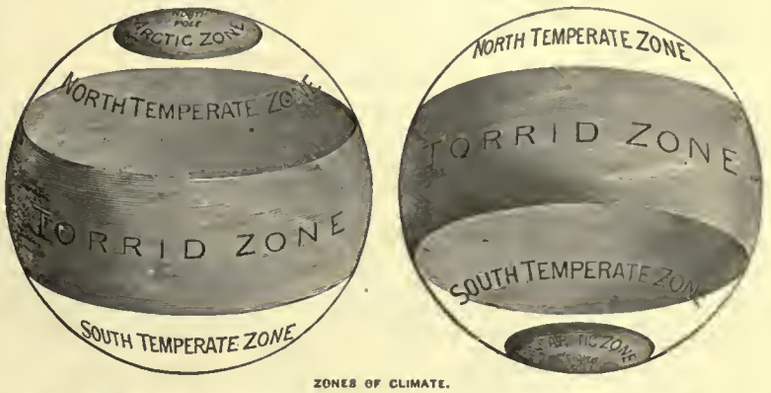
NOTE. — The Polar Circles mark the limits (from either Pole) within which the sun remains wholly above the horizon for a term of more than twenty-four hours at one season of the year, or does not rise for a term of more than twenty-four hours at the opposite period of the year.

5. The zones of climate are belts of the earth's surface enclosed by these circles, as drawn on maps and globes.

6. The zones are: one Torrid Zone, two Temperate Zones, and two Frigid Zones.

7. The Torrid Zone is between the Tropic of Cancer and the Tropic of Capricorn, and extends 23½° each side of the Equator.

NOTE. — The Torrid Zone is 47° (= about 3,250 miles) in breadth.



ZONES OF CLIMATE.

8. The Temperate Zones lie between the Tropics and the Polar Circles, — the North Temperate Zone between the Tropic of Cancer and the Arctic Circle, and the South Temperate Zone between the Tropic of Capricorn and the Antarctic Circle.

NOTE. — Each Temperate Zone is 43° (= nearly 3,000 miles) in breadth.

9. The Frigid Zones — the northern called the North Frigid, or Arctic Zone, and the southern the South Frigid, or Antarctic Zone — lie between the Polar Circles and the Poles.

NOTE. — Each Frigid Zone is 23½° (= about 1,625 miles) in width.

10. Table of Zones. — The following table presents a view of the several zones, with important particulars under the various topics of climate, vegetation, products of cultivation, animals, and population: —

	Climate.	Vegetation.	Products of Cultivation.	Animals.	Population.
Torrid Zone.	Marked by great and uniform heat, with two seasons, — the rainy and the dry; snow never seen except on high mountain-tops; days and nights of little variation in length.	Marked by a very great luxuriance: characteristic trees are palms and tree-ferns, mahogany, rosewood, caoutchouc, etc.	Cotton, coffee, sugar, rice, spices, oranges, bananas, etc.	Noted for their largeness, fierceness, and strength: characteristic types are the elephant, lion, camelopard, rhinoceros, tiger, gorilla, crocodile, ostrich.	Generally of a dark complexion, and, with few exceptions, not progressive or highly civilized; in most cases savages.
Temperate Zones.	Marked by the four seasons, with hot summers and cold winters, and days and nights varying more in length than in Torrid Zone.	Oak, laurel, olive, etc., in the warm region; maple, elm, beech, oak, walnut, chestnut, etc., in the middle region; pine, fir, in the cold region.	Grains, potatoes, peas, beans, flax, hemp, the apple, the pear, rice, tobacco, cotton.	The domestic animals, as the horse, ox, sheep, camel, etc.; also deer, wolves, bears, etc.	The superior races of the world, noted for their great progress in wealth, intelligence, and enterprise.
Frigid Zones.	Marked by a long and intensely cold winter, and by a short but comparatively warm summer, with days lengthening toward the Poles, where day and night are each six months long.	Exceedingly scanty, being almost confined to moss and lichens.	Neither grain nor esculent fruits can be grown.	White bear, reindeer, and fur-bearing animals, with the whale, walrus, seal, and sea-birds.	Scanty in numbers, and showing a low type of civilization.

TOPICAL SYNOPSIS FOR REVIEW.

- **Subject defined.**
  - Geography and Its subdivisions
    - Mathematical.
    - Physical.
    - Political.
- **Definition of Terms.**
  - Sphere and Hemisphere.
  - Diameter.
  - Circumference.
  - Circle
    - Degrees.
    - Minutes.
    - Seconds.
- **Shape and size of the Earth.**
  - General shape.
  - Proofs of rotundity
    - By appearance of ships.
    - By shadow in eclipses.
    - By circumnavigation.
  - Oblate spheroid.
    - Longest diameter.
    - Shortest "
  - Extent of circumference.
  - " diameter.
  - Axis defined.
  - The Poles.
    - North.
    - South.
- **Circles of Situation.**
  - Their use.
  - Their names
    - Equator.
      - Northern Hemisphere.
      - Southern "
    - Parallels.
    - Meridians.
  - Latitude defined
    - North Latitude, how reckoned.
    - South " " "
    - Length of degree.
  - Longitude defined
    - Prime Meridian.
    - East Longitude.
    - West "
    - Length of degree.
- **Motions of the Earth.**
  - Rotation
    - On what.
    - In what time.
    - Result.
  - Revolution
    - Around what.
    - In what time.
    - Result.
- **Climatic Circles and Zones.**
  - Climatic Circles
    - Tropics
      - Of Cancer.
      - Of Capricorn.
    - Polar Circles.
      - Arctic Circle.
      - Antarctic Circle.
  - Torrid Zone
    - Situation.
    - Characteristics.
  - Temperate Zones
    - Situation.
    - Characteristics.
  - Frigid Zones
    - Situation.
    - Characteristics.

☞ At this point the teacher should make the Topical Synopsis the basis of a series of review lessons. A week may profitably be spent in this work. The pupils should be required to recite by topics and in their own language, instead of by piecemeal questioning.

MODEL: *Topic I. — Subject Defined.*

Mathematical, Physical, and Political Geography are the three subdivisions of the science of Geography. This science treats, in general, of the earth's surface, considered as the abode of man. Mathematical Geography has to do with the shape, size, and motions of the earth, and with the mode of representing the surface of our planet on maps and globes. The two main divisions of Geography, however, are Physical Geography and Political Geography. Some of the topics treated of in Physical Geography are the land and water surface of the earth, the climate of its various regions, and the plants and animals that live upon it. Some of the topics treated of in Political Geography are the various races and nations of the earth, with their industries, governments, and civilization. Physical Geography is the geography of nature; Political Geography, the geography of man.

☞ In connection with the review it is recommended that some of the more interesting topics be assigned as subjects for compositions.

SECTION II. — PHYSICAL GEOGRAPHY.

TOPIC I.

LAND AND WATER.

☞ To classes but little advanced this topic should be introduced by an examination of the terrestrial globe. The teacher should have the pupils determine for themselves how much of the earth's surface is land and how much is water; then let the teacher show how the two great land-masses partially enclose the ocean-basins, and give the names of the two continents and five oceans.

FOR RECITATION.

1. The earth's surface consists of land and water, — a little over one quarter being land, and nearly three quarters water.

GRAND DIVISIONS OF LAND AND WATER.

2. The land on the surface of the earth is in the form of Continents and of Islands. The most striking difference between continents and islands is in their size; continents being merely very large islands, — so large as to *contain* many different countries.

3. The Continents are the two great bodies of dry land on the earth's surface. The continent in the Eastern Hemisphere, containing Europe, Asia, and Africa, is called the *Eastern Continent;* that in the Western Hemisphere, containing North and South America, is called the *Western Continent.*

4. The Ocean is the great continuous body of salt water surrounding the globe and covering three fourths of its surface.

5. Its subdivisions. — *An* ocean is a certain part of this great body of water, distinguished by a particular name. The Ocean forms three great basins: the Pacific Ocean, Atlantic Ocean, and Indian Ocean; and two lesser basins: the Arctic Ocean and the Antarctic Ocean — the former in the region of the North Pole, the latter in that of the South Pole.

TOPIC II.

DIVISIONS OF LAND.

I. ORAL OUTLINE.

1. The edge of the land, where land and water meet, is called the shore, or sea-coast: did you ever see the sea-coast? Is it even and straight, or is it curved and jagged?

2. Three names are given to the land-part of the earth's surface, according to its form. If the land juts out, or projects, from the main body, so that the water almost surrounds it, it is called a PENINSULA, — a word meaning *almost an island.* If the land is a *point* projecting into the sea, it is called a CAPE, — a word meaning a *head* (of land), or, as we say, a *headland.* If, again, a part of the land is shaped something like the neck in the human body, that is, if it is narrower than the two

parts of land it connects, it is called an ISTHMUS, — a Greek word which means *neck*.

3. What peninsula have you ever seen? Do you know of any large cities in our country situated on small peninsulas? Did you ever see a cape, point, or headland? If so, into what water does it extend? Name all the capes you ever heard of. Do you know the name of any *isthmus*?

4. Is the land all on a level? What do you call a flat and even stretch of country? What is a lofty plain called? [*Teacher will give the word* PLATEAU.) What is an elevation of the land called? What is a lofty elevation called? What is a depression between higher ground called?

5. You may notice that in some parts the earth's surface is level, in others sunk, and in still others raised; and so we have four divisions of the land surface with regard to height. These are PLAINS, VALLEYS, PLATEAUS, and MOUNTAINS.

6. Are there any mountains in or near the place where you live? If so, what are they called? How high are they? What is the name of the highest mountain-peak you ever heard of? Are there any hills in or near the place where you live? If so, tell their names. Can you tell the difference between a hill and a mountain? What valley have you ever seen? In what country is the great valley of the Mississippi? What is the difference between a valley and a mountain?

7. We have learned that the parts of the land may be classed according to their *form* and according to their *height*.

By Form . . . . Peninsulas. Capes. Isthmuses.

By Height . . . Plains. Valleys. Plateaus. Mountains.

II. FOR RECITATION.

1. The Continents are the two great bodies of land on the earth's surface, and are called respectively the Eastern Continent, or Old World, and the Western Continent, or New World.

2. An island is a body of land smaller than a continent, and surrounded by water.

NOTE. — The island of Australia is so large that it is often called a continent.

3. The coast, *sea-coast*, or *seaboard* of a continent or island is that part bordering on the sea. The irregular line in which the surfaces of land and water meet is called the COAST-LINE.

4. Land-forms are classified (1) according to their *form* (or shape as determined by the coast-line), and (2) according to their *height above the level of the sea.* The former is called the CONTOUR of a body of land; the latter is called its RELIEF.

5. According to contour, bodies of land are classified as Peninsulas, Capes, and Isthmuses.

6. A peninsula is a portion of land almost surrounded by water.

7. A cape is a point of land projecting into the sea.

A promontory, or headland, is a high cape.

8. An isthmus is a narrow neck of land connecting two larger bodies of land.

9. According to relief, there are two main divisions of land, — Highlands and Lowlands. These are subdivided as follows: —

Forms of Relief . . . Lowlands. { Plains. Valleys. } Highlands. { Plateaus. Mountains. }

10. A plain is a tract of generally level land, not raised much above the sea. According to their characteristics, plains receive in different parts of the world distinctive names; as *prairies, llanos, selvas, pampas, steppes, deserts.*

Prairie (the French word for *meadow*) is the name given to one of the open, slightly undulating, grassy plains of the United States.

Llanos are the river plains of South America; in the rainy season they are covered with rank vegetation, and in the dry season they are deserts.

Selvas (Latin *silva*, a wood) are higher tracts of the same region densely covered with forests.

Pampas are treeless but grassy plains found in certain parts of South America.

Steppes are the plains of Northern Asia; they are sometimes covered with rough herbage, and sometimes they are deserts.

Deserts are dry plains. The rainless part of Africa, called "Sahara," is the greatest of deserts. Fertile spots in the desert, made by springs, are called *Oases;* here the wandering Bedouin finds shade and dates, and his camels obtain water.

AN OASIS.

11. A valley is a depression in the land below the level of the surrounding country. The forms of valleys are exceedingly varied: in some cases the slopes are long and gentle; in others they are abrupt and steep, so that the valley passes gradually into a *ravine* or *defile.*

12. A plateau, or *table-land,* is an extensive plain at a considerable height (as a thousand feet, or more) above the level of the sea.

13. A mountain is an abrupt elevation of the earth's surface, rising to a height of two thousand feet or upward. Lower elevations are called *hills.*

Mountain-Terms. — The following terms denoting the various features of mountains should be observed: —

1. **The base** of a mountain is its foot, or the beginning of its ascent.
2. **The slopes** of a mountain are its inclined sides.
3. **The summit** of a mountain is its top, or highest point.
4. **The crest** of a mountain ridge, or range, is the line along its top.
5. **Passes** are sudden depressions or breaks, affording the means of crossing mountain barriers.

14. A watershed (literally *water-parting*) is a ridge, or height of land which separates two streams that flow in opposite directions. The term watershed is used also to denote the *slope* down which a stream, or a system of streams, flows.

A WATERSHED.

15. A mountain-range, or *mountain-chain,* is a connected series of mountains extending in the same general direction. Most

mountains are in this form rather than in the form of single detached heights.

16. A mountain-system consists of several mountain-ranges near together and extending in the same general direction.

17. A volcano is a mountain that sends forth smoke, ashes, and melted matter, called lava, through an opening called its *crater*.

18. The basin of a river signifies the whole tract of country drained by the river and its tributaries.

TOPIC III.

DIVISIONS OF WATER.

I. ORAL OUTLINE.

THE Ocean, or Sea, is the great body of salt water that surrounds the globe. It is immensely large, — so large that we may sail on it for days and weeks without seeing a sign of land.

2. The Ocean is really one body, yet different names are, for the sake of convenience, given to different parts of it. [Let the teacher review, by means of the school globe or the wall-map, the names of the five oceans.]

3. Do you live on the sea-coast or inland? Did you ever see any part of the ocean? What is the name of it? A number of the States in our country border on the Atlantic Ocean: does the State in which we live belong to this number? Does the State in which we live border on the Pacific Ocean?

4. We have learned that in places the land shoots out into the ocean; so the oceans must break into the land. These *inbreakings*, or arms of the sea, have different names.

5. If the ocean runs well up into the interior of the continent, so that a great sheet of water is almost surrounded by land, it is called a SEA; but if the sheet of water is more open, it is called a GULF, or BAY. There is another division of water called a STRAIT. The word "strait" means literally a narrow passage, and a strait is a narrow passage of water connecting two larger bodies of water.

6. [*Teacher pointing to the Mediterranean Sea on the map.*] Here is a great inbreaking of the Atlantic Ocean, called the Mediterranean Sea. Is this sheet of water nearly surrounded by land? Here [*pointing to the Strait of Gibraltar*] is a narrow passage of water connecting the Mediterranean Sea with the Atlantic Ocean. What is such a passage called? Here [*pointing to the Gulf of Mexico*] is another great inbreaking of the ocean; it is as much enclosed by land as is the Caribbean Sea, yet it is not called a sea, but a gulf.

7. Now, there are bodies or sheets of water of such a kind that they are *entirely* enclosed by the land. We may call such a body of water an *inland* body of water. It is termed a LAKE.

8. Did you ever see a lake? What is the lake nearest us? Is it large or small? What lakes do you know of in this State? [The teacher will do well to point out on the hemisphere map the Great Lakes of North America, and other important lakes.]

9. There is another sort of inland body of water which flows through the land. What is such a body called? What river is near this place? Is it large or small? Where does it rise? Into what does it flow?

10. Pupils may now copy this table on their slates: —

Partly Inland	Seas. Gulfs, or Bays. Straits.	**Wholly Inland**	Lakes. Rivers.

II. FOR RECITATION.

1. The waters of the earth's surface comprise two divisions, — the Ocean, and various *inland* bodies and streams.

2. The Ocean is the great continuous body of salt water surrounding the globe; it has five grand divisions.

3. A sea is a body of salt water smaller than an ocean, and more or less surrounded by land.

NOTE. — A sea is, properly speaking, always a part of some ocean.

4. A gulf, or **bay,** is a body of water extending into the land.

Minor indentations are inlets, coves, fiords, havens, harbors, roadsteads.

5. A strait is a narrow passage of water connecting two larger bodies of water.

A channel is a *wide* strait. **A sound** is a *shallow* strait.

6. The inland waters are rivers and lakes.

7. A river is a large stream of fresh water flowing into the ocean or some other body of water.

The source of a river is where it rises: this is usually a *spring*. The waters of a spring make a brook, or creek, and many of these *head-waters* unite to form a river.

The bed of a river is the channel formed by its waters.

The banks are the portions of land bordering on each side of a river. A bank is called the *right* or the *left* according as it is on the right or left of a person looking *down* stream.

The mouth of a river is where it flows into some other body of water.

Tributaries are the branches of a larger stream; and the place where two streams unite is called their *confluence*.

8. A river-system is a great river with its tributaries, or a set of rivers flowing into the same body of water.

9. A lake is an inland body of water filling a depression in the land. Some salt-water lakes are called *seas;* as the Caspian Sea.

10. An ocean-current is a stream of salt water flowing through the sea; as the Gulf Stream, the Japan Current.

11. Correspondences. — The earth's surface is divided into land and water, and the parts of each correspond, thus: —

Land **and** **Water.**

A *continent* is one of the grand land-masses of the earth.	=	An *ocean* is one of the grand divisions of the Great Ocean.
An *island* is land wholly surrounded by water.	=	A *lake* is water wholly surrounded by land.
A *cape* is a portion of land jutting out into the sea.	=	A *bay* is a portion of water extending into the land.
A *peninsula* is land almost surrounded by water.	=	A *gulf* or *sea* is water almost surrounded by land.
An *isthmus* is a *neck* of land joining two larger portions.	=	A *strait* is a *narrow* passage of water joining two larger portions.
A *coast*, or *seaboard*, is that part of a continent or of an island which lies next the water.	=	That part of the sea which lies near the coast of a country is called the *coast waters* of that country.

TOPICAL SYNOPSIS FOR REVIEW.

- **Divisions of the Earth's Surface**
  - LAND
    - Extent
      - Continents.
      - Islands.
    - Contour-forms
      - Peninsulas.
      - Capes.
      - Isthmuses.
    - Relief-forms
      - Lowlands
        - Plains.
        - Valleys.
      - Highlands
        - Plateaus.
        - Mountains
          - Chains, or Ranges.
          - Systems.
  - WATER
    - The Ocean
      - Atlantic.
      - Pacific.
      - Indian, etc.

      With their subdivisions
      - Seas.
      - Bays, or Gulfs.
      - Straits
        - Channels.
        - Sounds.
    - Inland Waters
      - Rivers
        - Main Streams.
        - Tributaries.
      - Lakes
        - Fresh.
        - Salt.

MODELS FOR DESCRIBING THE DIVISIONS OF LAND AND WATER.

1.—A GRAND DIVISION.

State what part of either continent it forms.

EXAMPLES. — ***North America*** *forms the northern part of the Western Continent.* ***Europe*** *forms the northwestern part of the Eastern Continent.*

2.—A COUNTRY.

State in what part of what grand division it is, and bound it.

EXAMPLE. — ***The United States*** *is in the middle part of North America, and is bounded on the north by the Dominion of Canada, on the east by the Atlantic Ocean, on the south by the Gulf of Mexico and Mexico, and on the west by the Pacific Ocean.*

3.—AN ISLAND.

State its direction from the nearest coast or larger island, and tell what body or bodies of water surrounnd it.

EXAMPLES. — ***Cuba*** *is south of the United States, and is surrounded by the Atlantic Ocean, the Caribbe'an Sea, and the Gulf of Mexico.* ***Jamaica*** *is south of Cuba, and is surrounded by the Caribbean Sea.*

4.—A PENINSULA.

State from what part of what country it projects, and what waters nearly surround it.

EXAMPLE. — ***Florida*** *projects from the southeastern part of the United States, and is nearly surrounded by the Atlantic Ocean and the Gulf of Mexico.*

5.—AN ISTHMUS.

State what countries it connects, and what bodies of water it lies between.

EXAMPLE. — ***The Isthmus of Panama'*** *connects North and South America, and lies between the Caribbean Sea and the Pacific Ocean.*

6.—A CAPE.

State from what country or coast it projects, and into what body of water.

EXAMPLE. — ***Cape Hatteras*** *projects from the eastern coast of the United States into the Atlantic Ocean.*

7.—A MOUNTAIN.

State in what part of what country it is situated, and (if a range or system) state its direction.

EXAMPLES. — ***Mount Popocatapetl'*** *is in the southern part of Mexico.* ***The Alleghany Mountains*** *are in the eastern part of the United States, and extend from northeast to southwest.*

8.—AN OCEAN.

State its direction from the coasts it washes.

EXAMPLE. — ***The Atlantic Ocean*** *is east of North and South America, and west of Europe and Africa.*

9.—A SEA, GULF, OR BAY.

State its direction from the nearest coast, and with what body of water it is connected, or of what water it forms an inbreaking.

EXAMPLES. — ***The Mediterranean Sea*** *is south of Europe, and is connected with the Atlantic Ocean, of which it is an inbreaking.* ***The Gulf of Mexico*** *is south of the United States, and is connected with the Atlantic Ocean, of which it is an inbreaking.* ***The Bay of Biscay*** *is west of France and north of Spain, and forms an inbreaking of the Atlantic Ocean.*

10.—A STRAIT, CHANNEL, OR SOUND.

State between what countries or islands it is, and what bodies of water it connects.

EXAMPLES. — ***The Strait of Gibraltar*** *is between Spain and Morocco, and connects the Mediterranean Sea with the Atlantic Ocean.* ***Mozambique'*** [beek] ***Channel*** *is between Africa and the island of Madagascar, and connects different parts of the Indian Ocean.*

11.—A LAKE.

State in what part of what country it is situated, and give its outlet, if any is named.

EXAMPLE. — ***Lake Ontario*** *is in the northern part of the United States, and the St. Lawrence River is its outlet.*

12.—A RIVER.

State where it rises, its direction, and into what body of water it flows.

EXAMPLE. — ***The Mississippi River*** *rises in Itas'ca Lake, in Minnesota, and flows in a southerly direction into the Gulf of Mexico.*

13.—A CITY.

State its location, and whether on the seaboard (or lake-shore) or in the interior.

EXAMPLES. — ***New York*** *is a seaboard city in the southern part of New York.* ***Chicago*** *is in the northeastern part of Illinois, on the southern shore of Lake Michigan.*

THE WORLD IN HEMISPHERES

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STUDIES ON THE HEMISPHERE MAP.

I. Grand Divisions.

1. What two grand divisions of land are in the Western Hemisphere? — what three in the Eastern? 2. What division of America is crossed by the Equator? 3. In which hemisphere is North America? 4. What part of South America is crossed by the Tropic of Capricorn? 5. In what zone is most of North America? — most of South America? 6. What Isthmus joins North and South America? 7. By what oceans are the two Americas surrounded? 8. What is the direction of Europe from Asia? — of Africa from Asia? 9. What grand divisions are wholly in the Northern Hemisphere? 10. In what three zones is Asia? 11. In which zone is most of Europe? 12. What oceans surround the Eastern Continent?

II. Islands.

1. What island off the northeast coast of North America? 2. What group of islands between North and South America? 3. What island in the South Pacific Ocean is crossed by the 40th Parallel? 4. What line of isles south of Behring Sea? 5. What isles off the west coast of Europe? 6. What isles off the east coast of Asia? 7. Describe these islands: — Newfoundland; — Iceland; — Madagascar; — Borneo.

III. Capes.

1. What cape at the southern extremity of Greenland? — at the eastern point of South America? — at the southern point of Africa? 2. Describe the following capes: — Hatteras; — Frio; — San Lucas? — North Cape; — Verde.

IV. Coast Waters.

1. What great inbreaking of the Atlantic Ocean in the northern part of North America? — in the southern part of the United States? 2. Describe the following: — Hudson Bay; — Caribbean Sea; — Behring Sea. 3. Where is the North Sea? 4. Describe the Mediterranean Sea. 5. What large gulf west of Africa? 6. What sea between Arabia and Hindostan? 7. Where is the Bay of Bengal? 8. Describe the following: — Red Sea; — China Sea; — Japan Sea.

V. Mountains.

1. What great mountain system in North America? — in South America? 2. What mountains in North Africa? 3. Where are the Himalaya Mountains? — the Altai Mountains?

VI. Rivers and Lakes.

1. What river flows into the Gulf of Mexico? 2. Where is Lake Superior? 3. What South American river has its mouth near the Equator? 4. Describe the Orinoco. 5. Describe two great European rivers. 6. What is the largest river of Africa? 7. Where is Lake Albert? — Victoria? 8. What great rivers of Asia flow northward? — southward? 9. What large rivers in China?

VII. Latitude and Longitude.

Vessels were spoken in the following latitudes and longitudes: in what waters were they? Lat. 40° N., long. 60° W.? — Lat. 20° N., long. 120° W.? — Lat. 40° S., long. 140° E.? — Lat. 60° S., long. 80° W.? Lat. 40° S., long. 0°? — Lat. 40° S., long. 180° W.?

STUDIES ON THE GLOBULAR MAP.

NOTE.—This map is a representation of a terrestrial globe so turned as to show the greatest possible amount of land at one view;—and in fact it places before the eye the whole of the land surface of the earth with the exception of Oceanica and the southern half of South America. As a corrective of the confusion of ideas into which pupils unacquainted with the principles of map-projection are likely to fall from the study of the ordinary hemisphere map, it will be found very valuable. The teacher should give the class repeated exercises, oral and written, on this map.

I.—**1.** In what direction is north on this map? *Ans.* Toward the North Pole. **2.** What grand divisions of land are crossed by the Equator? **3.** What grand divisions of land are crossed by the Tropic of Cancer?—by the Tropic of Capricorn? **4.** What part of Africa is crossed by the prime meridian (Greenwich), marked 0 on the Equator?

II.—**1.** What grand divisions east of the Atlantic Ocean? **2.** What grand divisions enclose the Atlantic Ocean? **3.** What ocean south of Asia? **4.** What lands enclose the Indian Ocean? **5.** What ocean between Asia and America? **6.** What name is given to the water around the North Pole? **7.** What strait connects the Mediterranean Sea with the Atlantic Ocean?—Behring Sea with the North Polar Sea? **8.** What lands enclose the North Polar Sea, or Arctic Ocean?

III.—**1.** In what direction is North America from Europe?—Africa from South America? **2.** Is any large city on the Atlantic coast of North America as far north as London? **3.** The parallel of latitude which traverses Spain is near what great cities in our country? **4.** What large island of the West Indies is just south of the Tropic of Cancer? **5.** What city in Hindostan is near this circle?

IV.—Over what waters would a ship sail in going from New York to Aspinwall?—from Panama to San Francisco?—from Boston to Bombay?—from San Francisco to Yokohama?—from Liverpool *via* Suez Canal to Hong Kong?

TOPIC IV.

CONDITIONS OF CLIMATE.

I. ORAL OUTLINE.

1. Is it sometimes hot where we live? Is it sometimes cold? Do you know of any part of the world where it is constantly quite hot? — any place where it is constantly quite cold?

2. What pupils have seen a thermometer? What degree of heat did it mark the last time you looked at it?

3. *First important fact.* — THE AMOUNT OF HEAT AT A PLACE IS CONNECTED WITH THE CLIMATE OF THE PLACE.

4. In our part of the country is there much rain? During what season does it fall? Does it rain during the winter months?

[The teacher should point on the hemisphere-map to the basin of the Amazon, and state that immense quantities of rain fall there; to California, and state that rain falls there only during what, on the Atlantic coast, are called the winter months, — December to April; to the Utah basin and the African Sahara, stating that no rain, or next to none, *ever* falls there.]

5. *Second important fact.* — THE AMOUNT OF RAIN AT A PLACE IS CONNECTED WITH THE CLIMATE OF THE PLACE.

6. Have we cold winds in this place? Do you know from where they blow? Have we warm winds?

7. What causes people to resort to the sea-shore in summer? Do you know whether in winter it is warmer or colder at a place on the sea-coast than it is at an inland place in the same latitude?

8. The British Isles [*the teacher pointing to them*], which have a mild climate, are in nearly the same latitude as Labrador [*the teacher pointing to it*], which is very cold and barren. The cause of the mild weather of the British Isles is a warm wind carried there from an ocean-current called the Gulf Stream.

9. *Third important fact.* — THE NATURE OF THE WINDS THAT PREVAIL AT A PLACE IS CONNECTED WITH THE CLIMATE OF THE PLACE.

10. How many seasons have we in this locality? On the Pacific coast of the United States there are but two seasons. Have you ever heard of any part of the earth where perpetual spring reigns? Do you suppose there can be more than two seasons in the Arctic regions? Which season do you think must be the longer, the summer or the winter?

11. *Fourth important fact.* — THE CHARACTER OF THE SEASONS AT A PLACE IS CONNECTED WITH THE CLIMATE OF THE PLACE.

12. What then is meant by the climate of a place? The climate of a place means its *weather-conditions,* in regard to heat, moisture, winds, and seasons.

II. ORAL OUTLINE, — *Continued.*

1. We have learned the names of the zones: what are they? What is the nature of the Torrid Zone as regards heat? — of the Frigid Zones? — of the Temperate Zones?

2. The heat throughout the year is greatest at or near the Equator, and diminishes gradually toward the Poles. Thus we see that the climate of a place depends upon the *latitude* of the place. But now we must inquire if there are any exceptions to this general rule of climate.

3. Did you ever on a hot summer day climb to the top of a mountain? What change in the air did you find?

4. [*The teacher pointing on the map to the mouth of the Amazon River.*] Here is a part of the earth that is on the Equator. What zone, then, is it in? What kind of climate would you expect to find there?

5. Let us now sail up the Amazon for two or three thousand miles, till we come to the foot of this great mountain range, the Andes. [*The teacher showing it.*] We are still in the Torrid Zone, and still near the Equator. Will not the climate still be the same? Now let us ascend from the base of the Andes. As we go up we shall find the weather becoming less hot, just as we did when we went up into a mountain region in our own country on a hot summer day. As we proceed, the air becomes cool, cooler, cold, colder, till finally we find ourselves amid snows that last all the year round.

6. What do we gather from these facts? We gather that the temperature of a place depends, not on its latitude alone, but on its height, or as it is called, its *altitude.* [*Let the teacher call attention to any local facts that illustrate this.*]

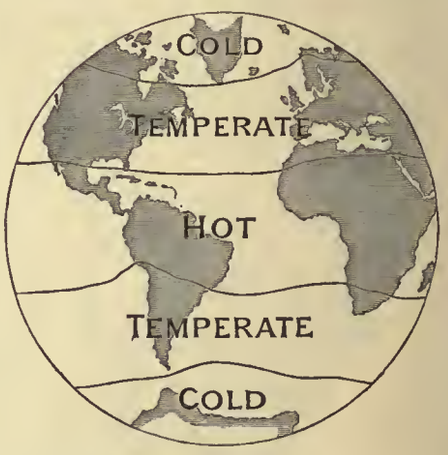
7. Do you think that winds blowing from the north must generally be cold winds or warm winds? — Blowing from the south? Suppose a country is so situated that there is nothing to break the force of the icy winds coming from the Arctic region, should you expect that country to be cold, even if it was pretty far south? [*The teacher pointing to Southern Siberia.*] That is the case in Siberia. On the other hand, what would you expect to find in the case of a country exposed to currents of air flowing from the Equatorial region?

8. What do we gather from these facts? We gather that the climate of a place depends, not on its latitude and its altitude alone, but on the *character of the winds that prevail there.*

9. We have seen that Great Britain has a mild climate: why has it a mild climate? Now, St. Petersburg in Russia [*the teacher pointing to it on the map*] is but little farther north than Great Britain, yet at St. Petersburg the weather is exceedingly cold during eight months of the year. Is Great Britain near the ocean? Is St. Petersburg?

10. What do we gather from this fact? We gather that the climate of a place depends, not on its latitude, altitude, and prevailing winds alone, but on *its nearness to or remoteness from the ocean.*

NOTE. — From all these facts we learn that the zones marked on maps and globes teach us the climate of places only in a very general way. The actual belts of climate are much more correctly shown in this diagram. The lines crossing the map indicate that the places crossed by each line have the same average amount of heat in the course of a year. They are called *isothermal lines,* or *isothermals* (from two Greek words signifying *equal heat-lines*). If the degree of heat at any given place depended simply on the latitude of the place, the Tropics and Polar Circles would correctly mark the boundaries of climate; but since it depends on other conditions as well, the lines marking the actual belts of climate vary in direction.



III. FOR RECITATION.

1. The Climate of a country means its *weather-conditions,* in regard to heat, moisture, winds, and seasons.

2. General Law. — The heat is greatest near the Equator and diminishes gradually toward the Poles; in other words, the climate of a place depends in general on its *latitude.* But this general law is greatly modified by other conditions.

3. First Modification. — The altitude of a place affects its temperature. High mountains and plateaus, even in the Torrid Zone, have a cool or cold climate.

EXPLANATION. — The lower and denser strata of the atmosphere absorb the greatest amount of the sun's heat, and are necessarily the warmest. For every one hundred yards of perpendicular ascent there is a decrease of *one degree* in the temperature; hence, even at the Equator, by ascending to the height of about 16,000 feet above the level of the sea we reach the snow-line, where winter is perpetual.

4. Second Modification. — The prevailing winds at a given place modify the climate of the place. Currents of air flowing from the Equatorial region are hot; currents of air flowing from the Polar regions are cold. Hence, if we suppose that, of two places in the Northern Hemisphere and in the same latitude, the one is exposed to northerly winds and the other to southerly winds, the former will be cooler than the latter.

5. **Third Modification.** — Sea-winds modify the climate of places, giving them cooler summers and warmer winters than inland places in the same latitude.

EXPLANATION. — The heat absorbed into the land is not taken in to a great depth, and it is given off *readily*. The heat absorbed into the water is taken in to a great depth, and it is given off *slowly*. The ocean is thus a great storehouse of heat. In summer the air over the ocean is cooler than that over the land, because the ocean radiates its heat more slowly than the land. In winter the air over the ocean is warmer than that over the land, because the land has then lost its heat by rapid radiation while the ocean has preserved its heat.

6. **Fourth Modification.** — The climate of a place is modified by the length of the day.

EXPLANATION. — More heat is communicated in a long day than is carried off in the succeeding short night, so that heat continues to accumulate during the summer season. In the Polar regions, notwithstanding the obliquity of the sun's rays, the heat during the short summer is very considerable, for the reason that, the *day* being continuous for weeks or months, the heat *accumulates*. This accumulation accounts for the fact that the summer heat in New York, Chicago, and St. Louis is often more intense than in New Orleans or Havana, — places near the Equator, but with *shorter days*.

TOPIC V.

PLANT-LIFE, OR VEGETATION.

I. ORAL OUTLINE.

1. What pupils have ever cultivated a garden? You have all eaten oranges: does this fruit grow in our part of the country? [In most parts of the United States pupils will reply in the negative.]

2. Do you know any way in which we *can* grow oranges here? Did you ever see an orange-tree in a hot-house? Do you know where most of our oranges come from? Is not the climate of Cuba and Florida somewhat like that of a hot-house?

3. We cannot grow oranges in the open air because the amount of summer heat is not enough. Can we grow pine-apples? — bananas? — sugar-cane? Why not? Name some other fruits or food-plants that we cannot grow.

4. What do we learn from this? We learn that to grow these fruits and food-plants a *large amount of summer heat is necessary.*

5. There is great heat in the African desert, or Sahara; but do we find much vegetation there? Why not? Is there anything which the African desert lacks and which the luxuriant plains of South America have? What do we conclude? That luxuriant vegetation requires not only *heat*, but *moisture*. Give some example of plants that cannot be produced except in lands having much heat and moisture. Coffee. Yes. What others can you name? The india-rubber tree, the various spices. What others?

6. The eastern half of the United States has an abundance of rain; the western half, with few exceptions, has very little: what difference as regards plants may we expect to find in these two regions?

7. In what zones is the least amount of heat? What may you expect in regard to vegetation in the Frigid Zones? Do you suppose any of our grains or fruits grow there? Name almost the only trees that grow there. The willow, birch, and alder. To what is vegetation in the *Polar regions* confined? To mosses and lichens.

8. In what zone do we live? Is any part of North America in the Torrid Zone? Name all the kinds of grain that grow in the State in which you reside; — all the kinds of vegetables. Name the kinds of fruit that grow in your part of the country; — the wild berries. Name all the kinds of trees growing in your part of the country. Name five garden flowers; — five wild flowers. Name two kinds of grasses which the farmers raise. Do we grow tobacco here? — rice? — the grape? — cotton? — sugar-cane? — sorghum? — broom-corn?

9. Do you suppose that the vegetation of the South Temperate Zone considerably resembles that of our own zone? Why does it do so? Name from the hemisphere-map three countries or parts of countries that are in the South Temperate Zone.

10. Have you ever noticed on climbing a lofty mountain that the trees, grass, etc., become stunted and scanty as you ascend? Taking into account the effect of altitude on the amount of heat, how may you explain this fact? What do you conclude from this in regard to the character of the vegetation in very elevated regions? Now remember this fact: if we go to the base of the Andes, on the Equator, and ascend 16,000 feet, we reach the line of eternal snow, and we pass through all the belts of vegetation from the Tropical to the Polar. Hence, in an ascent of three miles from the level of the sea we observe changes much like those that we should see in a journey of 6,000 miles, from the Equator to the North Pole.

II. FOR RECITATION.

1. **Vegetation** signifies plant-life in its manifold forms.

NOTE. — The term *flora* is often employed to designate the plant-life of a region; thus we speak of the *flora* of the United States, of Australia, etc., meaning all the species of plants in these regions.

2. **Conditions of Plant-Life.** — Plants depend for their continuance on certain *physical conditions*. The conditions that regulate plant-life are *heat* (with light) and *moisture*. A little more heat or a little more cold, a little more moisture or a little more drought, and the plant flourishes or decays. ILLUSTRATION: the palms of the Tropics would dwarf and die in the Temperate Zone.

3. **Distribution.** — The yearly supply of heat and moisture is greatest in the Equatorial region; hence, vegetation is most luxuriant within the Tropics, and declines as we proceed toward either Pole. This is the law in its most general statement.

4. **Zones.** — Different regions of the earth present different conditions of climate; climate controls plants; hence, different regions have each their own distinct vegetation. We may mark four zones of plant-life, — the Tropical, Warm-Temperate, Cold-Temperate, and Arctic Zones.

5. **The Tropical Zone** corresponds nearly with the Torrid Zone as marked on maps and globes. It includes *all countries where frost is never in the ground.*

6. **The Arctic Zone** (confined to the Northern Hemisphere) includes *all known countries where frost is never out of the ground.* Geographically it comprises the North Frigid Zone and parts of the North Temperate Zone.

7. **Temperate Zones.** — The middle belt which is between these two extremes, and which may be called the Temperate Zone of vegetation, is divided into two zones, — the Warm-Temperate Zone, which adjoins the Tropical, and the Cold-Temperate Zone, which adjoins the Arctic Zone.

NOTE. — In a general way it may be said that the highest latitudes in which Indian corn can be grown mark the dividing line between the two zones.

A TROPICAL SCENE.

8. **Tropical Zone.** — Characteristic plants of this zone are palms, bananas, bread-fruit, pine-apples, rice, coffee, the sugar-cane, spices, opium (from the poppy), indigo, and caoutchouc. The Equatorial

parts of this zone are further marked by canes, bamboos, large and showy flowers, and gigantic parasitic plants.

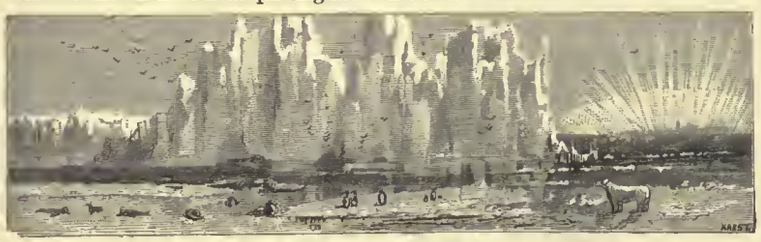
9. Warm-Temperate Zone. — This zone is the land of the vine and olive, the laurel and myrtle. It has numerous kinds of deciduous forest-trees (those which shed their leaves in autumn), as the oak, chestnut, ash, maple, cottonwood, etc. As products of cultivation, tea, cotton, and tobacco may be noted. The chief food-plants are maize, wheat, rice, and potatoes. The greater part of our own country is within this zone.

10. Cold-Temperate Zone. — The line of the cultivation of wheat includes the warmer parts of this zone; but its characteristic food-plants are barley, rye, oats, buckwheat, and potatoes. Flax and hemp are grown. Among representative forest-trees are the pine, maple, beech, birch, spruce, and larch.

11. Arctic Zone. — This zone (which is confined to the Northern Hemisphere) is marked by the dwarf birch, alder, and willow. Its more temperate parts yield barley, turnips, and Iceland moss. The Polar region produces no food-plants, nor indeed any kind of vegetation except mosses, lichens, etc.

12. Effect of Altitude. — Temperature decreases as we ascend from the level of the sea into the higher regions of the atmosphere; hence at the Equator the traveler who ascends a lofty mountain passes through belts of vegetation similar to those that mark the earth's surface from the Equator to the Poles.

"Nature has permitted the native of the Torrid Zone to behold all the vegetable forms of the earth without quitting his own clime." — *Humboldt.*



SCENE IN THE ARCTIC REGION.

TOPIC VI.

ANIMAL LIFE.

I. ORAL OUTLINE.

☞ **The teacher should, under this head, engage the pupils in a conversational lesson on the animals they have seen in menageries and public parks, eliciting whatever they know respecting the size, appearance, habits, locality, etc. of the several animals named.**

MODEL. [A pupil mentions that he has seen a *camel* in a menagerie.] The camel is a beast of burden. What other beasts of burden can you name? The horse, ox, elephant. What of the camel's head? Its legs? The camel is a *ruminant*. [Let the teacher explain this.] What adapts this animal to traversing deserts? In what localities are camels found? Would the horse or mule be as useful in such localities? Why not? Would the camel be as useful in this country or in Europe as the horse or mule? Why not? etc

II. FOR RECITATION.

1. General Law.—Animals, like plants, are influenced by physical conditions, and especially by climate and food. The animals of the Torrid Zone excel those of the Temperate Zones in number, size, strength, and beauty, while those of the Temperate Zones surpass the animals of the Arctic regions. We may mark the following three zones of animal life — the Tropical Zone, the Temperate Zones, and the Arctic Zone.

ZONES OF ANIMAL LIFE.

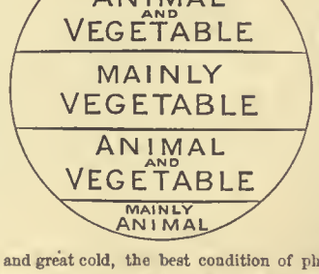
2. The Tropical Zone is the home of such animals as the lion, tiger, and panther; apes, monkeys, and gorillas; the giraffe and zebra; the elephant, rhinoceros, hippopotamus; the crocodile and boa; the flamingo, peacock, parrot, and bird of paradise.

3. The Temperate Zones are the home of the following, among other animals: 1. DOMESTIC ANIMALS: the horse, camel, llama, ox, sheep, goat, hog, dog; the hen, turkey, goose, etc. 2. WILD ANIMALS: the bear, buffalo, deer, kangaroo, wolf, fox, beaver; the eagle, hawk, jay, etc.

4. The Arctic Zone numbers among its leading animals the white polar-bear, the walrus, seal, reindeer, dog, arctic fox, sable, ermine, marten, auk.

5. Relation of Animals and Plants. — There is a remarkable relation between animals and plants. While both breathe the air, they live on different elements of the air. Plants give out large quantities of oxygen, and this is the element of the air that keeps up the "flame of life" in animals. On the other hand, animals breathe out carbonic-acid gas, which is destructive to animal life, but necessary to the life of plants.

6. Animals and Plants as Food. — Man derives his food from both plants and animals; but in the Torrid Zone his food is mainly vegetable, in the Frigid Zones mainly animal, and in the Temperate Zones both animal and vegetable.



NOTE. — Animal foods, and especially *the fats*, produce heat in the body. They are therefore the proper aliment for the peoples of the cold zones; and accordingly we find that in these zones a large part of the food used consists of fish, sea-birds, the fat of the seal, and the oil of the whale. On the other hand, in the tropical countries, a *bland* or cool diet is necessary for health. In such countries the starch and sugar producing substances, as rice, wheat-flour, Indian-corn, fruits, etc., are the fitting food. Rice, which is native to the Torrid Zone and is an excellent article of food in hot climates, is the cereal most extensively grown. It furnishes the principal support of at least one third of the human family. In the Temperate Zones, which alternate between great heat and great cold, the best condition of physical health requires both animal and vegetable food; — and in the countries in these zones the people generally use a mixed diet.

SECTION III. — POLITICAL GEOGRAPHY.

TOPIC I.

RACES OF MEN.

I. ORAL OUTLINE.

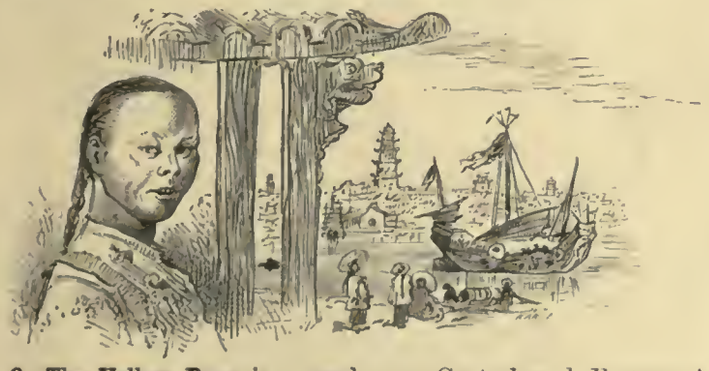
1. Have you ever seen an Indian? Can you always tell an Indian from a white man? You can; then it must be because the Indian has some natural marks that distinguish him from a white man. What is one of these marks? Red or copper complexion. Yes. Another? Long, straight black hair. Yes. Another? Another? These natural marks are called *physical characteristics.*

2. Have you ever seen a Chinaman? — a Japanese? What was his complexion? Hence we may call the Chinese and Japanese the Yellow Race. They are also called Mongolians. Many peoples of Asia belong to this race. How do the eyes of a Mongolian differ from those of an American? Do the Chinese wear beards? Now give a connected statement of the physical characteristics of the Mongolian race. [In like manner let the teacher draw from the pupils what they know about the other races.]

II. FOR RECITATION.

1. **The races are classified** according to five types, — the Caucasian, Mongolian, Negro or African, Malay, and Indian types.

2. **The Caucasian Races** are represented by the peoples of Europe and their descendants in America and elsewhere. To this type belong also the Arabs and Hindoos. The Caucasians have generally a fair complexion (though some representatives are swarthy), regular features, soft flowing hair, and full beards. They are the leaders in the world's civilization.

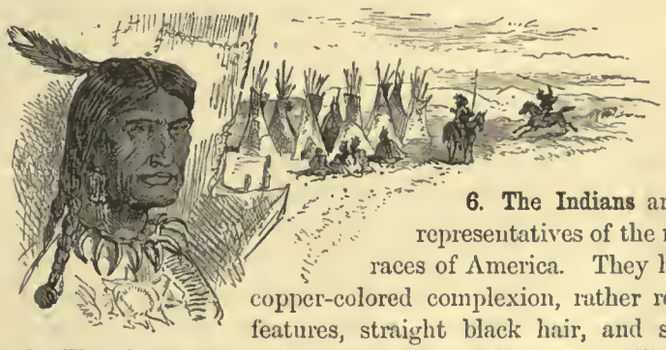


3. **The Yellow Race** is spread over Central and Eastern Asia (*examples:* China, Japan, Tartary), and includes the sparse population of the Arctic regions on both continents. The Mongolians have an olive-yellow complexion, straight black hair, broad countenance, high cheek-bones, and eyes set obliquely. In civilization they rank next to the Caucasians.

4. **The Negro Type** is spread over most of Africa, where it is represented by various tribes. These differ in many respects, but are all alike in having a dark or black complexion, short crisp

woolly hair, broad flat nose, and thick lips. Most of the African tribes are in a savage or barbarous state. Several millions of colored people in the United States (descendants of native Africans) have been Christianized and civilized.

5. **The Malays** are found in the Malayan Peninsula, and in many of the islands of the Pacific Ocean. They have a brown complexion and features considerably resembling those of the Chinese, but they have generally straight-set eyes.



6. **The Indians** are the representatives of the native races of America. They have a copper-colored complexion, rather regular features, straight black hair, and scanty beard. They have always shown but little capacity for civilization.

REFERENCE TABLE OF RACES.

Race.	Physical Characteristics.	Representative Types.	Numbers.
Caucasian.	COLOR: white to swarthy. FEATURES: regular. HAIR: waving or curling. BEARD: heavy.	Leading European peoples — descendants of European colonists — Hindoos, Arabs.	600 millions.
Mongolian	COLOR: olive-yellow. FEATURES: face broad and flat, with high cheek-bones, and small, black, obliquely set eyes. HAIR: coarse and stiff. BEARD: scanty.	Chinese — Japanese — Tartars — Turks — Esquimaux.	550 millions.
African....	COLOR: brown to black. FEATURES: flat nose, retreating forehead, prominent jaws. HAIR: short and crisp. BEARD: scanty.	Tribes of Central Africa — their descendants in America.	180 millions.
Malay.....	COLOR: much like Mongolians, but with horizontally set eyes.	Inhabitants of Malacca, of East India Islands, and most of the isles of the Pacific.	60 millions.
Indian.....	COLOR: red, or copper-hue. FEATURES: high cheek-bones, prominent nose, and black eyes. HAIR: straight and black. BEARD: scanty.	Indian tribes in North and South America.	10 millions.

TOPIC II.

WANTS OF MAN.

I. ORAL OUTLINE.

1. What is necessary to keep us alive? [The teacher will draw out the thought that *food* is necessary to keep us alive.] How long could a person live without food or drink? Food is then one of the needs, or *wants*, of mankind. Is it a need of the body or of the soul? Being *of the body*, we may call food a *physical* (natural) need.

2. What other physical need can you mention? [Let the teacher elicit the statement that *clothing* is another physical want.] Could not a person get along without clothing? Could not a person get along without clothing more readily in some parts of the world than in others? [State that in most parts of the world inhabited by civilized nations clothing cannot be dispensed with. "It is cold that kills."]

3. What other physical want can you think of? Houses to live in? Yes. Well, let us call this need the need of *shelter*.

4. We have ascertained that there are three great physical wants of mankind. What are they?

5. What kind of food can you name? Beef. Yes. Another? Bread. Another? Another? [As probably animal and vegetable foods will be given indiscriminately, the teacher should now place the list elicited from the pupils upon the blackboard, classing the articles as *animal* and *vegetable* foods. Natural substances, as *wheat*, should also be distinguished from products of manufacture, as *bread*.]

6. Name some animals from which we derive food. The ox, deer, hog, hare. Yes; but let us consider the ox and hog together and the deer and hare together. Is there not a difference between these two classes of animals? [Draw out the names *domestic* and *wild* animals.]

7. How is the flesh of an animal prepared for use? Yes; but is there not something before cooking takes place? Killing or slaughtering?

8. What do you mean by meat? What name is given to the flesh of the ox? — of the hog? — of the sheep? — of the calf? [The fact that the names of the live animals are native English (Anglo-Saxon), while the names of the meats dressed for the table are Norman-French, recalls the fact that the Normans in the eleventh century made themselves lords of England, and treated the Saxons as inferior beings. See Walter Scott's novel of *Ivanhoe* for a fine statement of this fact.]

9. What is the difference between *meat* and *game*? Are there any wild beasts hunted in this part of the country for game? The flesh of what wild beasts have you ever eaten?

10. One material for articles of clothing is derived from animals: name this article. Wool. From what animal is it obtained? [The teacher may name and briefly describe the processes gone through with before wool becomes cloth, as shearing, carding, spinning, weaving.]

11. Is fur much worn in this part of the country? What is fur? What are the favorite kinds of fur? What animals valuable for fur do you know of? The seal. Yes. Another? The mink. Another? Another? [Draw out from the pupils anything they know regarding where these animals are found, the mode of capture, etc.]

12. Every one of us has some article of clothing made of cotton. Does cotton grow in this part of the country? Where does it grow? How is it obtained? How is it prepared for market? [Let the teacher describe briefly the processes of carding, spinning, and weaving.]

13. Do you know of any large building in process of erection in this place? What is used in its construction? Wood. What else? Brick. What else? etc. These are called *building-material*.

14. What is the building-material used in most of the houses in this place? What kinds of trees furnish valuable building-material? What is lumber? How is it obtained? Have you ever seen a saw-mill?

15. How are bricks made? What is meant by quarrying stone? — dressing stone? Of what is glass made?

16. Name some of the materials from which savages make their huts, tents, wigwams, etc. Did you ever read about the famous Ice Palace at St. Petersburg?

II. FOR RECITATION.

The physical needs of man are food, clothing, and shelter. The principal articles used in supplying these needs are presented in the following table.

TEACHER'S NOTE. — To the teacher fertile in expedients the tables here given will be found exceedingly suggestive. The topics under each head and subhead should be made the basis of a series of questions, conversations, and written composition-exercises, calculated to develop the thinking faculty of the pupils. A few questions are appended.

- **Food**
  - Animal
    - Beasts
      - Domestic .. Meats
      - Wild ..... Game ... Forest. / Prairie.
    - Birds
      - Domestic .. Poultry.
      - Wild ..... Game ... Forest. / Prairie.
    - Fishes ..... Lakes. / Seas. / Rivers.
  - Vegetable
    - Roots ..... Potatoes. / Beets. / Onions, etc.
    - Stalks and Leaves ..... Sugar. / Tea. / Lettuce. / Cabbage, etc.
    - Grains ..... Wheat. / Rye. / Corn, etc.
    - Fruits ..... Apples. / Peaches. / Nuts. / Melons, etc.
  - Inorganic ..... Water. / Salt.
- **Clothing**
  - Animal ..... Wool, Fur, Leather. / Silk, Horns, Ivory.
  - Vegetable ..... Cotton. / Linen. / Caoutchouc. / Gutta-percha.
  - Mineral ..... Iron. / Brass (Copper and Zinc). / Steel.
- **Shelter.**
  - Vegetable ..... Wood. / Cotton and Linen Cloths. / Caoutchouc and Gutta-percha.
  - Mineral ..... Brick, Stone, Iron. / Lead, Glass, Paints.
  - Animal ..... Skins.

QUESTIONS. — I. What are the three divisions of food? What three classes of animals furnish us with animal food? How are beasts divided as regards supplying food? What is the food from domestic animals called? — from wild animals? Give the two divisions of birds, and name the foods supplied by them. What three kinds of waters are frequented by fishes? Name three or more *root*-vegetables used as food. From the *stalks* or leaves of what plants do we derive articles of food? What six kinds of *grain* can you name? What six *fruits*?

II. From what three great divisions of natural objects is material for clothing obtained? What six materials of clothing are obtained from animals? What four from vegetables? What three from minerals?

III. From what three great divisions of natural objects are materials used in building derived? What vegetable building-materials can you mention? What minerals or mineral products enter into the construction of buildings? [*The teacher will continue the questions at pleasure.*]

TOPIC III.

OCCUPATIONS OF MEN.

I. ORAL OUTLINE.

1. Does our food come to us ready to hand, or have we to occupy ourselves in obtaining it? Is it the same with our clothing and shelter?

2. Are all persons occupied directly in raising food? What business are many persons engaged in? What other business can you name? These various kinds of business are called *occupations.*

3. What is the occupation of those engaged in tilling the soil called? What other name for this occupation?

4. Agriculture is one of the great primary occupations of mankind; more persons are engaged in this occupation than in any other. Do we live in a farming section? What kind of country is best adapted to agriculture?

5. There is another occupation closely connected with agriculture, namely, the raising of horses, cattle, and sheep: what is this occupation called? What is meant by live-stock? What is the principal food of live-stock? What kind of land is generally better adapted to grazing than to agriculture?

6. In some parts of our country, in the neighborhood of the sea or of one of the Great Lakes, the people are largely engaged in fishing. Is this business carried on here?

7. Suppose a country is largely covered with forest, what occupation will the people be likely to engage in? What is the process of converting forest-trees into boards and other building-material? Is lumbering carried on in this part of our country?

8. Name an article in this room made from some metal. Name five metals. Name a mineral largely used for fuel. How are minerals obtained? The process of obtaining them is called *mining.*

9. Did you ever see a coal-mine? — an iron-mine? — a lead-mine? — a copper-mine? — a stone-quarry? Is this a mining section? Where are there coal-mines? — gold-mines? — silver-mines?

10. Grain, cotton, wool, lumber, iron, and hundreds of other articles are used to supply our needs; but what must be done with them before they are ready for use? What do we *make* from grain? — from cotton?

11. The process of *making* things is called *manufacturing.* Must not this be one of the leading occupations of men? Why so?

12. What is the difference between a *manufacture* and a *manufactory?* What manufactures are carried on in this place?

13. Have you ever seen any of the following manufactories: — a cotton factory, — a woolen-mill, — a flour-mill, — a tannery, — a shoe-shop, — a machine-shop, — a foundery, — a furniture factory, — a glass-house?

14. Manufacturing means literally *making by hand;* but do we now make all articles by hand? Why not? What kinds of *power* are used in driving machinery?

15. In a part of the country well adapted to farming, what occupation will most of the people be engaged in? In a part of the country containing a great supply of coal and iron, what occupation may we expect many of the people to be engaged in?

16. The farmer probably raises more grain or cotton or wool or live-stock than he requires: what does he do with what he cannot use himself? Does the farmer need many things that the farm does not produce? How does he obtain these things?

17. We need coal for our winter fire; but is it convenient for all persons to go to the mines and procure it there?

18. We thus see that between different countries and parts of the same country there must be an *exchange* of articles raised or produced. This exchange is called *trade,* or *commerce.* What merchants are there here?

19. The articles sent out from a country by way of trade are called its *ex*ports (*ex,* out); those brought in, its *im*ports (*im,* in). Name some exports of this place, — of this State; — some imports.

20. What occupations have we now learned about?

II. FOR RECITATION.

1. **The leading industries,** or occupations, by means of which the physical wants of man are supplied are agriculture and grazing, seafaring, lumbering, mining, manufacturing, and commerce.

2. **Agriculture** is the cultivation of the soil for the purpose of procuring vegetable productions suitable for food and clothing. *Grazing,* or the raising of flocks and herds, is an industry closely connected with agriculture.

3. **Seafaring** includes fishing and navigation.

4. **Lumbering** is the occupation of those who cut down forest-trees and saw them into timber used for building, etc.

5. **Mining** is the occupation of those who obtain metals or minerals from within the earth.

6. **Manufacturing** is the occupation of those who work up natural products, or raw material, into forms suitable for use.

7. **Commerce** is the occupation of those who exchange the products or manufactures of one country or section for those of another country or section. *Domestic* commerce signifies the interchange of commodities between two sections of the same country; *foreign* commerce, interchange between two countries.

Transportation, or the *carrying trade,* is the occupation of those who are engaged in conveying from one section of the country to another, or from one country to another, goods, merchandise, etc. (called *freight*). The principal means of transportation in modern times are the railroad on land, and steamers and sailing-vessels on the water, together with canal-boats on canals.

TOPIC IV.

STATES OF SOCIETY.

I. ORAL OUTLINE.

1. [Let the teacher give a vivid description of a village in Central Africa, or of an Indian tribe, as presenting a state of society widely different from our own.] We find that the African and Indian tribes have no written language, that they have only the rudest hand-arts, that they live almost wholly on the natural productions of the earth or on the flesh of animals killed in the chase, that they are sunk in miserable superstitions, and that their ideas of all that is highest and noblest are low and groveling. This is the *savage,* or *barbarous* state.

2. [Let the teacher now call attention to the features of a highly civilized society, such as we see in our own country.] Such a people have a written language, and a great body of books (literature), recording the grandest and most useful truths of all time; they have discovered many of the laws that govern all objects and forces in nature (science), and have invented modes of applying this knowledge so as to increase their comforts to a wonderful extent (*examples:* the railroad and steamship, steam-power in factories and mills, the electric telegraph and sewing-machine, water and gas in cities, chloroform, etc.); they secure life and property by good laws; they show kindness to the helpless by building and keeping up benevolent institutions; they live according to a high standard of what is right and just; and, finally, they are constantly improving their condition, thus holding out to the human race the prospect of unlimited progress. This is the *civilized* state.

3. [Let the teacher now give a description of the social state of a people like the Chinese.] We find in a community like this that the people live under a fixed government; that they have a written language, with some literature, that they practice many of the mechanical arts, etc.; but we also find that they are not a free, an educated, a progressive people. This is the *semi-civilized* state.

4. The savage, semi-civilized, and civilized conditions are the three principal states of human society.

II. FOR RECITATION.

1. **Civilization** signifies the condition of a race or nation in regard to its mode of living and its degree of progress.

NOTE. — All peoples possess more or less of the elements of civilization. The rude Australian savage who has discovered how to make fire by rubbing two sticks together, the Indian who has succeeded in making a stone mortar in which to pound his corn, the negro of Central Africa who has learned how to make an iron spear-head, have all taken the first steps in civilization. All the advanced nations have grown up from lower conditions of civilization.

2. **Its Forms.** — For the sake of convenience three stages of society, or states of civilization, are spoken of: these are the *savage*, or barbarous, the *semi-civilized*, and the *civilized* states.

3. **The savage state** is that in which men are not gathered into organized society: people in this condition subsist chiefly by hunting and fishing, and on the spontaneous productions of the earth; they are without written language, and their religion, consisting of the worship of idols (fetish worship), is of the lowest order.

4. **The semi-civilized state** is that of people who have so far risen above the savage condition as to have a written language, to cultivate the soil, to carry on rude industries, and to live in settled communities. In religion the people in this condition are *Buddhists* or *Mohammedans*.

5. **The civilized state** is that of the great nations of the world: it is represented by those people whose governments are founded on written law, who possess all the valuable arts and their practical applications, who have made advances in science and literature, and who are *progressive* in all that gives greatness and dignity to mankind. Most civilized nations profess the Christian religion.

TOPIC V.

GOVERNMENT AND POLITICAL DIVISIONS.

I. ORAL OUTLINE.

1. Do you live in a city or in a country district? [If in a city] What is the name of this city? What makes it a city? The fact that it has a large collection of dwellings and inhabitants. Yes; but is there nothing else required to constitute a city? [Let the teacher explain that cities are incorporated as such by act of the State Legislature, and that they have city charters.]

2. [If in a country district:] What is the name of this town (or township)? What villages does this town contain?

3. In what county do we live? What is a county? [Let the teacher elicit from the pupils the notion of a *political subdivision of a State.*] Do you know of any other counties in this State? Do you know how many counties there are in this State?

4. What is the name of our State? What is a State, as understood in the United States? Is it the same as a nation? Can a *nation* make war and peace? Can a *State?* Can a nation coin money? Can a State? Can a State make its own laws? Can a State make any laws contrary to the fundamental law of the United States? In what instrument is this fundamental law expressed? [In this way let the teacher draw out the thought of the relation of the State to the general government.]

5. What is the body called that makes the laws for a State? Is it composed of one branch (or *house*) or of two? What are the names of these branches? How often does the Legislature meet in this State?

6. What name is given to that branch of our State government that applies the laws to actual cases? The Judicial branch? Correct; and the judicial functions are exercised by the courts. [The teacher must at this point give a brief oral exposition of the organization of the State courts.] What officer holds the executive power of the State? How often is the Governor elected in this State? How old must he be? Can you name any of his powers? What does the Lieutenant-Governor do?

7. Of what is the United States composed? How many States are there? Are the States united? Has each State a great deal of power of its own? When a government is made up of a number of States united it is called a Federal Government (Latin, *fœdus*, a league). This is the case with Switzerland. It is also the case with the United States. [The teacher may here explain the subdivision of the powers of government into the Legislative, Judicial, and Executive branches.]

8. Have we any king to rule us in this country? Who is the ruler in this country? The President, do you say? But do not the people *make* the President? Then Congress? But can any man go as a representative to Congress unless the *people* send him there?

9. A government in which the people hold the supreme power, electing the officers to make and administer the laws, is called a *republic*, or *democracy*. What republics in Europe can you name?

10. Is England a republic? Who is the present sovereign of Great Britain? A country over which a sovereign (King or Queen) rules is called a monarchy. But here we must notice an important difference in monarchical governments. Can the Queen of England *make* any laws? What body makes the laws for England? Can the Emperor of Russia make any laws? Is there anything to limit *his* power as there is in the case of the sovereign of England or Germany?

11. A monarchy in which the power of the sovereign is limited by law is called a *limited monarchy*. A monarchy in which the power of the sovereign is unlimited by law is called an *absolute monarchy*, or *despotism*.

II. FOR RECITATION.

1. **Government** is the established form of law and rule; that is, the supreme power, or sovereignty of a country.

2. **A republican government** (or a *republic*) is one in which supreme power is exercised by the people, who elect representatives to make laws and certain officers to execute them.

3. **A monarchy** is a government in which the executive power is in the hands of a sovereign, called king (queen) or emperor.

NOTE. — A **limited** or **constitutional** monarchy is a government in which the power of the sovereign is limited by law, and the laws are made by representatives of the people. An **absolute** monarchy, autocracy, or despotism is a government in which the sovereign has unlimited power to *make* as well as to *execute* the laws.

4. **A State,** in our country, means one of the divisions of the *United States*, in which division the people elect a legislature and a governor to make and execute laws.

NOTE. — In its use outside of our country, the term *state* is synonymous with *nation*, or country.

5. **A Territory,** in our country, means a region not organized as a State, and yet having a *territorial* government.

6. **A county** is a subdivision of a State, having its own local officers. The place where the county officers transact business is called the county-seat, or shire-town.

7. **A township,** or town, is a subdivision of a county, and has its local officers.

8. **A city** is a subdivision of a county, and has its own municipal officers and laws. The highest officer is the Mayor.

9. **A seaport,** or seaboard city, is, as the name denotes, a city on the sea-coast. The name is used in contrast with *inland* city.

10. **The metropolis** of a State or country is its principal city.

11. **The capital** of a country is the seat of government. The capital of our country is Washington.

12. **State Capital.**—The capital of a State, in our country, means the city or town where the legislature meets to make laws.

REVIEW AND TEST QUESTIONS AND EXERCISES.

I. INTRODUCTION.

1. What is the distinction between Physical and Political Geography? 2. Write from memory the principal topics of Physical Geography; — of Political Geography. 3. State a *local* fact in Physical Geography. 4. State a *local* fact in Political Geography. 5. What is Mathematical Geography? 6. Which division of geography tells us about the latitude of a place? 7. Which division tells us about the face of the country and the minerals in the earth? 8. Which division tells us about the manners and customs of different peoples?

II. MATHEMATICAL GEOGRAPHY.

[Topic I.] 1. What is the form of the Earth? 2. Who first circumnavigated the globe? 3. Is it possible that the Earth might be circumnavigated without being *spherical?* 4. What fact of astronomy conclusively proves that the Earth is spherical? 5. What is a sphere flattened at two opposite parts called? 6. What is meant by circumference? — by diameter? 7. What is the circumference of the Earth in miles? 8. What is the diameter of the Earth in round numbers? 9. What is the exact length of that diameter on which the Earth rotates? 10. How much shorter is that than the equatorial diameter?

[Topics II.-IV.] 1. When you face the sun at noon you are looking in what direction? 2. In what direction will your shadow extend? 3. Where is east then? 4. Name the semi-cardinal points. 5. What is the meaning of the Latin word *axis?* 6. On what does a wheel revolve? 7. On what does a top spin? 8. On what does the Earth rotate? 9. What is the Earth's axis? 10. What is an imaginary line? 11. Where is the North Star? 12. Where is the North Pole? 13. Which extremity of the Earth's axis is the South Pole? 14. What is the length in miles from the North to the South Pole? 15. What is the distinction between a map and a perspective view?

[Topics V.-VII.] 1. What is the use of latitude and longitude? 2. What is the Equator? 3. Where is the Northern Hemisphere? — the Southern Hemisphere? 4. What do you mean by the latitude of a place? 5. What is the latitude of a place on the Equator? 6. What is the latitude of the North Pole? 7. How many degrees of latitude between the two Poles? 8. What is the latitude of a place just midway between the Equator and the North Pole? 9. Why is it that while on the school-globe the parallels of latitude are really parallel circles, the lines drawn on the hemisphere map are not parallel? 10. What is the length in miles of every degree of latitude? 11. Perform on the blackboard the operation in multiplication for finding the distance in miles from the Equator to the North Pole.

12. What is meant by the longitude of a place? 13. What is the Prime Meridian generally used? 14. How many degrees of East Longitude are there? — of West Longitude? 15. If two persons setting out from the Meridian of Greenwich were to travel exactly the same distance, one due east and the other due west, on what meridian would they meet? 16. In what direction does the Earth turn on its axis? 17. In what time does it make a complete rotation? 18. If the Earth turns through 360° in 24 hours, through how many degrees does it turn in 1 hour? 19. Do people at places west from here receive the sunlight earlier than we do or later? 20. Will a man who has traveled from New York to San Francisco find his watch fast or slow? 21. How much, and why? 22. What is the length of a degree of longitude on the Equator? — at the North Pole? 23. What is the latitude of the place where you live? 24. What is the length of a degree of longitude at this place? [See table in Appendix.]

[Topic VIII.] 1. What is meant by vertical rays of light? — by oblique rays? 2. Which are the hotter, and why? 3. Why is it cooler in the morning than at noon? 4. Why is it colder in winter than in summer? 5. On what part of the Earth do the sun's rays always fall vertically or nearly so? 6. What are the names of the two circles that mark the northern and southern limits of places that at some time of the year have the sun exactly vertical? 7. Is the sun ever vertical in this part of the Earth? 8. When is it most nearly vertical? 9. What is the Torrid Zone? 10. Between what circles is the North Temperate Zone? — the South Temperate Zone? 11. Where is the North Frigid Zone? — the South Frigid Zone? 12. What is the width in degrees of the Torrid Zone? — of each Temperate Zone? — of each Frigid Zone? 13. Draw a diagram showing the circles of climate and the zones.

III. PHYSICAL GEOGRAPHY.

[Topics I.-III.] 1. What are the proportions of land and water on the surface of the Earth? 2. Name and state the location of the two continents, with the grand divisions of land in each. 3. Define coast-line. 4. Write on the blackboard the forms of land *by contour; — by relief.* 5. What is the distinction between a cape and a peninsula? — between a plain and a plateau? 6. Is a watershed a division of land or of water? 7. Which is the greater division, a mountain-range or a mountain-system? 8. Name a mountain-system in the United States. 9. What is meant by the Basin of the Mississippi? 10. Name the five oceans. 11. Define a sea; — a gulf; — a bay. 12. What two bodies of water are wholly inland? 13. What is a river-system? 14. What body of land corresponds to a lake? 15. What division of water corresponds to an isthmus?

[Topic IV.] 1. What is meant by the climate of a country or place? 2. What is the general law of climate? 3. If a place is in a high latitude what may you expect in regard to its degree of heat? 4. If a place is at a high altitude what may you expect in regard to its degree of heat? 5. Are any parts of the Torrid Zone covered with perpetual snow? — what parts? 6. Which currents of air are hot? 7. From what direction do cold winds blow? 8. Why at the sea-shore is it cooler in summer and warmer in winter than on land? 9. How do you account for the fact that it is often hotter in New York than in New Orleans?

[Topics V., VI.] 1. Since plant-life depends largely on heat, in what zone may we expect to find vegetation most luxuriant? — in which most scanty? 2. Why do apple-trees in spring blossom earlier on a southern hill-slope than on a northern? 3. What else besides heat is necessary to the growth of plants? 4. Can you give any illustration, drawn from near home, of the dependence of vegetation on moisture? 5. Name some characteristic plants of the Tropical Zone. 6. Name some fruits we cannot grow in this country, and state why. 7. By what conditions are animals influenced? 8. What zone is most prolific in animals? 9. Write out on slates the names of the animals represented in the picture showing "Zones of Animal Life." 10. Why, if there were no plants on the surface of the earth, would it be impossible for man to live? 11. Why do people in the Polar regions live mainly on animal food, and in the Tropical regions on vegetable food? 12. Why do we live on both kinds?

IV. POLITICAL GEOGRAPHY.

[Topic I.] 1. What are the five races, or types of mankind? 2. To which type do we belong? 3. How many millions of Caucasians are there? 4. Name an Asiatic people belonging to this race. 5. Describe the physical characteristics of the Mongolians. 6. To what race do the Japanese belong? 7. Where did the ancestors of the colored people in this country come from? 8. How many negroes are there supposed to be in the world? 9. How do Malays differ from Mongolians? 10. Describe a North American Indian.

[Topics II., III.] 1. What are the three physical wants of man? 2. What three classes of foods do we use? 3. State the class to which the following foods belong: beef, veal, pork, turkey, trout; corn, wheat, tea, sugar, apples; salt, water. 4. Name three materials for clothing derived from animals; — two from vegetables. 5. What are the principal building materials used in our country? 6. Define agriculture; — mining; — manufacturing. 7. What are those persons called who are engaged in exchanging the products of one region for those of another? 8. What is the name given to the business of carrying things by way of trade from one region to another? 9. Why do we speak of ourselves as a *civilized* people? 10. What is meant by an absolute government? 11. Do a republic and a constitutional monarchy agree in having a body of men to make the laws? 12. What, then, is the principal difference between these two forms of government?


NORTH AMERICA
SCALE OF MILES
100 500 1000
10° Latitude = 1 Inch
MIDNIGHT 11 Local 10 Time 9 P.M. from 8 Washington
163 West 178 East 167 Longitude 137 from 122 Washington
Longitude in Space from the Meridian of Washington
Time Longitude shown by Local Time 11 A. M. when NOON on the Meridian of Washington
Length of Longest Day in Hours and Months
Latitude North
West from Washington
Longitude East from Washington
NORTH TEMPERATE ZONE
TORRID ZONE
ARCTIC OCEAN OR NORTH POLAR SEA
NORTH SEA OR ARCTIC OCEAN
ATLANTIC OCEAN
PACIFIC OCEAN
BERING SEA
GREENLAND
DOMINION OF CANADA
UNITED STATES
MEXICO
CENTRAL AMERICA
WEST INDIES
CARIBBEAN SEA
GULF OF MEXICO
HUDSON BAY
BAFFIN BAY
LABRADOR
NEWFOUNDLAND
ALASKA
ASIA
SIBERIA
KAMTCHATKA
ICELAND
SOUTH AMERICA
GUIANA
VENEZUELA
UNITED STATES OF COLOMBIA
TROPIC OF CANCER
ARCTIC CIRCLE
EQUATOR
GULF STREAM
KURO SIWO NORTH PACIFIC CURRENT
MEXICAN COAST CURRENT
NORTH EQUATORIAL CURRENT
LABRADOR CURRENT
SARGASSO SEA
ALEUTIAN ISLANDS
Bering Strait
San Francisco
New Orleans
New York
Philadelphia
Baltimore
Boston
Chicago
St. Louis
Montreal
Quebec
Halifax
Galveston
Havana
Cape Farewell
Clipperton I.
GALAPAGOS IS.
Bermuda Is.

NORTH AMERICA.

PHYSICAL MAP OF NORTH AMERICA.

MAP STUDIES ON THE UN

☞ **To answer these questions refer to the large Map on the next page.**

Position and Extent.

1. Which portion of North America is occupied by the United States? 2. What country north? 3. What country south? 4. What natural boundaries on the east

Surface.

Eastern States? 2

PHYSICAL GEOGRAPHY.

☞ **To draw the Map of North America, see section on Map-Drawing, page 132.**

I. POSITION, SIZE, AND SHAPE.

Map Study.—1. In which hemisphere is North America? 2. Which grand division of the Western continent is it? 3. What three oceans surround it? 4. By what is it connected with South America?—separated from Asia? 5. What is the most northern cape ("point") in Alaska, and in what latitude is it? 6. In what latitude is the Isthmus of Panama? 7. What is the longitude of Cape Race, Newfoundland? 8. What is the longitude of Cape Mendocino [*se'no*]? 9. Between what lines of latitude and longitude is North America included? *Ans.* In general terms, between the parallels of 10° and 70° north latitude and the meridians of 55° and 165° west longitude (Greenwich). 10. What seems, from the Map, to be the general shape of North America?

1. **North America** is the northern grand division of the Western Hemisphere, or New World.

2. **Its extent,** from the Arctic Ocean almost to the Equator, is about 4,800 miles, and from the Atlantic to the Pacific Ocean, about 3,000 miles. North America is double the size of Europe, but only half the size of Asia.

3. **In form** this grand division is triangular.

II. OUTLINE.

Map Study.—1. Which coast, the eastern or the western, is the more broken by gulfs and bays? 2. Name the principal gulfs and bays of the eastern coast;—of the western coast;—of the southern coast. 3. Name the five principal peninsulas of North America. 4. Name four of the most prominent capes. 5. Describe the following:—

Gulfs, Bays, Seas.	Baffin Bay.	Caribbean Sea.
	Hudson Bay.	Honduras [*doo'ras*] Bay.
	Gulf of St. Lawrence.	Gulf of California.
	Gulf of Mexico.	Ber'ing Sea.
Peninsulas.	Nova Scotia.	Yucatan.
	Florida.	Lower California.
Capes	Farewell. Cod. Sable. Mendocino.	
	Race. Hatteras. San Lucas. Point Barrow.	

4. **Its outline** is irregular, the coast being deeply penetrated by inbreakings of the surrounding oceans. The Atlantic seaboard is much more indented by gulfs and bays than the Pacific coast; and this is a commercial advantage, since the Atlantic seaboard lies nearest the great markets of the world.

III. SURFACE.

Map Study.—1. What mountain system extends parallel with the Atlantic coast? 2. What system traverses North America from north to south in its western section? 3. Point to the Rocky Mountains on the Physical Map;—point to the Appalachian Mountains. 4. Which slope of the Appalachian Mountains is the longer, the eastern or the western? *Ans.* The western. Which, of the Rocky Mountains? *Ans.* The eastern. 5. Looking at the Physical Map, what seems to be the general character of the surface between these two mountain systems, mountainous or level? 6. What are the Pacific coast ranges called? 7. What name do the Rocky Mountains bear in Mexico?

5. **Chief Axis.**—The Rocky Mountains are the chief axis of elevation—the backbone, as it were—of North America. The massive chains of this system rise from a plateau which has a gradual ascent from the Arctic Ocean to between 4,000 and 8,000 feet in the United States and Mexico. This mountain plateau region is from 400 to 800 miles wide.

Mount St. Elias, the loftiest peak of North America, is 19,283 feet above the level of the sea.

8. **The Appalachian** or Alleghany Mountains form the secondary highlands of North America. They are only about one fourth the length of the Rocky Mountains, and in structure are far less massive than that system. They average about 3,000 feet in

height, — their highest peaks reaching an elevation of less than 7,000 feet.

NOTE. — Black Mountain (N. C.), 6,707 ft. ; Mt. Washington (N. H.), 6,288 ft.

7. Highlands and Plains. — Both the great mountain systems of North America have their general direction north and south. Since one system is near the eastern and the other near the western coast, the longer slope of both mountain systems is toward *the interior*, which, accordingly, is a great plain.

8. Physical Divisions. — These mountain systems divide North America into three Physical Regions: 1. The Pacific Highland and Pacific Slope; 2. The Atlantic Highland and Plain; 3. The Central Plain.

Pacific Highland and Slope. — The Pacific Highland comprises t ern half of North America, and extends from the Arctic Ocean to the of Panama. It consists of a vast plateau ridged by the numerous chains of the Rocky Mountain system in its eastern and central part the Sierra Nevada [*se-er'ra nay-vah'da*], Cascade, and Coast Ranges on ern border. Between the Sierra Nevada Mountains and the Pacific the Pacific Slope.

Atlantic Highland and Plain. — This region, extending from t of St. Lawrence nearly to the Gulf of Mexico, consists of (1) the low ranges of the Appalachian Mountains ; (2) the western slope ; and (3) ern slope, or plain. This is divided into the *Middle Country* and t *water region.*

Central Plain. — The Central Plain lies between the two Highland and extends from the Arctic Ocean to the Gulf of Mexico. This reg sists of two immense slopes, — the northern slope being the Arctic I southern slope the Mississippi Valley. The dividing ridge is a slig tion near the center, called the *Height of Land.*

IV. RIVERS AND LAKES.

Map Study. — 1. Where does the Mississippi proper rise? 2. Where Missouri rise? 3. Where do these two great rivers unite? 4. What is t tributary of the Mississippi from the Appalachian Mountains? 5. What ri the Great Lakes? 6. What large river flows into Lake Win'nipeg? 7. W drains Lake Winnipeg into Hudson Bay? 8. What large river flows north the Arctic Ocean? 9. Show on the Physical Map the locality of the *Heigh* dividing the rivers flowing southward into the Gulf of Mexico from those flo Hudson Bay and the Arctic Ocean. Describe the Yu'kon, — the Colum Colorado [*rah'do*]. 10. Looking at the Physical Map, do you say that flowing into the Atlantic Ocean are long or short? 11. Why short? *An* the short slope of the Appalachian Mountains is toward the Atlantic Ocea

9. The river-systems of North America, with the regio drain and the chief representatives of each system, are :—

System.	Drainage.	Rivers (chie
1. Arctic System	Arctic Plain, including the Basin of Hudson Bay.	Mackenzie and Sas with minor stream
2. Gulf System.....	Inner slopes of both Highland Regions, and southern slope of the Central Plain.	Mississippi, Missour kan'sas, Rio Grand
3. St. Lawrence System	Basin of the Great Lakes and St. Lawrence River.	St. Lawrence, and taries, most of whi "Height of Land."
4. Atlantic System . .	Eastern Slope of the Appalachian Mountains.	Connecticut, Hudson, Savannah, etc.
5. Pacific System . . .	Western slope of the Pacific Highland.	Yukon, Columbia, Colorado.

10. Lakes. — The principal lakes, with the countries in which they are situated, are : —

United States and Canada.	Superior.	**Canada**	Winnipeg.
	Huron.		Athabas'ca.
	Erie.		Great Slave.
	Ontario.		Great Bear.
United States.	Michigan.	**Mexico and Central America.**	Chapal'a.
	Champlain'.		Nicaragua [*rah'gua*].
	Great Salt.		

☞ **The pupils may locate each of these lakes.**

V. CLIMATE.

Map Study. — 1. In which zone is three fourths of North America? 2. In which zone is the extreme southern part? 3. Is any part of the United States in the Torrid Zone? 4. In which zone is the whole of the United States except Alaska? 5. Which part of North America is in the Arctic Zone? 6. Which part of North America must be constantly hot? 7. Which part must be constantly cold? 8. Considering what we have learned regarding the influence of climate on man, which part of North America do you think the best fitted to be the home of great nations? Why so?

11. General Statement. — North America has what is called a *continental* climate ; that is, a climate of extremes, being exceedingly hot in summer and exceedingly cold in winter. The reason of this is that the Central Plain is open to the cold winds from the Arctic Ocean, while it is cut off by the coast mountain ranges

for commerce and intercommunication.

VII. POLITICAL DIVISIONS.

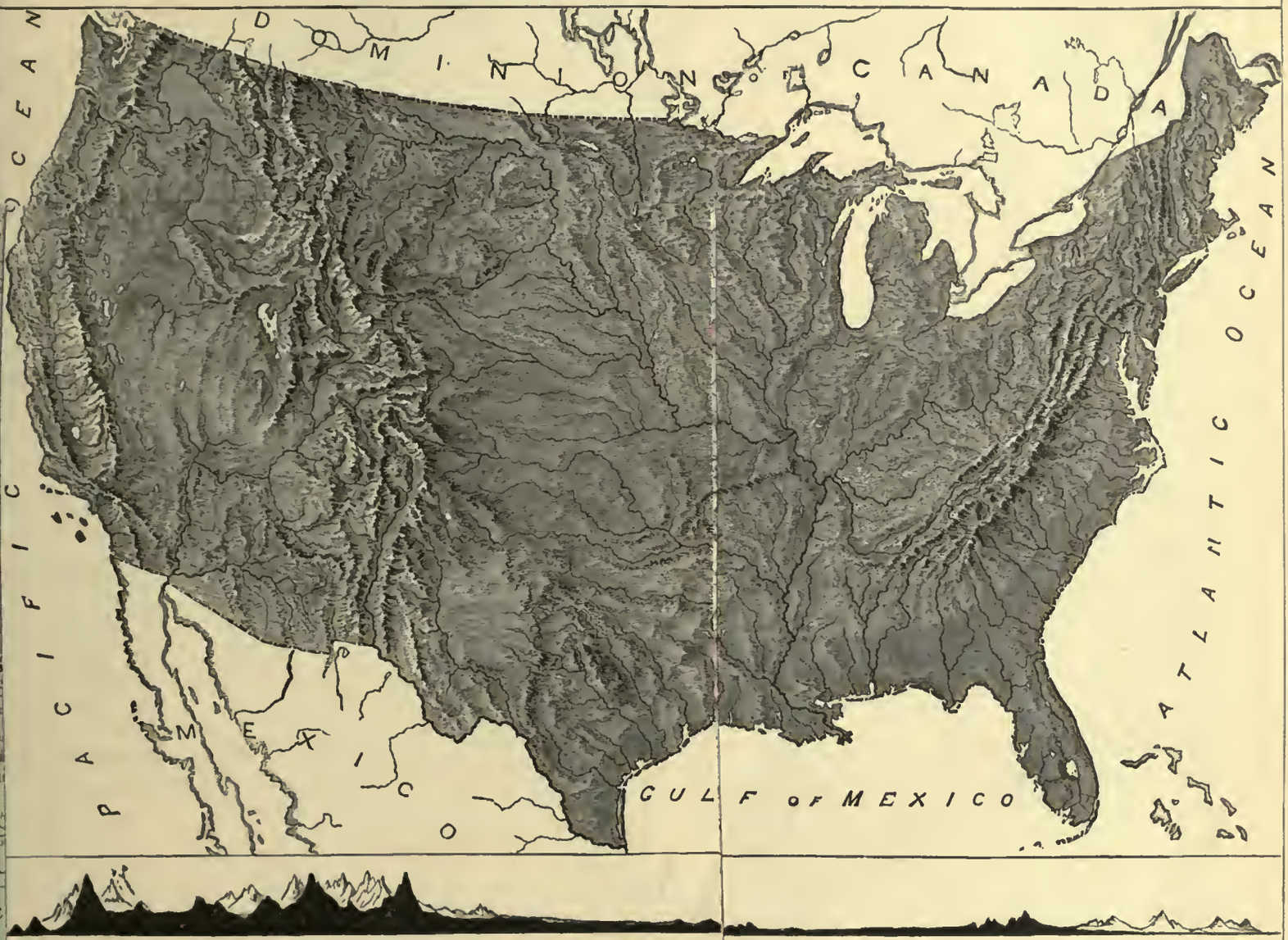
Countries... 1. Which is the largest? 2. The smallest? 3. The most northern? 4. The most southern? 5. Which one is nearest Asia? 6. Nearest Europe? 7. Which is the great middle division? 8. Which are islands? *Ans.* The West Indies.

Where are these cities?

Washington.	Baltimore.	San Francisco.	Ot'tawa.
New York.	Chicago.	Mexico.	Havana.
Philadelphia.	St. Louis.	Montreal.	Vera Cruz.
Boston.	New Or'leans.	Quebec'.	New Guatemala.

18. The Political Divisions of North America are: I. DANISH AMERICA. II. DOMINION OF CANADA. III. THE UNITED STATES. IV. MEXICO. V. CENTRAL AMERICA. VI. THE WEST INDIES.

THE UNITED STATES.



MAP STUDIES ON THE UNITED STATES.

☞ **To answer these questions refer to the large Map on the next page in connection with the Physical Map given above.**

Position and Extent.

1. Which portion of North America is occupied by the United States? 2. What country north? 3. What country south? 4. What natural boundaries on the east and west? 5. What parallel forms the northern boundary in the western half? 6. Bound the United States. 7. What is the latitude of Cape Sable (Florida)? 8. Regarding the parallel of 49° as the general northern boundary of the United States, between what degrees of latitude is our country situated?

Outline.

1. Between Passamaquoddy Bay and Cape Cod what is the shape of the coast? *Ans.* It is curved. 2. Between Cape Cod and what other cape is there a second curve? 3. Where is the third curve? 4. What bay in the first curve? 5. What three important bays indent the coast between Cape Cod and Cape Hatteras? 6. Name four capes south of Cape Hatteras. 7. From the southern point of Florida to the mouth of the Rio Grande what is the form of the coast? 8. What is the name of the great southern inbreaking of the ocean? 9. Is the western coast much indented? 10. Where is Puget Sound? 11. What bay on the Pacific Coast in nearly the same latitude as the mouth of Chesapeake Bay? 12. Name three capes on the Pacific coast of the United States?

Surface.

Eastern Highland. — 1. What mountains in the eastern part of the United States? 2. What is their general direction? 3. They begin near the St. Lawrence: in which State do they terminate? 4. Point out (on the Physical Map) the Appalachian Mountain System?

Western Highland. — 1. What is the general character of the surface in the western part of the United States? 2. What great mountain system is found here? 3. What is the general direction of the Rocky Mountains? 4. What chains of mountains nearer the Pacific coast? 5. Point out (on the Physical Map) the Rocky Mountains? — the Sierra Nevada Range.

Mississippi Valley. — 1. What is the name of the vast region between the Appalachian and the Rocky Mountains? 2. Point it out on the Physical Map. 3. How much of the surface of the United States do you think is comprised in this region? 4. In following the one hundredth meridian of longitude, from the Rio Grande to Canada, do you traverse any mountains? 5. Through how many degrees of longitude on the parallel of 40° may you pass without crossing any mountains? 6. Judging from the course of the rivers, is the Mississippi Valley more elevated in the northern or in the southern part? 7. Judging from the same, which must be the lowest part of this valley, the center or the borders?


Local Time when A.M.
Space Longitude
WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
COLORADO
ARIZONA
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
TEXAS
PUBLIC LANDS
ASSINIBOIA
MANITOBA
BR. COLUMBIA
ALBERTA
PACIFIC OCEAN
GULF OF CALIFORNIA
LOWER CALIFORNIA
SONORA
CHIHUAHUA
COAHUILA
MEXICO
Parallel of 49° North Latitude
C.Flattery
Mt.Olympus
Seattle
Tacoma
OLYMPIA
Astoria
Portland
SALEM
Mt.Hood
Walla Walla
Spokane Falls
Ft.Colville
Mt.Baker
Mt.Rainier
Mt.St.Helens
Mt.Adams
GREAT PLAIN
Lewiston
Florence
BOISE CITY
Silver City
Ft.Hall
Ft.Benton
HELENA
Butte
Bozeman
Virginia City
Musselshell City
Ft.Union
Ft.Buford
Ft.Stevenson
BISMARCK
Jamestown
Ft.Rice
Ft.Sully
Ft.Pierre
Deadwood
Custer
Ft.Fetterman
Ft.Laramie
CHEYENNE
Laramie
Evanston
Green River City
Ogden
Corinne
SALT LAKE CITY
Great Salt Lake
Utah L.
Deseret
Parowan
DENVER
Boulder
Greeley
Colorado Spr.
Pike's Peak
Pueblo
Kit Carson
Trinidad
Spanish Peaks
Ft.Sedgwick
Ft.Lowell
Ft.Union
SANTA FE
Ft.Bascom
Albuquerque
Ft.Sumner
Ft.Stanton
STAKED PLAIN
Mesilla
El Paso
Deming
Prescott
PHOENIX
Tucson
Ft.Goodwin
Ft.Canby
Ft.Mohave
Reno
Virginia City
CARSON CITY
Gold Hill
Winnemucca
Elko
Austin
Hamilton
Ruby
Walker Lake
Ft.Bidwell
Mt.Shasta
Humboldt
C.Mendocino
Pt.Arena
Marysville
SACRAMENTO
San Francisco
Oakland
Stockton
Mt.Whitney
Tejon Pass
Walkers Pass
Santa Barbara
Los Angeles
San Diego
SANTA BARBARA ISLANDS
Cedros I.
Guaymas
Loreto
CHIHUAHUA
Presidio Del Norte
Juarez
Eagle Pass
San Antonio
Laredo
Corpus Christi
Rio Grande
Colorado R.
Columbia R.
Snake R.
Yellowstone R.
Missouri R.
Platte R.
Arkansas R.
Canadian R.
Saskatchewan R.
Milk R.


THE
UNITED
STATES
OF
AMERICA
SCALE 1 Inch — 175 Miles
100
200
300
Noon on the Meridian
of Greenwich
West from Greenwich
West from Washington
Noon on the Meridian of Washington
NOON
P. M.
East
NORTH-EAST
TERRITORY
QUEBEC
ONTARIO
CANADA
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
GULF OF MEXICO
ATLANTIC OCEAN
GULF STREAM
BAHAMA ISLANDS
Providence Channel
MINNESOTA
WISCONSIN
MICHIGAN
IOWA
ILLINOIS
INDIANA
OHIO
PENNSYLVANIA
NEW YORK
MAINE
NEW HAMPSHIRE
VERMONT
MASSACHUSETTS
CONN.
RHODE I.
N. JERSEY
DELAWARE
MARYLAND
WEST VIRGINIA
VIRGINIA
KENTUCKY
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ALABAMA
MISSISSIPPI
LOUISIANA
ARKANSAS
MISSOURI
FLORIDA
ST. PAUL
MADISON
LANSING
Chicago
Detroit
Milwaukee
INDIANAPOLIS
SPRINGFIELD
COLUMBUS
Cincinnati
FRANKFORT
JEFFERSON CITY
St. Louis
NASHVILLE
Memphis
LITTLE ROCK
JACKSON
MONTGOMERY
ATLANTA
COLUMBIA
RALEIGH
RICHMOND
WASHINGTON
Baltimore
Philadelphia
HARRISBURG
ALBANY
BOSTON
New Orleans
BATON ROUGE
TALLAHASSEE
Jacksonville
Savannah
Charleston
Wilmington
Mobile
Galveston
Key West
OTTAWA
Montreal
TORONTO

Minor Features.—Point out (on the Physical Map) the slope from the Appalachian Mountains to the Atlantic Ocean; — from the Sierra Nevada Mountains to the Pacific Ocean.

Summary. — In the United States are one great plain and two lesser plains; two great mountain systems; one great plateau: what are the plains? — what the mountain systems? — what is the plateau?

Rivers and Lakes.

Rivers. — *In the following table are thirteen large rivers of the United States, grouped by systems.* Describe each river.

Watershed.	*Rivers.*	*System.*
Rocky Mountains	Columbia.	Pacific System.
	Colorado.	
	Missouri.	Gulf System.
	Arkansas.	
	Rio Grande.	
Appalachian Mountains	Connecticut.	Atlantic System.
	Hudson.	
	Savannah.	
	Alabama.	Gulf System.
	Chattahoo'chee.	
	Ohio.	
	Cumberland.	
	Tennessee.	

Lakes. — 1. Name the five Great Lakes on the northeastern border of the United States. 2. Where is Lake Champlain? 3. In which States are lakes the most numerous? 4. Where is Great Salt Lake?

Political Divisions.

States. — 1. Name all the States which border on the Atlantic Ocean from north to south. 2. What States are traversed by the Appalachian Mountain System? 3. Five States are in a region enclosed by the Ohio, the Mississippi, and the Great Lakes: name these States. 4. What five States border on the Gulf of Mexico? 5. Proceeding down the Mississippi from its source to its mouth, what States are on the left bank? — on the right bank? 6. What two States and Territories border on the Pacific Ocean? 7. What States and Territories would we traverse in going by the Pacific Railroad from Omaha (Nebraska) to San Francisco?

Cities.—The following cities have each from 100,000 to 1,000,000 population:—

New York.	Chicago.	New Orleans.	Detroit.
Philadelphia.	Baltimore.	San Francisco.	Louisville.
Brooklyn.	Boston.	Buffalo.	Newark.
St. Louis.	Cincinnati.	Washington.	Jersey City.
Cleveland.	Providence.	Milwaukee.	Pittsburgh.

1. Which of these are seaports? 2. Locate each of these seaports. 3. Which city is farthest north? 4. What is its latitude? 5. Which is farthest south? 6. What is its latitude? 7. Which is farthest east? 8. Which is farthest west? 9. What is the difference in longitude between Boston and San Francisco? 10. When it is noon at Washington, what time is it at Chicago? — at San Francisco? 11. Which of these sixteen cities are inland cities? 12. Which are lake cities? 13. Which are on the Mississippi or its tributaries? 14. What advantage in situation has Chicago? — Buffalo? — St. Louis? — Cincinnati? 15. Locate each of these sixteen cities.

GENERAL DESCRIPTION.

1. Its Rank. — The United States is the largest and most important country in North America. It ranks as one of the five most populous, powerful, wealthy, and progressive nations on the globe, and is the leading Republic in the world.

2. Position. — It occupies the most valuable part of North America, being (Alaska excepted) wholly in the North Temperate Zone, between Canada on the north and Mexico and the West Indies on the south.

3. Its Extent. — Our country has nearly the same area as Europe. From the Atlantic to the Pacific Ocean, the average length is about 2,500 miles; and from north to south the average breadth is about 1,300 miles.

Area (including Alaska), 3,825,000 square miles.

4. Divisions. — Following the natural divisions of North America, we may divide the United States into three great regions:—

Atlantic Highland and Plain	Atlantic Plain.
	Appalachian Mountain Region.
Mississippi Valley	Mississippi Valley.
	(westward to)
	The Plains.
Pacific Highland and Slope	Rocky Mountains.
	Pacific Plateau.
	Sierra Nevada and Cascade Ranges.
	Pacific Slope.

I. ATLANTIC HIGHLAND AND PLAIN.

5. Surface. — As regards surface this region consists of two parts, the *Appalachian Mountains* and the *Atlantic Plain.*

6. The Appalachian Mountains extend from the St. Lawrence River in a southwesterly direction to the State of Alabama, where they decline into foothills, and finally disappear.

7. The Atlantic Plain is the slope from the Appalachian Mountains to the Atlantic Ocean. It varies in width according as the mountains approach or recede from the sea-coast. In New England it is about fifty miles wide; at the mouth of the Hudson River it narrows to a mere *strip* of coast: — but it broadens southward to a width of three hundred miles in North Carolina.

MAP. — On the Physical Map trace the varying width of the Atlantic Plain from Maine to Florida.

8. Rivers. — The most important drainage of the Atlantic Highland and Plain is into the Atlantic Ocean. In addition there are two minor river systems, consisting of the streams flowing respectively into the St. Lawrence and the Ohio rivers.

9. Climate. — The Atlantic Highland and Plain, though wholly in the Temperate Zone, has a variety of climates. The North Atlantic section is naturally colder than the South Atlantic section. Also, the winters of the Atlantic seaboard are, owing to local causes, much colder than those of the Pacific coast.

10. Resources. — The natural wealth of this region lies in its mines of iron, coal, copper, and zinc, and its slate, marble, and granite quarries; in its forests, affording abundant lumber or yielding naval stores; in its unlimited water-power; in the fertile soil of the southern section, and in its advantageous situation for commerce.

11. Industries. — The leading industries are manufacturing, mining, lumbering, agriculture, the fisheries, and commerce.

II. THE MISSISSIPPI VALLEY.

12. Description. — This region, the southern slope of the Central Plain of North America, is the immense Valley, Plain, or Basin formed by the long eastern slope of the Rocky Mountains and the long western slope of the Appalachian Mountains. It occupies one half of the entire area of the United States.

13. Surface. — Much of this region is undulating, parts are hilly, and there are a few detached mountain districts; but on the whole the surface is that of a plain, with slopes toward the center from each of the two highland regions, and a general slope from the Height of Land southward to the Gulf of Mexico.

14. Rivers. — The Mississippi-Missouri (length 4,200 miles) — the grandest river in the world — drains this region. Both the Mississippi and the Missouri, the two main constituents of this river, receive numerous tributaries, great and small. The Mississippi Valley is drained also by various streams not tributary to the Mississippi, but which reach the Gulf of Mexico by other outlets.

15. Climate. — The Southern section has a semi-tropical climate, with mild winters. The Northern section has hot and sultry summers, and cold winters, with heavy snows.

GEYSERS AND FIRE-BASINS IN THE ROCKY MOUNTAINS.

16. Resources. — Among the natural advantages possessed by the Mississippi Valley are: —

I. It is the finest agricultural region on the globe.

II. It is rich in valuable minerals, — coal, iron, copper, and lead.

III. Its forests supply abundant lumber.

IV. Its numerous navigable rivers and lakes, and the even character of its surface, give fine facilities for transportation.

17. Industries. — The great industry is agriculture. In the Northern section are the corn and wheat growing States; in the Southern section are the cotton, tobacco, and sugar producing States.

Manufacturing is largely carried on in the Northern section, and is rapidly becoming a leading industry.

Lumbering, mining, and grazing are very important occupations.

18. The Plains. — The name *The Plains* is given to a section of country extending a considerable distance to the eastward of the Rocky Mountains. Unlike the rest of the Mississippi Valley, this region receives but little rain, and a large portion of it is sterile.

NOTE. — The meridian of 97° (Greenwich) may be taken as marking the eastern limit of the Plains.

III. PACIFIC HIGHLAND.

19. Description. — The Pacific Highland includes the great mountain-plateau region, extending from the Rocky Mountain chain proper, on the east, to the Sierra Nevada on the west.

20. The Rocky Mountains form the main watershed of the United States, and five of the largest rivers — the Missouri, the Rio Grande, the Colorado, the Columbia, and Yukon — have their head streams in this region. Abundance of gold is found in various parts, and mining is the principal source of wealth.

21. The Pacific Plateau has an elevation of from 4,000 to 8,000 feet. It includes three basins, — the basins of the Columbia and Colorado rivers, and between them the "Great Basin" of Utah. This entire region is with few exceptions dry and sterile, but is exceedingly rich in silver and gold. Mining is largely carried on.

IV. THE PACIFIC SLOPE.

22. Description. — The Pacific Slope extends from the crest of the Sierra Nevada and Cascade ranges westward to the Pacific Ocean. Its average width is about 150 miles. Between these ranges and some lower elevations along the coast are enclosed the great California Valley and the valleys of Oregon.

23. The Climate of this region is peculiar: there are only two seasons, the rainy (winter) and the dry (summer).

24. Resources. — Gold, silver, and quicksilver are found in abundance in California; but the Pacific Slope has a still more important source of wealth in its fertile soil, its vast forests, and its advantages for commerce.

25. Industries. — Agriculture is the leading industry; next come mining and manufacturing in California, and lumbering in Oregon and Washington Territory. The Pacific Slope has a large commerce, carried on principally through the port of San Francisco.

POLITICAL DIVISIONS.

The United States consists of forty-two STATES and seven organized TERRITORIES, together with the District of Columbia. The States and Territories may be classified, according to their geographical situation, into four groups: —

1. **The Atlantic States**, occupying the Atlantic Highland and Plain.
2. **The Central States**, or States of the Mississippi Valley. These are subdivided into the North Central States and the South Central or Gulf States.
3. **The Mountain States and Territories**, comprising the States and Territories of the Plains and Rocky Mountain Region.
4. **The Pacific States and Territories**, including those of the Pacific Slope proper and those of the Pacific Plateau.

TOPICAL OUTLINE FOR THE STUDY OF SPECIAL STATE GEOGRAPHY.

Note to Teacher and Pupils. — In beginning the study of the Geography of the several States the attention of Teachers is especially called to the mode of treatment employed in this text-book. The matter relating to each State is set forth in a *double* text: 1. A concise *General text*, which comes first and is printed in the larger type: this is to be studied by *all classes*. 2. A *Special Geography* of each State, which is designed for use only by classes *in the State referred to*. Though the Special Geography is quite full, yet, in view of the importance of a minute knowledge of one's own State, many may desire to carry the study of local geography beyond the limits of the matter here given. With the view of aiding teachers and pupils in doing this, a TOPICAL OUTLINE for the study of State Geography is presented below. When a class takes up the geography of its own State, the pupils may fill out the OUTLINE. The matter given in this book under the Special Geography will furnish the basis for doing this. Additional material should then be gathered *from all possible sources*, — from parents, books, newspapers, conversation, etc. After the topics have been discussed in the class, a written account should be drawn up.

I. Position of the State.

1. By latitude and longitude.
2. By boundaries.
   - a. *Natural, as an ocean, lake, river, etc.*
   - b. *Artificial, — that is, State lines.*

II. Outline.

1. That of some mathematical figure (as Kansas, a parallelogram).
2. Irregular.

III. Extent.

1. Definite size.
   - a. *Greatest length in miles.*
   - b. *Greatest breadth in miles.*
   - c. *Area in square miles.*
2. Comparative, — by reference to some other State or States.

IV. Coast (*if a Seaboard or Lake State*).

1. Principal projections.
   - a. *Peninsulas.* b. *Capes.*
2. Principal indentations.
   - a. *Gulfs.* b. *Bays, etc.*
3. Adjoining islands.
4. Character as regards harbors, etc.

V. Surface.

1. [At the home of the pupil, — local geography.]
2. General characteristics; as,
   - a. *Level.* b. *Undulating.* c. *Mountainous.*
3. Mountains.
   - a. *System to which they belong.*
   - b. *Ranges, or detached groups or heights.*
   - c. *Interior or boundary mountains.*
   - d. *Forest-covered or bare.*
4. Valleys, — Plains, — Prairies.
5. Direction of slopes.
6. Natural curiosities and scenery.

VI. Rivers.

1. Classification by river-system.
2. Description of particular rivers.
   - a. *Length and size.*
   - b. *Availability for navigation.*
   - c. *Availability for water-power.*
3. [Rivers of the particular locality.]

VII. Lakes.

1. Description.
2. Uses.
   - a. *As yielding fish.* b. *For navigation.*

VIII. Climate.

1. As determined by latitude.
2. As modified by particular causes, — altitude, proximity to the sea or the Great Lakes, winds, etc.
3. [At the home of the pupil, — local geography.]

IX. Natural Advantages.

1. [At the home of the pupil, — local geography.]
2. On the surface of the earth.
   - a. *Nature of the soil with reference to agriculture.*
   - b. *Forests, — nature and uses of the woods.*
   - c. *Facilities for transportation afforded by the sea, rivers, lakes, etc.*
3. Within the earth.
   - a. *Useful minerals and metals, — as coal, building material, iron, copper, lead, etc.*
   - b. *Precious metals, — as gold and silver.*
4. In the waters.
   - a. *Sea-fisheries.*
   - b. *Lake and river fisheries.*

X. Industries, or Occupations.

1. Agriculture.
   - a. *Relative importance among the industries of the State.*
   - b. *The crops raised.*
   - c. *Statistics of crops.*
   - d. *Cattle, sheep, and hog raising.*
2. Manufacturing.
   - a. *Relative importance.*
   - b. *Articles produced.*
   - c. *Statistics of manufactures.*
3. Mining.
   - a. *Metals or minerals found.*
   - b. *Mines, to what extent worked.*
4. Lumbering.
   - a. *Locality of the forests.*
   - b. *Description of the method.*
5. The Fisheries.
   - a. *Locality of the fisheries.*
   - b. *Kinds of fish taken.*
6. Commerce.
   - a. *What is exported.*
   - b. *What is imported.*
   - c. *Means of transportation.*

XI. Internal Improvements.

1. Railroads.
   - a. *Local railroads.*
   - b. *Trunk-lines.*
2. Canals.
3. Navigation on lakes and rivers.

XII. Education.

1. Higher institutions.
   - a. *Universities or Colleges, [State University, State Agricultural College, etc.]*
   - b. *Schools of Law, Medicine, Theology.*
   - c. *Normal Schools.*
2. Common and High Schools.
   - a. *Number of pupils attending.*
   - b. *State Superintendent and Board of Education.*
   - c. *Local School-officers.*

XIII. Government.

1. Legislative branch.
   - a. *Names of its 'Houses.'*
   - b. *Time of election of members.*
   - c. *Sessions of the Legislature.*
2. Executive department.
   - a. *Term of the Governor, and time of election.*
   - b. *Name of the present Governor.*
3. The Judiciary.
   - a. *Supreme Court.*
   - b. *Circuit Courts.*
4. [County, township, or city officers, — local geography.]
5. Benevolent institutions.

XIV. Counties.

1. County in which the pupil resides.
2. Number of counties in the State.

XV. History.

1. Early history.
   - a. *Colonial period.*
   - b. *Territorial period.*
   - c. *Date of admission of the State.*
2. Subsequent growth and present population.
3. Distinguished men.

XVI. Cities.

1. The Capital, and the Metropolis.
   - a. *Population.*
   - b. *Advantages of location.*
   - c. *Industries pursued.*
   - d. *Description of striking objects.*
2. Other leading cities.
   - a. *Population.*
   - b. *Advantages of location.*
   - c. *Industries pursued.*

☞ For population of places named in the lists of cities under each State, see Table of Cities, page 139.


UNITED STATES
SECTION I
ATLANTIC STATES
FROM
MAINE TO GEORGIA
SCALE OF MILES
10 50 100
1¼ Latitude = 1 Inch
Local Time A.M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude from Washington
West 0 East
when Noon on the Meridian of Washington
East Longitude 0 from Washington
DOMINION OF CANADA
ATLANTIC OCEAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
NEW YORK
PENNSYLVANIA
NEW JERSEY
MARYLAND
DELAWARE
VIRGINIA
WEST VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
OHIO
KENTUCKY
VERMONT
NEW HAMPSHIRE
MAINE
MASSACHUSETTS
CONNECTICUT
NEW BRUNSWICK
CITY OF
NEW YORK
Its HARBOR and VICINITY
Scale 1 Inch-10 Miles
Railroads indicated thus

THE ATLANTIC STATES.

INTRODUCTION.

1. Situation. — The Atlantic States occupy the Atlantic Highland and Plain, and extend from Maine to Florida.

2. Size. — This section includes only about one fourteenth of the area of the United States, but in it is nearly one half of the population and wealth of our country.

3. Physical Features. — Certain physical features are common to most of the States of this section. There is, first, a level, sandy plain which extends from the seaboard a varying distance into the interior; this is succeeded to the west by the "Middle Country," with a rolling or hilly surface; and this foothill region, in turn, rises into the ridges of the Appalachian Mountain system.

4. Divisions. — Notwithstanding this similarity in geographical features, there are such marked differences between the several parts of the Atlantic seaboard that it is usual to divide the States occupying it into distinct groups.

5. First Difference. — A great difference of *latitude*. Between the northern and the southern extremities of this section there is an interval of twenty-four degrees of latitude, or nearly 1,700 miles.

6. Second Difference. — Resulting from the difference in latitude is a difference of *climate*. The northern part of this section belongs to the cool-temperate, the southern part to the warm-temperate zone. The ice so plentifully cut in Maine and Massachusetts finds a ready market in the winterless Carolinas and Florida.

7. Third Difference. — Resulting from the difference in climate is a difference in *productions*. As illustrating this fact, cotton, rice, and oranges, which cannot be grown in the North Atlantic region, flourish finely in the South Atlantic States.

8. Fourth Difference. — Resulting from the difference in productions and in natural resources is a difference in the *industries* engaged in by the people.

I. New England Industries. — The water-power and the forests of New England have made manufacturing, lumbering, and ship-building the leading interests in *that* section.

II. Southern Industries. — The warm climate and the wide extent of the coast plain in the South Atlantic States are favorable to agriculture; and hence we find the raising of the staples, cotton, tobacco and rice, the principal industry in *that* section.

III. Middle States Industries. — The coal and iron of the Middle States, the fine harbors on the seaboard, and the easy means of communication with the West, have rendered mining, manufacturing, and commerce the most important occupations in *that* section.

9. Groups of States. — The Atlantic States are usually divided into three groups, — the New England States, the Middle Atlantic States, and the South Atlantic States.

NEW ENGLAND STATES.	Maine.	MIDDLE ATLANTIC STATES.	New York.	SOUTH ATLANTIC STATES.	Virginia.
	New Hampshire.		New Jersey.		West Virginia.
	Vermont.		Pennsylvania.		North Carolina.
	Massachusetts.		Maryland.		South Carolina.
	Rhode Island.		Delaware.		Georgia.
	Connecticut.		[Dist. of Columbia.]		Florida.

MAP STUDIES ON THE ATLANTIC STATES.

☞ **These questions are designed as preliminary studies, which are to be extended at pleasure in connection with the Special Geography of each State.**

NEW ENGLAND.

Position and States. — 1. Bound New England. 2. Name and bound each of the States of New England. 3. Give the abbreviation of the name of each of the States. *Ans.* Me., N. H., Vt., Mass., R. I., Conn.

Sea-Coast. — 1. What three bays on the coast of Me.? 2. What three on the coast of Mass.? 3. What bay on the coast of R. I.? 4. What sound south of Conn.? 5. Which State has no sea-coast? 6. Name the four largest islands.

Surface. — 1. What is the longest mountain range in New England? 2. What is it called south of Vt.? 3. In what State are the White Monntains? 4. Where is Wachu'sett Mt.? — Mt. Washington? — Mt. Katah'din?

Rivers and Lakes. — 1. What are the three longest rivers in Me.? 2. What is the principal river of N. H.? 3. What boundary river between N. H. and Vt.? 4. What river flows into Narragansett Bay? 5. What is the general direction of the rivers of New England? 6. What streams are finally drained into the St. Lawrence River? 7. Describe the following lakes: Moosehead, Winnepesau'kee, Champlain.

Cities. — 1. State the location of each of these leading cities: Boston, — Providence, — New Haven, — Worcester, — Lowell, — Cambridge, — Hartford, — Lawrence, — Portland, — Manchester, — Bangor, — Burlington. 2. Which of these are seaport cities? 3. Which of these are south of Boston? — north of Boston?

MIDDLE STATES.

(Map of Atlantic States, previous page; or Special Map, page 38.)

Position and States. — 1. Which are the Middle States? *Ans.* They are New York, New Jersey, Pennsylvania, Maryland, and Delaware. 2. Name and bound each. 3. Which two have a partial boundary on one or more of the Great Lakes. 4. Give the abbreviation of the name of each of these States. *Ans.* N. Y., N. J., Penn., Md., Del.

Sea-Coast. — 1. What are the three principal inbreakings of the sea in this section? 2. Name three capes. 3. What large island forms part of N. Y? *Ans.* Long Island. 4. Which State has no ocean front?

Surface. — 1. In which of the Middle States are the ranges of the Appalachian system most numerous and continuous? 2. Do any of these ranges extend into N. Y.? — into N. J.? 3. What detached mountain region in Northern N. Y.? 4. Where are the Catskill Mountains? 5. Is the larger part of N. Y. east or west of the mountains? 6. Judging from the course of the rivers, in what direction does Western N. Y. slope? 7. Which part of N. J. belongs to the Atlantic Plain? 8. Toward what river does Western Penn. slope? 9. Which part of Md. is mountainous?

Rivers. — 1. Describe the principal river of N. Y.? 2. What branch of the Ohio has its source in N. Y.? 3. Name three N. Y. rivers flowing into Lake Ontario. 4. What boundary river has N. J.? 5. Describe the Susquehanna. 6. What two branches of the Ohio in Penn.? 7. What boundary river has Md.?

Cities. — 1. State the location of each of the following leading cities: New York, — Philadelphia, — Brooklyn, — Baltimore, — Pittsburgh, — Buffalo, — Newark, — Jersey City, — Rochester, — Allegheny City, — Albany, — Wilmington, — Washington (D. C.). 2. Which of these are seaport cities? 3. Which are State capitals? 4. Which of these are north of Philadelphia? — Which south? 5. Which is the most northern? — the most southern? 6. Which is the national capital?

SOUTH ATLANTIC STATES.

(Map of Atlantic States, previous page; for Georgia and Florida, Map, page 48.)

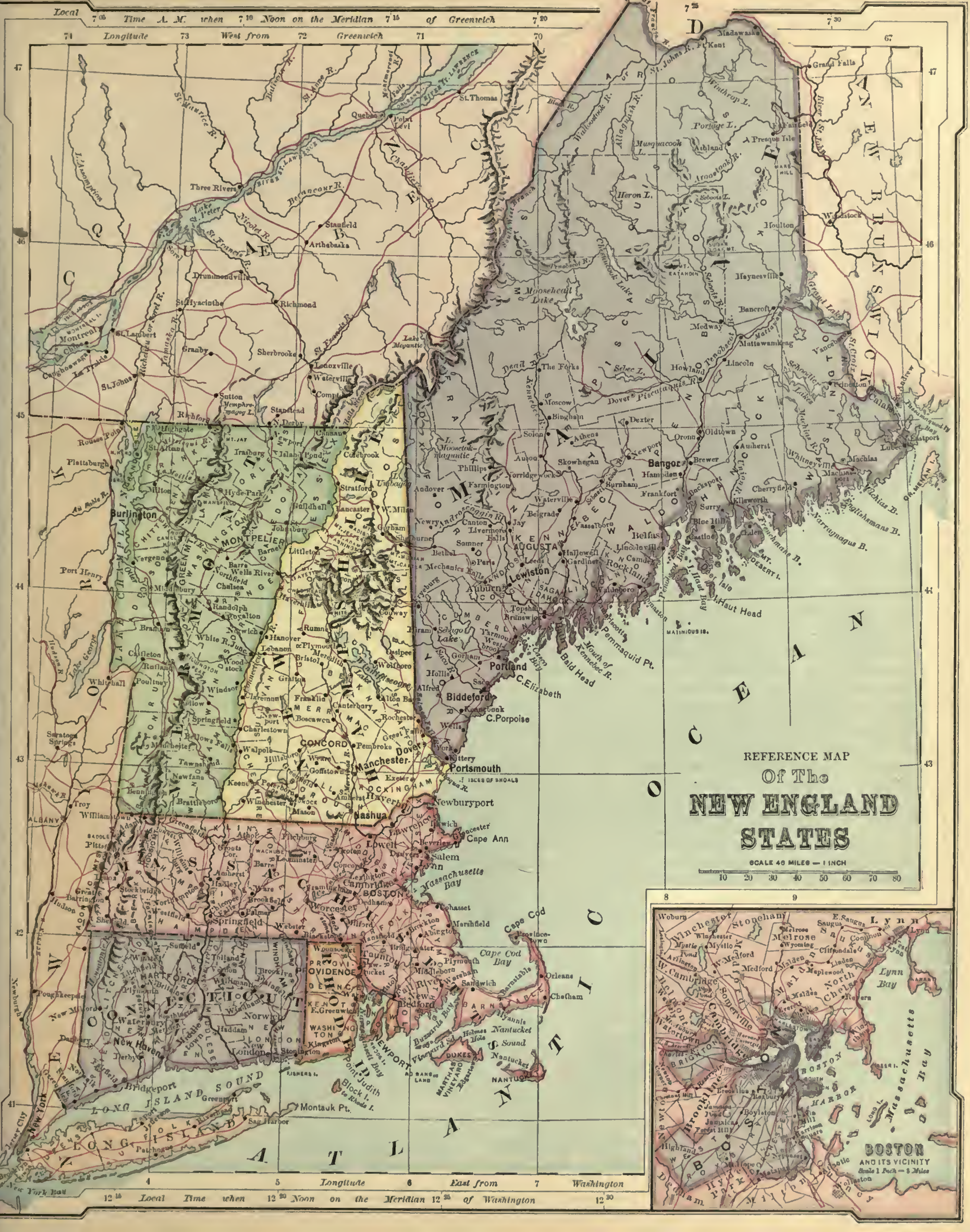
Position and States. — 1. West Virginia is the most northern and Florida the most southern of the South Atlantic States: what four States lie between these? 2. Name and bound each State. 3. Give the abbreviation of the name of each State. *Ans.* Va., W. Va., N. C., S. C., Ga., Fla.

Sea-Coast. — 1. What is the direction of the coast from Cape Hatteras to the mouth of the Savannah River? 2. Where are capes Charles and Henry? — Cape Hatteras? 3. Name two sounds in N. C. 4. Where is Cape Fear? 5. Name a bay in S. C. 6. What is the most southern cape in Florida? 7. What natural division of land is Florida? 8. Where is Apalach'ee Bay?

Surface. — 1. Which part of these States does the Appalachian system traverse? 2. Which State is mainly west of it? 3. Where is Mt. Mitchell? 4. Ascertain by means of the scale of miles the breadth of the Atlantic Plain in these States.

Rivers. — 1. What boundary river has Va. on the north? 2. To what system of rivers do most of the streams in W. Va. belong? 3. Describe the James River. 4. What river flows into Albemarle Sound? 5. Describe the Great Pedee River. 6. Name the principal river of Ga. flowing into the Atlantic Ocean, — into the Gulf of Mexico. 7. Describe St. Johns River. 8. What large lake in Florida?

Cities. — 1. Locate each of these leading cities: Richmond, — Charleston, — Savannah, — Atlanta, — Norfolk, — Wheeling, — Wilmington, — Columbia, — Jacksonville. 2. Which of these are seaport cities? 3. Which are State capitals?


REFERENCE MAP
Of The
NEW ENGLAND
STATES
SCALE 40 MILES — 1 INCH
10 20 30 40 50 60 70 80
Local Time A. M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude East from Washington
Local Time when Noon on the Meridian of Washington
BOSTON
AND ITS VICINITY
ATLANTIC OCEAN
NEW BRUNSWICK
QUEBEC
NEW YORK
MAINE
NEW HAMPSHIRE
VERMONT
MASSACHUSETTS
CONNECTICUT
RHODE ISLAND
LONG ISLAND SOUND
LONG ISLAND
Montreal
Quebec
Three Rivers
Sherbrooke
Burlington
MONTPELIER
CONCORD
Manchester
Nashua
Portsmouth
Portland
AUGUSTA
Lewiston
Bangor
Biddeford
Lowell
Salem
Cape Ann
BOSTON
Worcester
Springfield
HARTFORD
New Haven
PROVIDENCE
NEWPORT
Cape Cod
Nantucket
Montauk Pt.
Albany
Troy
Massachusetts Bay
Cape Cod Bay
Newburyport
Lynn

MAINE.

1. The physical features of this State are: the great forests of pine, spruce, and hemlock in the northern part; the large number of its lakes and rivers; its extensive rocky sea-coast, and its numerous good harbors.

2. Industries. — The vast forests give rise to an extensive lumber-trade and to ship-building; the manufacturing interest is very important, owing to abundant available water-power; the sea-fisheries employ a large number of people.

3. Cities. — PORTLAND, the chief seaport and largest city, has one of the best harbors on the Atlantic coast. It has extensive railroad communication, and is the main winter outlet for the St. Lawrence basin. AUGUSTA is the capital.

SPECIAL GEOGRAPHY FOR MAINE CLASSES.

☞ Maine classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, page 33.

Area, 33,040 square miles. Population (census of 1880), 648,936.

Extent. — Maine occupies more than half the surface of New England. Its greatest length is about 250 miles; greatest breadth, 190 miles.

Sea-coast. — The sea-coast is penetrated by numerous bays and inlets, many of which afford excellent harbors. The length of the coast in a straight line from Kit'tery Point to Eastport is about 230 miles, but the deep curves of the bays and estuaries give an actual shore-line of nearly 2,500 miles.

Its fine beaches, breezy headlands, and picturesque islands are becoming attractive resorts for summer visitors from Canada and the States.

Surface. — The surface is, in general, pleasantly varied by hills and valleys. There is no connected ridge of mountains, but in the central and northwestern parts of the State are numerous isolated mountain-summits, the loftiest of which is Mount Katah'din (5,385 feet in height).

River System. — All parts of the State are abundantly supplied with streams, which for the most part rise in or flow through lakes.

The *Penob'scot* is navigable for the largest vessels to Bangor (60 miles), and is greatly used for floating down logs from the northern forests.

The *Kennebec'*, *Androscog'gin*, and *Saco* [*saw'ko*] supply extensive water-power.

Lakes. — The lakes, of which there are hundreds, form one of the characteristic features of the State. Many of them are noted for their picturesque scenery, while others afford channels of communication. *Moosehead Lake*, the largest, is 35 miles in length; *Chesun'cook*, about 20 miles; *Seba'go*, 12.

Forests. — One half of the State is still covered by almost unbroken forests of pine, hemlock, spruce, and oak; hence lumbering is one of the principal industries. *The lumber crop* is about one hundred million feet annually. The value of the sawed lumber is over 10 millions of dollars a year. Hemlock-bark, for tanning purposes, is an important article of export.

Ship-building. — The State has long been the foremost in ship-building. This industry is favored by the great abundance of ship-building material and by the many excellent seaports of "hundred-harbored Maine."

Fisheries. — In the value of the products of its fisheries this State ranks next to Massachusetts. Many hundreds of fishing-smacks and schooners are engaged in mackerel-catching, and in cod-fishing on the Grand Banks.

Manufactures. — The manufacturing interests are large and increasing. Leading articles of manufacture are sawed lumber, cottons, woolens, tanned and curried leather, boots and shoes, lime, etc.

Agriculture. — The best farming sections are in the valley of the St. John and between the Penobscot and the Kennebec rivers. The leading products are potatoes, rye, oats, barley, buckwheat, corn, orchard and dairy products.

Minerals. — Lime and granite are extensively distributed. Piscat'aquis County furnishes excellent iron, and abounds in superior slate.

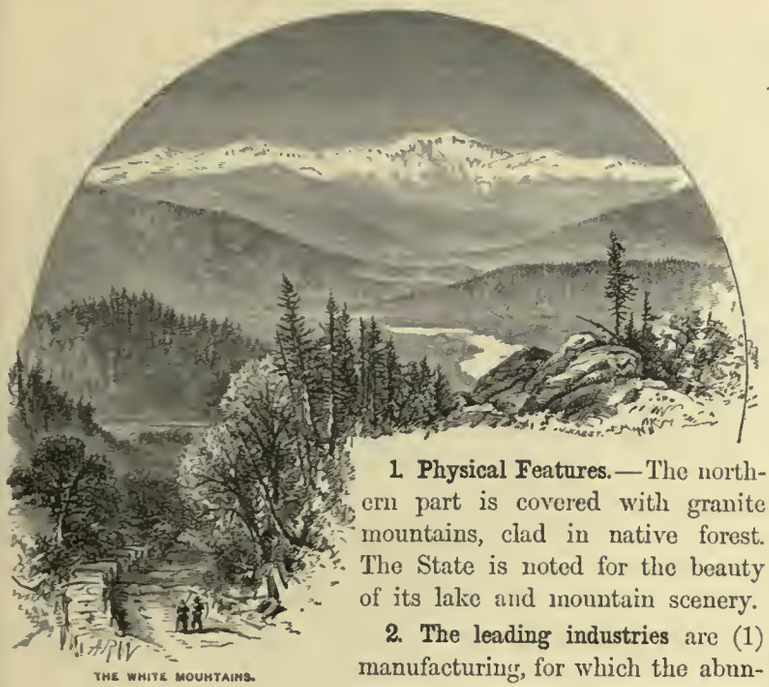
Education. — Maine has an excellent system of Common, High, and Normal schools. The higher institutions of learning are Bowdoin [*bo'dn*] College at Brunswick, the State College of Agriculture at O'rono, near Bangor, Bates College at Lewiston, and Colby University at Waterville.

Cities. — Besides Portland and Augusta the cities are: —

Names.	Advantages of Location.	Industries and Characteristics.
Bangor.	Head of navigation on the Penobscot River.	Immense business in sawing and shipping lumber. Ship-building. Miscellaneous manufacturing.
Lewiston. **Auburn.**	Falls of the Androscoggin.	Manufacture of cotton and woolen goods, lumber, and machinery. Inland trade.
Biddeford. **Saco.**	Falls of the Saco.	Manufacture of cotton-goods and sawed lumber.
Bath.	Near mouth of the Kennebec River.	Extensive ship-building.
Rockland.	On Penobscot Bay.	Ship-building. Lime-burning (1¼ million casks a year).
Calais.	On St. Croix [*kroi*] River.	Manufacture of lumber. Ship-building.
Belfast.	On Penobscot Bay.	Ship-building. Manufacture of paper, shoes, clothing. Agricultural trade.
Ellsworth.	Proximity to the coast.	Lumber trade and working in wood. Cod and mackerel fishing.
Gardiner.	On the Kennebec River.	Manufacture of paper, boards, woolen goods, springs and axles, furniture, etc.
Hallowell.	Head of navigation on the Kennebec River.	Extensive granite-quarries. Manufacture of cotton-goods, oil-carpet, wire, etc.

☞ For population see Table, page 139.

NEW HAMPSHIRE.



THE WHITE MOUNTAINS.

1. Physical Features. — The northern part is covered with granite mountains, clad in native forest. The State is noted for the beauty of its lake and mountain scenery.

2. The leading industries are (1) manufacturing, for which the abundant water-power of the State affords great advantages; and (2) agriculture, pasturage, and dairying.

3. Cities. — MANCHESTER, the chief city, is largely engaged in manufacturing cotton, woolen, and linen goods, machinery, etc. CONCORD, the capital, is also a manufacturing point.

SPECIAL GEOGRAPHY FOR NEW HAMPSHIRE CLASSES.

☞ New Hampshire classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, page 33.

Area, 9,305 square miles. Population (census of 1880), 346,991.

Outline and Extent. — This State has the form of a triangle, the base resting on Massachusetts. From north to south its length is 168 miles, and its width from east to west is from 90 to 20 miles.

Surface. — The State belongs almost wholly to the Atlantic Highland region, — the Atlantic Plain being represented only by a small portion in the southeast extending a distance of 20 or 30 miles from the sea.

The White Mountains, a disconnected group of the Appalachian system, constitute the most prominent physical feature of the State. Mount Washington (6,288 feet high) is one of the loftiest peaks of this entire system.

Rivers. — The rivers of this State are of the highest importance on account of their water-power. The *Connecticut* and *Piscat'aqua* — the latter formed by the junction of the Salmon Falls and Co-che'co rivers — are boundary streams. The *Merrimac* with its branches, in its course through this State and Massachusetts, moves the machinery of more mills than any other river in the world.

Manufactures. — Manufacturing, the leading interest, includes cotton and woolen goods, iron-ware and machinery, boots and shoes, and sawed lumber.

Agriculture. — Except in the intervales along the Merrimac and the Connecticut rivers the soil needs careful cultivation to produce large crops. The mountain pastures afford fine grazing, and the dairy-products are important.

Places. — Besides Manchester and Concord the principal places are: —

Names.	Advantages of Location.	Industries and Characteristics.
Nashua.	Junction of the Nashua with the Merrimac River.	Cotton manufactures, machine-shops, and shoe-shops.
Dover.	Lower falls of the Cocheco River.	Manufacture of cotton and woolen goods, and shoes.
Portsmouth.	Fine harbor near the mouth of the Piscataqua River.	Manufactures and commerce.
Keene.	On Ashuelot River.	Manufacture of iron and wood work, woolen goods and carriages.
Exeter.	On Exeter River.	Manufactures. Seat of Phillips Academy, founded in 1781.
Hanover.	On Connecticut River.	Seat of Dartmouth College, founded in 1769.

VERMONT.

1. Physical Features. — Vermont is traversed throughout its whole extent from north to south by the Green Mountains. These are covered in many places with hard-wood forests, and enclose beautiful valleys. This State has no sea-coast.

2. The leading industries are (1) agriculture, which is successfully carried on in the fertile mountain valleys and in the valley of the Connecticut; (2) stock-raising, to which the mountain pastures are well adapted: the dairy-products are extensive and valuable.

3. Places. — BURLINGTON, the largest place, has considerable lake-trade and lumber-trade; it is the seat of the University of Vermont. MONTPELIER [*mont-peel'yer*] is the capital.

SPECIAL GEOGRAPHY FOR VERMONT CLASSES.

☞ Vermont classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, page 33.

Area, 9,565 square miles. Population (census of 1880), 332,286.

Extent. — Its length from north to south is 157 miles, and its breadth from east to west, from 40 to 92 miles; its widest part is on the northern State-line.

Surface. — The Green Mountains, which form the most striking feature in this State, are a range of the Appalachian system, — the most continuous range of that system in New England. In the center they divide into two branches: the western branch, continuing in a northerly direction, sinks gradually till it terminates near the northern boundary; the eastern branch extends northeast, and passing into Canada is lost on the shores of the river St. Lawrence.

The highest elevations are Camel's Hump and Mount Mansfield.

Rivers. — Though well watered, the State has no large streams with their courses entirely within its borders.

The Connecticut flows along the entire eastern border. Its numerous tributaries, such as the Wells, White, etc., are mountain streams affording valuable mill-sites. *Into Lake Champlain* flow the Missis'quoi, Lamoille', and Winoos'ki, or Onion, and other creeks.

Lakes. — Lake Champlain bounds the State on the west for 105 miles. It is a noble sheet of water, navigated by the largest steamers. Next in size is Lake Memphrema'gog (30 miles long) on the northern border. In the interior are various minor lakes.

Agriculture. — Vermont is in the main an agricultural and a grazing State. The intervales have a rich fertile soil, as have also the uplands in many places. The principal crops are hay, oats, corn, wheat, buckwheat, and potatoes.

Stock-Raising and Dairying. — The mountain pastures are finely adapted to the feeding of cattle, sheep, and horses. The yearly wool-clip is large. Thousand of tons of butter and cheese are made every year.

Other Industries. — Though not so extensively or exclusively engaged in manufacturing as the other New England States, Vermont devotes considerable attention to this branch of industry. Woolen goods, boots and shoes, steam-engines, carriages, and weighing-scales are among the many things turned out. Several thousand tons of maple-sugar are made every year.

Minerals. — Marbles of fine quality abound, and the quarries are worked at various points. Slate quarries are worked on the Connecticut. A considerable quantity of copperas is manufactured from iron-pyrites.

Places. — In addition to the metropolis and the capital, the principal places are: —

Names.	Advantages of location.	Industries and Characteristics.
Rutland.	On Otter Creek.	Extensive quarries of white marble. Marble trade. Manufacturing.
St. Albans.	Proximity to Lake Champlain.	Manufacture of cars. Trade in dairy-products, etc.
Brattleboro.	On the Connecticut River.	Manufacture of organs, furniture, etc. Seat of the State Insane Asylum.
St. Johnsbury.	On the Passumpsic River.	Fairbanks's scales manufactory.
Brandon.	On Otter Creek. Rich in minerals.	Manufacture of woolen goods, leather, boots and shoes, etc.
Northfield.	On Vermont Central Railroad.	Manufactures and slate-quarries. Vermont Military Institute.
Middlebury.	Otter Creek Falls.	Marble trade and various manufactures. Seat of Middlebury College, founded in 1800.
Woodstock.	On Quechee River.	Manufactures and local trade.

MASSACHUSETTS.

1. Its Rank. — Massachusetts ranks as the foremost State of New England and as one of the leading manufacturing States in the Union. In wealth and commerce it is second only to New York.

2. Physical Features. — The western part is mountainous, the central and northeastern parts are hilly, the southeastern part is generally low and sandy.

3. The leading industries are (1) manufacturing; (2) commerce; (3) the fisheries.

Manufactures. — The principal articles of manufacture (named in the order of their importance) are boots and shoes, cotton and woolen goods, hardware, and paper.

Commerce. — The commerce of the State is very large. It arises from the exchange of the manufactures and natural products of the State for raw material, as cotton, wool, iron, and for other articles of use and luxury. The many excellent harbors greatly facilitate commerce.

Fisheries. — The catching of cod and mackerel off the coast and on the Grand Banks is an important industry, and in this industry Massachusetts is the leading State.

4. Boston, the capital, ranks in foreign commerce as the second city in the United States. It is the business and literary metropolis of New England. It is also distinguished for its great public libraries and its schools of science and art.

HARVARD UNIVERSITY.

SPECIAL GEOGRAPHY FOR MASSACHUSETTS CLASSES.

☞ Massachusetts classes should now make a full study of their State, following the Outline on page 30. Refer to the County map, page 83.

Area, 8,315 square miles. Population (census of 1880), 1,783,085.

Extent. — This State has a general breadth of not more than 50 miles, with a length of about 160 miles; but in the eastern part it widens abruptly to the breadth of 100 miles, and protrudes into the ocean a long, narrow tongue of sand that extends nearly 50 miles beyond the mainland.

Coast. — The sea-coast is much indented with bays. The peninsulas of Cape Ann and Cape Cod enclose a large gulf, of which the northern part is called Massachusetts Bay and the southern Cape Cod Bay. Another important inbreaking of the sea is Buzzard's Bay, in the south.

Surface. — Although the surface is generally hilly and in some places rugged, no part of it rises to an elevation of 4,000 feet; the peak of Saddle Mountain, the loftiest summit, is 3,600 feet above the sea-level.

In the western part the Green Mountains are prolonged from Vermont, forming the Hoosac and Taconic ridges, which lie nearly parallel to each other and extend southward into Connecticut. The Hoosac ridge divides the waters of the Connecticut from those of the Housatonic.

The other principal mountains are the isolated peaks of Mount Tom, Mount Holyoke, and Wachusett Mountain, which are considered detached parts of the great White Mountain range.

Rivers. — Every part of the State is well watered; but in general the streams are more useful for their water-power than as channels of communication.

The Connecticut, the largest, owing to its rapid descent, is navigable in this State only by the aid of canals and locks; but it affords great water-power.

The Merrimac, after entering this State from New Hampshire, has a course east and northeast, and is navigable to Haverhill, 20 miles. Its principal tributaries are the Nashua and Concord rivers, which with the main stream turn a vast number of spindles and drive immense masses of machinery.

The Housatonic River, between the Hoosac and Taconic ranges, flows southward into Connecticut. The Quinebaug and Blackstone rivers also have their sources in this State. Charles River, reaching the sea at Boston, and Taunton River, flowing into Narragansett Bay, are valuable mill-streams.

Manufactures. — The manufactures of the State are of immense extent and variety. Their products for the year 1870 were valued at $550,000,000. In addition to those named in the text may be mentioned iron machinery, steam-engines, locomotives, cutlery, hardware, agricultural implements, wooden and glass ware, pianos, sewing-machines, watches, books, etc.

Agriculture. — Nature has not favored this State with a fertile soil; and so compact is its population and so many people are engaged in manufacturing, it does not raise food enough to supply its own inhabitants. Still, agriculture is pursued with great scientific skill, and many of its farms are cultivated with the care of gardens, and are very productive, yielding two or three open-air crops in a season.

Industries of the Sea. — The State is celebrated for the number and excellence of its ships, and for the skill and enterprise of its seamen. At Gloucester and other fishing towns along the coast great fleets of smacks and schooners are every year fitted out for cod-fishing on the Grand Banks. The fish are salted and dried, and form a very important article of export.

Commerce. — In addition to manufactured articles, the chief exports are granite, ice, and fish.

Internal Improvements. — In proportion to its surface, no other State is so thoroughly supplied with railroads and other means of communication as Massachusetts. It has a total length of 2,500 miles of railroad. To form direct and economical connections no labor or expense is spared, even to the tunneling of mountains. The celebrated Hoosac tunnel, cut in order to form easy communication with the fertile States of the Great West, is a noted instance of its enterprise and lavish expenditure in opening direct lines of travel.

Education. — The educational institutions of the State include, in addition to the public schools, attended by nearly half a million of pupils, five State normal schools, five colleges, and Harvard University.

Cities. — In addition to Boston the cities of Massachusetts are: —

Names.	Advantages of Location.	Industries and Characteristics.
Worcester.	Head of Blackstone River.	Endless variety of manufactures in iron and wood. Agricultural implements, wire, machinery, carpets, etc.
Lowell.	Confluence of Concord and Merrimac rivers.	Leading city in cotton manufacture.
Cambridge.	Proximity to Boston.	Iron and glass works, pork-packing, ice-cutting, printing-establishments, brick-yards, etc. Seat of Harvard University.
Lawrence.	On the Merrimac River.	Manufacture of cotton and woolen goods.
Lynn.	On Massachusetts Bay.	Immense manufacture of ladies' shoes.
Fall River.	Seaport at mouth of Taunton River.	Cotton-mills, calico print-works, iron-works, etc.
Springfield.	Confluence of Mill River with the Connecticut.	Manufacture of paper, envelopes, paper-collars, cars, fire-arms, etc. U. S. Arsenal.
Salem.	Seaport.	Manufacturing and some shipping.
New Bedford.	On Buzzard's Bay.	Manufacturing.
Taunton.	On Taunton River.	Locomotive works, rolling-mills, and other iron and brass works, etc.
Gloucester.	On Cape Ann.	Cod and mackerel fisheries.
Haverhill.	On the Merrimac River.	Manufacture of shoes, hats, carriages, paper-boxes, bricks, etc.
Fitchburg.	On a branch of the Nashua River.	Manufacture of iron machinery, edge-tools, chairs, paper, rattan, etc.
Somerville.	Proximity to Boston.	Bleachery and glass-works. Manufacture of brass-tubing, etc. Business in Boston.
Holyoke.	On the Connecticut River.	Largest paper-mills in the United States. Varied manufactures.
Newton.	On the Charles River.	Manufacture of paper and woolen goods. Varied manufactures.
Newburyport.	Mouth of the Merrimac River.	Ship-building, cod and mackerel fishing. Cotton-mills. Varied manufactures.
Chelsea.	Proximity to Boston.	Residential city, with manufactures.

CONNECTICUT.

YALE COLLEGE.

1. **The physical features** of this State are: the fertile valleys of the Connecticut and Housatonic rivers, the rolling hills which diversify the surface, and the numerous streams affording water-power.

2. **The leading industries** are (1) agriculture, for which the fertile soil is well adapted; and (2) manufacturing, for which this State has fine facilities in its water-power and in its nearness to the iron and coal of Pennsylvania on the one hand, and to the great distributing point, New York City, on the other.

3. **Cities.** — HARTFORD, the capital, has extensive trade and many manufacturing establishments. It is the seat of Trinity College. NEW HAVEN, the largest city, is an important manufacturing point, and is the seat of Yale College.

SPECIAL GEOGRAPHY FOR CONNECTICUT CLASSES.

☞ Connecticut classes should now make a full study of the geography of their State, following the Outline on page 80. Refer to the County map, page 33.

Area, 4,990 square miles. Population (census of 1880), 622,700.

Position and Extent. — Connecticut lies between Massachusetts and Long Island Sound. Its boundary on Massachusetts is about 85 miles; that on New York, 82 miles; that on Rhode Island, 48 miles; and its frontage on Long Island Sound, over 100 miles.

Surface. — The surface presents a beautiful diversity of hill and valley. The hills are all continuations of the ranges in the States lying to the north. The Green Mountains of Vermont and the White Mountains of New Hampshire, prolonged through Massachusetts, traverse the State in hill-ranges, and end, the former in West Rock and the latter in East Rock, near New Haven.

Rivers. — The principal rivers are the Connecticut, navigable to Hartford (50 miles); the Housatonic, navigable to Derby (12 miles); and the Thames, navigable to Norwich (16 miles). These rivers with their numerous tributaries furnish great water-power.

Manufactures. — Manufacturing forms the leading interest in this State, and it has been well said that Connecticut "is rapidly becoming a vast workshop." The great stimulus given to manufacturing industries arises from two advantages, — that of fine water-power and that of cheap transportation of coal and iron from Pennsylvania.

Leading articles of manufacture are cotton and woolen goods, tin-ware, brass-ware, hardware, and wooden ware, paper, clocks, carriages, sewing-machines, pins, buttons, silk, india-rubber goods, rifles and revolvers, and innumerable small articles known under the name of "Yankee notions."

Agriculture. — The growth of manufactures has rendered agriculture, which for two centuries was the leading interest of the State, of secondary importance. Still, farming receives much attention: the soil is generally fertile, especially in the valleys of the Housatonic, the Connecticut, and the Quinebaug rivers. In the valley of the Connecticut River tobacco is largely grown.

Commerce. — The towns on the Sound have an active coasting-trade, and there is considerable foreign commerce with the West Indies.

Education. — In addition to its public school system, including Common, High, and Normal Schools, the State has three colleges, — Yale at New Haven, Trinity at Hartford, and the Wesleyan University at Middletown. Connected with Yale are schools of Law, Medicine, and Divinity. The Berkeley Divinity School is at Middletown, and the Hartford Theological Seminary at Hartford.

Cities. — In addition to Hartford and New Haven, the leading places in Connecticut are: —

Names.	Advantages of Location.	Industries and Characteristics.
Bridgeport.	On Long Island Sound. Proximity to N. Y. by railroad and water.	Manufacture of sewing-machines, carriages, paper, etc. Cotton and woolen mills.
Norwich.	Head of navigation on the Thames River.	Manufacture of cotton and woolen goods, paper, etc.
Waterbury.	On the Naugatuck River.	Is the center of the manufactures in copper and brass. Special articles: pins, pens, hooks-and-eyes, buttons, buckles, percussion-caps, plated ware, brass kettles, etc.
New London.	Mouth of Thames River.	Local and coasting trade.
Middletown.	Right bank of Connecticut River.	Manufacture of hardware and cotton goods.

Additional Places. — In addition to the cities there are in the State many important boroughs and villages engaged in manufacturing and trade. Among these are **Norwalk, Stamford,** and **Greenwich,** in the southwestern part, on Long Island Sound, engaged in manufacturing hardware, tin-ware, felt and straw hats, combs, dye-stuffs, etc.; **Meriden,** engaged in making tin-ware Britannia-ware, and silver-plated ware, cutlery, fire-arms, etc.; **New Britain,** which is the seat of the State Normal School, and is largely engaged in making hardware; **Derby,** with splendid water-power, an important manufacturing center; **Danbury,** also celebrated for its water-power and manufactories; Stonington, Litchfield, Willimantic, etc.

RHODE ISLAND.

1. **Its Rank.** — Rhode Island, though the smallest, ranks as one of the most prosperous and thickly settled States in the Union.

2. **The leading industry** of this State is manufacturing; and the chief manufactures are those of cotton and woolen goods.

3. **Cities.** — PROVIDENCE ranks in population as the second city in New England. It is noted for its cotton-mills, woolen-mills, iron-works, silver-plated ware, screw-factories, etc. NEWPORT, on the island of Rhode Island, is a fashionable watering-place. These cities are both capitals of the State.

SPECIAL GEOGRAPHY FOR RHODE ISLAND CLASSES.

☞ Rhode Island classes should now make a full study of the geography of their State, following the Outline on page 80. Refer to the County map, page 33.

Area, 1,250 square miles. Population (census of 1880), 276,531.

Extent. — This State is in length about 42 miles, and in its greatest width 35 miles. It is divided by Narragansett Bay into two unequal parts, much the larger part being west of the Bay, while the Bay itself is studded with numerous fertile islands. Of these the largest is Rhode Island (length 15 miles), which gives its name to the State.

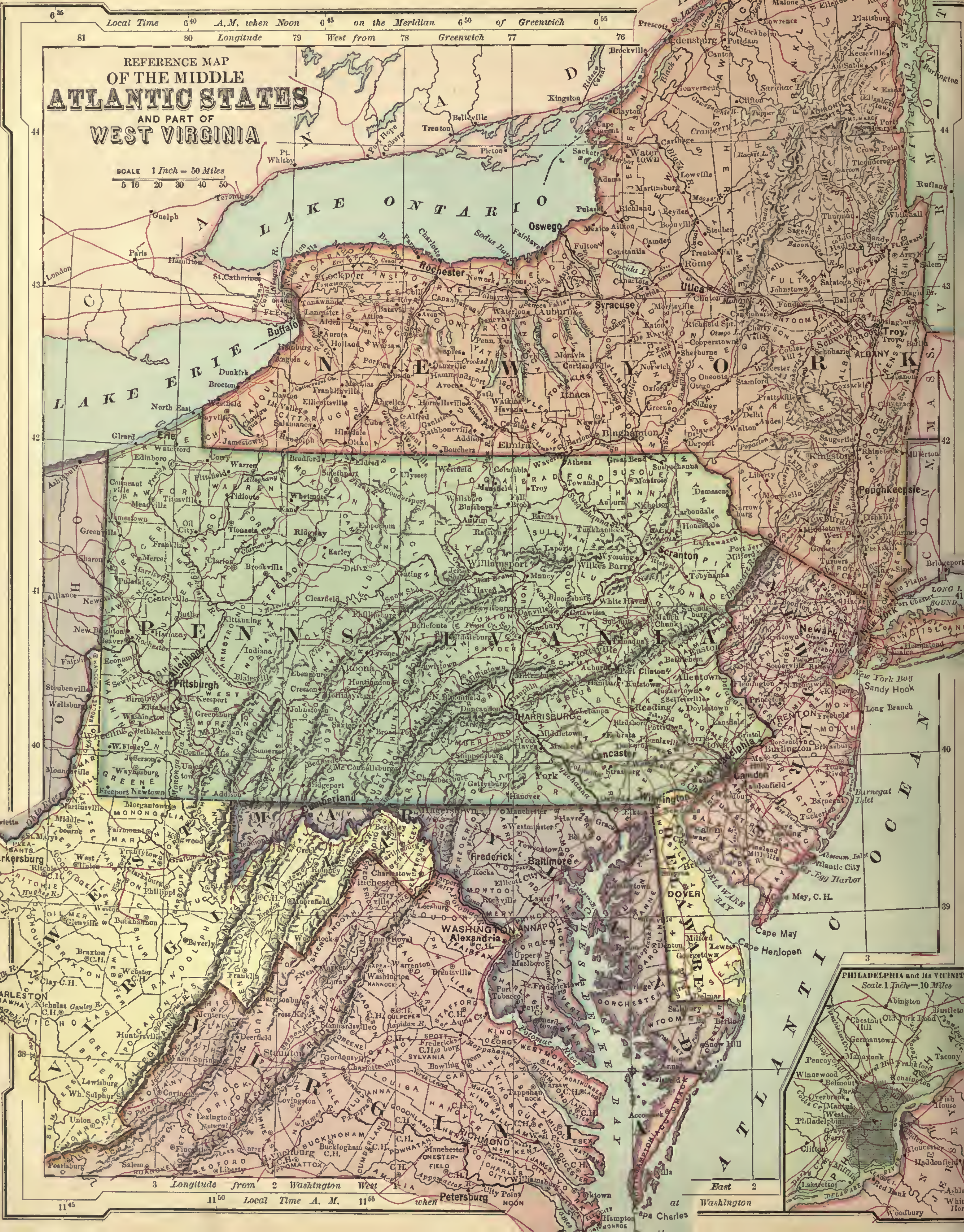
Surface. — The surface is broken and undulating, but the elevations are gentle, Mount Hope, the highest land, being only 300 feet above the sea-level.

Rivers. — The Blackstone, entering the State from Massachusetts, flows southward into Providence River, at the city of Providence. Pawtuxet River, in the central part of the State, abounds with mill-sites. Pawcatuck River waters the southwestern part, and is a partial boundary between Rhode Island and Connecticut.

Industries. — The great employment is the manufacture of useful articles. In the fabrication of cotton and woolen goods and hardware Rhode Island exceeds all the other States in proportion to its area and population. Its other forms of manufacturing industry are very diversified.

Education. — This State enjoys an excellent public-school system. The most important of the higher institutions of learning is Brown University.

Towns. — Providence and Newport are the only cities in the State. The places next in size are **Woonsock'et** and **Pawtuck'et,** engaged in manufacturing, and **Bristol,** a seaport.


REFERENCE MAP
OF THE MIDDLE
ATLANTIC STATES
AND PART OF
WEST VIRGINIA
SCALE 1 Inch = 50 Miles
Local Time A.M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude from Washington West
Local Time A. M. when Noon at Washington
East
LAKE ONTARIO
LAKE ERIE
NEW YORK
PENNSYLVANIA
MARYLAND
DELAWARE
VIRGINIA
WEST VIRGINIA
NEW JERSEY
ATLANTIC OCEAN
CANADA
QUEBEC
PHILADELPHIA and its VICINITY
Scale 1 Inch = 10 Miles

NEW YORK.

1. Its Rank. — New York is the foremost of the States in wealth, population, and commerce; and hence is often called the "Empire State." It has more than one tenth of the population and one seventh of the wealth in the United States.

2. The physical features of the State are its highlands in the eastern and northern sections, the great valley formed by the Hudson River and lakes Champlain and George, and the fertile plains and numerous lakes in the western section.

3. The natural advantages of the State consist in its fertile soil, the great extent of its navigable waters, its central position between the Great Lakes and the Ocean, and the possession of the best harbor on the Atlantic seaboard.

4. The leading industries are (1) agriculture; (2) manufacturing; and (3) commerce.

Agriculture. The fertile farming section in the west produces large crops of corn, wheat, potatoes, hay, and fruit; the dairy-farms yield one fourth of the butter and cheese made in the United States.

Manufactures. In the extent and value of its manufactures it is unsurpassed. The leading articles are clothing, cotton and woolen goods, railroad-iron, machinery, furniture, flour, salt, and spirits.

Commerce. The State has a vast foreign and domestic commerce, which is favored by its central position, its fine harbor, and its extensive system of lake, river, canal, and railroad communication.

5. New York City is the business and moneyed emporium of the New World. In commercial importance it is second only to London. It has about one million of inhabitants; and, including Brooklyn and other neighboring cities closely connected with it and forming one compact business center, it comprises a population of nearly two millions.

6. The Capital. — ALBANY, the capital, though in population a city of the second class, is an active commercial point advantageously situated near the head of navigation on the Hudson River and at the eastern terminus of the Erie Canal.

SPECIAL GEOGRAPHY FOR NEW YORK CLASSES.

☞ New York classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, page 38.

Area, 49,170 square miles. Population (census of 1880), 5,082,871.

Outline. — The outline of this State is that of an irregular triangle, — the southern angle resting on New York Bay, the northeastern on Lake Champlain, and the northwestern where Niagara River flows into Lake Ontario.

Extent. — Its greatest length from east to west, exclusive of Long Island, is about 335 miles, and its greatest breadth, from north to south, about 308 miles. Its area is somewhat greater than that of Pennsylvania; but of the Atlantic States it is exceeded in size by North Carolina, Georgia, and Florida.

Surface. — The general surface of the State is uneven and somewhat elevated. The mountains are spurs and ridges of the Appalachian system, which enter the State from New Jersey and Pennsylvania.

The most eastern range crosses Orange, Rockland, Putnam, and Dutchess counties into Western Massachusetts. It is broken through by the Hudson River, forming on the Jersey side the bold and picturesque bluffs of the Palisades.

A second range, the Shawangunk [*shong'gum*] Mountains, a northern extension of the Blue or Kittatin'ny Mountains of Pennsylvania, extends northeast, culminating in the Catskill Mountains and sending off spurs to the northwest.

The highest mountain region is that of the Adirondack Mountains, in the northeastern part. The loftiest peak is Mount Marcy, 5,467 feet above the sea-level. In the southwestern part of the State, between and to the north of the head-streams of the Alleghany and Susquehanna rivers, is a height of land which forms the watershed dividing the streams flowing southward into Pennsylvania from those that belong to the basin of the Great Lakes.

The northwestern part of New York slopes toward the St. Lawrence River and the Great Lakes.

Lakes. — Its lakes are a distinguishing feature of this State. Numbers of these lie wholly *within* its borders; but the Great Lakes, properly so called, lie *on* its borders, — Ontario and Erie on the north and west, and Champlain' on the northeast.

Lake Erie is 268 miles in length, and from 30 to 54 miles in width. Of its southern shore an extent of about 60 miles lies within this State. Ontario is next in size, and is elliptical in form; it is 190 miles in length and 56 miles in extreme breadth. Its entire southern shore east of Niagara River is within New York State.

Lake Champlain is a long narrow sheet of water famed for its beauty. In extreme length it is 134 miles, with a breadth of from ½ mile to 10 miles.

Lake George discharges itself into Lake Champlain.

In the northern mountain region are not fewer than two hundred small lakes.

River System. — *The St. Lawrence River* forms part of the boundary line on the north. *The Hudson* (length, 300 miles), the chief river belonging wholly

to New York, is navigable for steamboats to Troy, 151 miles. Its main tributary is the Mohawk.

The western slopes of the Adirondacks give rise to various small rivers. Among these are the Rackett, Grass, and Black rivers, the latter flowing into Lake Ontario, the other two into the river St. Lawrence.

A secondary watershed is formed by a height of land between and to the north of the head-stream of the Susquehanna, which rises in Otsego Lake, and the head-stream of the Alleghany, which curves northward into New York. This height of land forms the "divide" between the streams flowing northward and westward into the Great Lakes, southward into Pennsylvania, and eastward into the Hudson River. Among those belonging to the basin of the Great Lakes are Tonawanda, Buffalo, and Cattaraugus creeks, which flow into Lake Erie or Niagara River, and the Genesee and Oswego rivers, which flow into Lake Ontario. The latter is the outlet of a series of lakes in Central New York.

Thus from these watersheds the streams of the State run into Hudson River, Chesapeake Bay, and the Gulf of St. Lawrence.

Agriculture. — In the value of its farm productions and live-stock New York exceeds any other State. The most fertile farm-lands are in the valleys of the Mohawk and the Genesee rivers.

The chief agricultural products are hay, wheat, oats, corn, buckwheat, rye, tobacco, potatoes, orchard-fruits, and garden-products. Of hay, Irish potatoes, barley, and hops it produces more than any other State. In the value of its live-stock, and in the production of milk, butter, and cheese, it exceeds any other State; and it ranks high in the production of pork, flax, and wool.

Manufactures. — The total value of its manufactured articles is over $800,000,000 annually, being greater than that of any other State.

New York ranks first in the following articles of manufacture: flouring and grist-mill products, cast-iron articles, clothing, sewing-machines and musical instruments, tanned leather, cigars and tobacco, malt liquors, salt, furniture, and books. In the manufacture of boots and shoes it is second only to Massachusetts; in agricultural implements, second only to Ohio.

Commerce. — In foreign commerce New York greatly exceeds any other State: this arises from the fact that New York City ships the great bulk of the grain exported to foreign countries, and that most of the imports into the United States are received through the same port. The State has also a vast domestic trade, which is favored by its great works of internal improvement.

Internal Improvements. — In addition to the natural highways of commerce afforded by lakes Erie, Ontario, and Champlain, and by the Hudson River, — that wonderful natural channel through the barrier of the Appalachian ridges, — the State has a magnificent system of canals and railroads.

The Erie Canal, the longest in the world (364 miles), connects Lake Erie with the head of navigation on the Hudson, thus forming a cheap and easy route for the products of the great West to the Atlantic seaboard.

Other canals of great importance have been cut to overcome the obstacles in the principal navigable rivers.

Of railroads a network extends over the State, and through-lines connect the seaboard with Chicago, St. Louis, and San Francisco, thus commanding the trade of the Mississippi Valley and the Pacific coast.

Scenery. — New York is distinguished for its fine scenery. The Highlands in the lower course of the Hudson are exceedingly picturesque, while the mountain regions of the Catskills and the Adirondacks are wild and grand. Watkins' Glen, at the head of Seneca Lake, is a favorite resort. The lake scenery, especially that of Lake George and of the group of small lakes in the central part of the State, is very lovely. New York is noted for its numerous mineral-springs, among which are those of Saratoga, Ballston, Sharon, Avon, and others. The waterfalls are numerous, comprising Cohoes Falls on the Mohawk, Trenton Falls on West Canada Creek, the various falls of the Genesee, and Niagara Falls, the sublimest cataract on the globe.

The Metropolis. — New York City has a magnificent harbor, which is visited by the ships of all nations. Two thirds of all the imports brought into our country enter here. Broadway, one of the grandest streets in the world, is many miles long, and is noted for its great hotels and splendid iron and marble buildings. The Central Park is one of the finest of pleasure-gardens. New York is the center of the great railroad companies, insurance companies, manufacturing companies, and banking institutions of our country. It is also distinguished for its literary, scientific, and benevolent institutions.

Education. — New York has an excellent system of common, high, and normal schools. These are attended by more than a million of pupils.

The higher education of both sexes is abundantly provided for. Among the best known institutions are: Columbia College, the University of New York, the Normal College, the College of the City of New York, College of St. Francis Xavier, Manhattan College, and Rutgers Female College, all in the city of New York; Cornell University, at Ithaca; Union College, at Schenectady; Hamilton College, at Clinton; Madison University, at Hamilton; Hobart College, at Geneva; Syracuse University and the University of Rochester, situated respectively in these cities; Alfred University, at Alfred; Ingham University, at Le Roy; Elmira Female College, at Elmira; Vassar Female College, at Poughkeepsie.

History. — The territory which is now the State of New York was discovered in 1609 by Henry Hudson (an Englishman in the employ of the Dutch East India Company), on the Hudson River side, and by Champlain, the French governor of Canada, on the Lake Champlain side. In 1613–14 a Dutch trading post called New Amsterdam (now New York) was established on Manhattan Island; and another, called Fort Orange, where Albany now stands. The whole territory, including also New Jersey, was named New Netherlands, and was largely settled by Hollanders. In 1664 the English wrested this region from the Dutch, and it received the name of New York, from the Duke of York (subsequently James II.).

Political Divisions. — New York is divided into 60 counties, with 930 towns and 24 cities. In addition to the metropolis (New York) and the capital (Albany), are the cities named in the subjoined table.

Names.	Advantages of Location.	Industries and Characteristics.
Brooklyn.	Opposite New York, from which it is separated by a strait called the *East River*, ¾ of a mile wide.	Local trade. Manufactures. City of residences for people doing business in New York City.
Buffalo.	On Lake Erie, at western terminus of Erie Canal.	Lake and canal trade. Manufactures.
Rochester.	Upper falls (100 feet) of Genesee River, 7 miles from Lake Ontario.	Large manufacturing and milling interests. Manufacture of clothing and boots and shoes. Most extensive fruit and ornamental tree nurseries in the world. Seat of Rochester University.
Troy.	Left bank of Hudson River, above Albany.	Extensive iron and steel works. Railroad-car shops, nail-works, etc.
Syracuse.	On Lake Onondaga, at junction of Erie and Oswego canals.	Immense salt-works. Varied manufactures: hardware, glass, furniture, musical instruments, coal market. Syracuse University.
Utica.	On the Mohawk River. A railroad center. Canal facilities.	Manufacture of cotton and woolen goods, and boots and shoes.
Kingston.	Right bank of Hudson River. Terminus of the Delaware and Hudson Canal.	Great coal-market. Center of an immense business in flagging and other varieties of blue stone. Manufacture of hydraulic cement and lime.
Oswego.	Mouth of Oswego River.	A grain port. Flouring-mills and corn-starch factories.
Poughkeepsie.	Left bank of Hudson River.	Trade and manufacturing. Seat of Vassar Female College.
Auburn.	Near Owasco Lake. Water-power from its outlet.	Manufacture of agricultural implements and woolen goods. Seat of the Auburn Theological Seminary. Also of a State Prison.
Newburgh.	Right bank of Hudson River.	Manufacture of cotton goods and iron. Coal-trade.
Elmira	Near junction of Newtown Creek with Chemung River. Fine farming region. Railroad center.	Large trade. Manufacture of iron and boots and shoes. Seat of a Female College.
Cohoes.	Right bank of the Mohawk River. Immense water-power (dam, 1,443 feet long).	Cotton-weaving mills, knitting-mills, rolling-mills, ax and tool factories, etc.
Binghamton.	Confluence of the Chenango and Susquehanna rivers.	Manufacture of boots and shoes, cigars, steam-engines, agricultural implements, etc. Large coal-trade. Seat of the State Inebriate Asylum.
Lockport.	On the Erie Canal. [The place takes its name from the system of *locks* by which the water in the Erie Canal is raised to the level of the mountain ridge over which the Niagara River falls.]	Flouring-mills, limestone-quarries, etc. Manufacture of machinery of the Holly water-works.
Rome.	On the Mohawk River. Junction of Black River and Erie canals.	Rolling-mills and paper-mills. Railroad-car manufactory.
Schenectady.	Right bank of Mohawk River.	Locomotive-works. Broom manufactories. Local trade. Seat of Union College.
Ogdensburgh.	Right bank of the St. Lawrence River.	Extensive Lake and Canadian trade.
Watertown.	Left bank of Black River, at falls.	Varied manufactures, — woolen goods, paper, flour, farming implements, leather, etc.
Hudson.	Left bank of Hudson River, below Albany.	Iron furnaces, and varied manufactures. River-trade.
Yonkers.	Left bank of Hudson River, 12 miles above New York.	Place of suburban residence. Local trade.
Long Island City.	On Long Island. Proximity to New York City.	Place of residence for people employed in New York City.

PENNSYLVANIA.

1. Its Rank. — Pennsylvania is a great and prosperous State, ranking in population and manufactures next to New York.

2. Physical Features. — It embraces three physical regions: (1) the central mountain-region of the Appalachian system, with its numerous long and narrow mountain-valleys; (2) a part of the Atlantic Plain in the east; and (3) the Ohio Valley slope.

3. Resources. — The natural advantages, or resources, of this State are very great. They comprise (1) rich iron-mines, vast coal-fields, and a great oil-producing region; (2) abundant water-power; (3) a fertile soil; (4) extensive forests.

4. Industries. — The leading industrial occupations have arisen from these natural advantages. They are mining, manufacturing, agriculture, and commerce.

5. Mining. — The principal branches of this industry are the mining of coal and iron, carried on to an immense extent. The rich iron-mines and vast coal-beds supply a large part of the iron and coal used in the United States. Petroleum, also, is produced in great quantities.

6. Manufactures. — Pennsylvania combines all the advantages for being a great manufacturing State, — iron, coal, wood, water-power, and easy communication. The leading manufactures consist of wrought-iron and the articles made from it, of cast-iron and cast-iron articles, of pig-iron, and of cotton and woolen goods.

7. Agriculture. — The soil is productive, and great attention is given to tillage. The State ranks high in the production of grain and dairy-products and in the raising of live-stock.

8. Commercially Pennsylvania is the fourth State in the Union.

9. Philadelphia ranks next to New York City in population. It has a great domestic and coast trade, though in foreign commerce it is the fifth city in the Union. In the value of its manufactures it exceeds any other city in the United States.

10. Harrisburg, the capital, is a manufacturing and commercial city.

SPECIAL GEOGRAPHY FOR PENNSYLVANIA CLASSES.

☞ Pennsylvania classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to County map, page 38.

Area, 45,215 square miles. Population (census of 1880), 4,282,891.

Outline and Extent. — In form this State is a parallelogram whose length is nearly twice its breadth. (Length, 310 miles; width, 160 miles, except at the angle at Lake Erie, where it is 175 miles.) Its northern, western, and southern boundaries are straight lines.

Surface. — The Appalachian system attains its greatest breadth in Pennsylvania. Its various parallel ridges (see map for the names) spread over about one fourth of the State, and occupy the southern, central, and eastern counties. These ridges seldom rise above 2,000 feet; they are generally forest-clad, and are separated by valleys, some of which are quite narrow, while others have a width of from 15 to 20 miles.

The southeastern part is a rolling country; *the western section* consists of undulating table-lands, with a general slope toward the Ohio River basin.

Rivers. — The principal rivers of the State are: —

Names.	Length.	Source, Course, etc.	Characteristics.
	Miles.		
Susquehan'na.	400	East Branch in N.Y., West Branch in Penn.; flows in a winding course S. into Chesapeake Bay.	In size the principal river of the State, but too swift in its current and too rapid in its fall to be of much advantage for navigation.
Junia'ta.	150	Rises in the Alleghanies, and flows E. into the Susquehanna.	Flows through the beautiful Juniata valley.
Delaware.	300	Rises in the Catskill Mts.; flows S. into Delaware Bay.	Forms the eastern boundary of Penn., and is navigable to Trenton, 75 miles. Highway of transportation for coal and iron.
Le'high.	90	Rises in the anthracite coal-region; flows S. E. and joins the Delaware at Easton.	Channel of an immense trade in coal and iron.
Schuylkill. [skool'kil.]	140	Rises in the Blue Ridge, and flows S. E. into the Delaware at Phila.	Important highway of communication, — furnishes the water for the city of Philadelphia.
Ohio.	Length in Penn. 50	Formed by the Alleghany and Monongahela; takes a N. W. sweep to the Ohio State border.	The great highway between Pennsylvania and the Mississippi Valley.
Alleghany.	300	Rises partly in Western N. Y. and partly in the Alleghanies within Penn.; flows S. W. into the Ohio at Pittsburgh.	Northern and main constituent of the Ohio, — navigable to Olean (N. Y.), 260 miles.
Monongahe'la.	200	Rises in the mountains of West Virginia; flows N. into the Ohio.	Branch of the Ohio, — navigable to Fairmount, 150 miles.

Special Geography of Penn. continued.]

Lakes. — Within Pennsylvania are no important lakes; but Lake Erie, for about 50 miles, forms the northwestern boundary.

Climate. — Pennsylvania has a climate intermediate between the extremes of the northern and southern sections of the country. The State, on the whole, is considered one of the most salubrious in the Union.

Minerals. — In coal, the most useful mineral, and iron, the most useful metal, Pennsylvania is one of the richest regions in the world. The annual value of the products of the mines is nearly $100,000,000, or fully one half the total value of all the mining products in the United States, including gold and silver.

THE ANTHRACITE COAL REGION OF PENNSYLVANIA.

The coal is of two varieties, — anthracite and bituminous. The anthracite coal region is found chiefly in the east-central part of the State, east of the East Branch (Susquehanna), and west of the Lehigh River. It forms a long, irregular-shaped tract, 100 miles in length and 30 miles in width, divided into three fields, — the Southern, Middle, and Northern Fields. The principal towns that owe their growth to the anthracite coal interests are Pottsville, Tamaqua, Mauch [*mauk*] Chunk, Wilkesbarre, Pittston, Scranton, and Carbondale.

MAP. On the map of the Anthracite Coal Region, point to the Southern Field. In what county is it mainly? What are the principal places in it? Point to the Middle Field. In what three counties is it? What are the principal places in it? In what county is the Northern Field? Name three important places in this Field.

The bituminous coal interest has its principal center at Pittsburgh, west of the Alleghany Ridge. In this part of the State the bituminous coal-field extends through 24 counties.

Iron. — Almost every county in the State contains deposits of iron in one or other of its many forms. It exists in the greatest measure and in its most valuable ore in the bituminous coal region, especially in the neighborhood of Pittsburgh, where the mines have been worked to a vast extent for many years.

Other Mining Products. — *Petroleum*, or coal-oil, is another of the valuable products of the State. The *Oil Region*, in the northwestern section, supplies immense quantities of petroleum for export and for domestic use. Some of the towns engaged in the oil business are Titusville, Meadville, Oil City, Franklin, and Erie.

NOTE. — Petroleum is an oil, dark colored, and thicker than common oils. The wells are sunk into the earth by drills in the same manner as artesian wells, and the oil rises to the surface. It now forms one of the important exports of the United States. Between 1860 and 1870 (inclusive) there were produced 36,000,000 barrels of petroleum, a large portion of which was sent abroad.

Slate and *marble* are found in great abundance, and the working of the quarries is a very large and important business.

Copper, *zinc*, *plumbago*, and *lead* are mined in considerable quantities.

Salt-springs exist in several sections, and several million dollars' worth of salt are made annually. *Medicinal springs*, also, are numerous and valuable.

Agriculture. — Agriculture is carried on with great skill. The best soils are in the limestone and river valleys.

The staple farm products are wheat and corn; but large quantities of buckwheat, rye, hay, orchard fruits, and garden products are raised.

In live-stock Pennsylvania ranks as the fourth State in the Union; in the production of butter and cheese it ranks next to New York.

Manufactures. — The various manufactures of Pennsylvania employ constantly from 300,000 to 400,000 hands.

The value of articles yearly manufactured is over $ 700,000,000.

Leading articles of manufacture are heavy iron machinery, railroad iron, sawed lumber, cotton and woolen goods, clothing, boots and shoes, paper, glass and glass-ware, carpets, perfumery, distilled spirits, etc.

Commerce. — Though the State has no sea-coast, its noble river, the Delaware, gives it easy communication with the ocean, and affords excellent harbors.

The domestic commerce is very large, and for this it has great facilities in its shore line on Lake Erie, in the Ohio River connecting it with the Gulf of Mexico, and in an extensive system of internal improvements.

Internal Improvements. — Pennsylvania, like New York, has an extensive system of railroads and canals. The Pennsylvania Central Railroad stretches across the State and has numerous branches and connections with all important points West, North, and South. A great number of railroads penetrate the coal and iron regions.

The Delaware, Schuylkill, and Susquehanna rivers and their tributaries afford water for an extensive system of canals which are used in transporting coal and iron, while in the western coal-field the Alleghany and Monongahela serve the same purpose. The State is traversed by about 4,000 miles of railroad and 1,000 miles of canal.

Education. — William Penn, the illustrious founder of this State, said: "That which makes a good constitution must keep it, viz. men of wisdom and virtue, qualities which, because they descend not with worldly inheritances, must be carefully propagated by a virtuous education of youth." This wise injunction has resulted in a noble system of public schools, which are now attended by nearly a million of pupils.

The higher education is cared for in a large number of colleges and universities. Ten State normal schools are in operation, with an attendance of 3,000 students. There are also various theological, law, and medical schools.

The State has provided homes, food, clothing, and instruction, at an expense of $ 6,000,000 for 7,500 children orphaned and left destitute by the casualties of the late civil war.

Political Divisions. — Pennsylvania is divided into 66 counties, with many hundred cities, boroughs, and towns. In addition to the metropolis (Philadelphia) and the capital (Harrisburg), the most important places are: —

Namee.	Advantages of Location.	Industries and Characteristics.
Pittsburgh.	Situation at confluence of Alleghany and Monongahela rivers, forming the Ohio. Rich coal, iron, and oil region.	Center of the bituminous coal interest. Most extensive iron-works, rolling-mills, founderies, machine-shops, and glass-works in the United States; these works, if arranged in a single row, would have a frontage of 40 miles.
Allegheny City.	Proximity to Pittsburgh.	Extensive iron, steel, brass, and glass works. Large coal-trade.
Scranton.	On the Lackawan'na River, in the anthracite coal region.	Large coal and iron business.
Reading.	On the Schuylkill: center of a rich farming region.	Iron-works. General trade.
Lancaster.	Center of a farming region S. E. of Harrisburg.	Manufacturing and agricultural trade.
Erie.	On the southeast shore of Lake Erie.	Lake trade. Varied manufactures.
Williamsport.	On the West Branch.	Manufacture and sale of lumber. Trade.
Allentown.	On the Lehigh.	Extensive iron-works, furnaces, founderies, rolling-mills, spike-works; tanneries, woolen-mills, etc.
Pottsville.	In Southern anthracite coal-field.	Coal-mining.
York.	Railroad point south of Harrisburg.	Manufacture of cars, castings, and paper.
Easton.	Confluence of Lehigh and Delaware rivers.	Coal, iron, and lumber trade; flouring-mills, iron-works, etc.
Altoona.	East side of Alleghany Mts. (Is 1,200 feet above the sea-level.)	Building of cars and locomotives.
Norristown.	Proximity to Philadelphia.	Manufacturing.
Wilkesbarre.	In the Northern coal-field.	Extensive coal-trade.
Chester.	Near mouth of Delaware.	Building of iron ships, cotton and woolen mills, print-works, and rolling-mills.

NEW JERSEY.

THE GARDEN STATE.

1. Physical Features. — The southern half belongs to the Atlantic Plain; the northern section is hilly or mountainous.

The long line of sea-coast south of Sandy Hook is hemmed in by a chain of low sand-islands; hence the State possesses few good harbors, but it has a water-front on New York Bay.

2. The leading industries are agriculture, market-gardening, and manufacturing, which are carried on with great skill and success. Mining is also an important industry.

3. Cities. — NEWARK, the largest city in the State, is extensively engaged in the manufacture of india-rubber and leather goods, clothing, jewelry, and many other articles. TRENTON, the capital, at the head of steamboat navigation on the Delaware, has great iron-works, rolling-mills, porcelain-kilns, etc.

SPECIAL GEOGRAPHY FOR NEW JERSEY CLASSES.

☞ New Jersey classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, page 38.

Area, 7,815 square miles. Population (census of 1880), 1,131,116.

Outline and Extent. — The winding course of the Delaware, which forms the boundary of New Jersey on the west, and the inbreakings of the ocean on the east, give the State an irregular outline. Its greatest length from north to south is about 167 miles; its greatest width is 70 miles.

Surface. — The northwestern part of the State is traversed by the Blue Mountains, a ridge of the Appalachian system, which enter New Jersey from Pennsylvania. Other local ridges nearly parallel with the Blue Mountains extend through the northern part. Along the Hudson River for 20 miles is a precipitous and picturesque wall of rocks known as the Palisades. The southeastern half of the State belongs to the Atlantic Plain.

Coast. — From the low, projecting sand-bank called Sandy Hook, opposite the Narrows, to the similarly formed point of Cape May, the whole eastern coast consists of a long line of sandy beaches, here and there interrupted by inlets, and enclosing narrow, shallow lagoons, behind which extends for several miles inland a low, marshy tract. Good harbors are few; still, Rar'itan Bay, south of Staten Island (N. Y.), affords ready communication from Perth Amboy to the ocean; and Newark Bay, north of Staten Island, has navigable communications with New York Bay and Raritan Bay, through the narrow strait called the "Kills," and through Staten Island Sound. (See map of New York and Vicinity, page 31.)

Rivers. — All the rivers of the State belong to the Atlantic system; and, with the exception of the Hudson and Delaware, which are boundary rivers, most of the streams are, from the conformation of the country, short.

The most important rivers are the Passaic [*pas-sa'ic*] and Hack'ensack, entering into Newark Bay; Raritan River, draining the northern and central parts, and flowing into the bay of the same name; Maurice River in the south, discharging itself into Delaware Bay; and Great Egg Harbor and Little Egg Harbor rivers, flowing into the Atlantic Ocean.

Minerals. — The mineral resources of the State are very valuable. The most important minerals are marl, iron, and zinc.

The marl is found in extensive beds in many parts of the State. Spread on the sandy soil it renders it exceedingly productive, and its use has worked wonders in New Jersey agriculture.

Iron. — In the northern part are great deposits of magnetic iron-ore. The mines in Morris and Sussex counties are the most largely developed. The total product of ore in the State exceeds 700,000 tons annually. The total product of the blast-furnaces is more than 150,000 tons of pig-iron per year.

The zinc-mines of Sussex are among the most valuable in the world.

Agriculture. — New Jersey is known as the "Garden State," because it makes a marked specialty of growing fruits and vegetables. Skillful husbandry raises from the thousands of gardens and farms immense quantities of garden-vegetables, sweet-potatoes, melons, berries, peaches, etc., which are shipped by railroad to supply the great markets of New York City and Philadelphia.

Manufactures. — Lying between the coal-fields of Pennsylvania and the great city of New York, the State has easy access both to the power that drives its machinery and to the market where its manufactures are sold. In the manufacture of hardware this State ranks next to Pennsylvania and New York. Locomotives used in all parts of the country are largely made. Other manufactures are leather and india-rubber goods, cotton and woolen goods, jewelry, silver and glass ware, clothing, chemicals, paints, etc.

Education. — New Jersey has a fine system of public schools. The higher institutions of learning are the College of New Jersey at Princeton, Rutgers College at New Brunswick, and the State Normal School at Trenton.

Cities. — Besides Newark and Trenton the most important cities are: —

Name.	Advantages of Location.	Industries and Characteristics.
Jersey City.	Situated on west shore of New York Bay.	Manufacturing and commerce. Important railroad terminus. Starting-point of several ocean steamship lines.
Pat'erson.	Proximity to New York (17 miles) and water-power from the Passaic River.	Machine-shops, locomotive and steam-engine works, cotton and silk manufactories, and paper-mills.
Elizabeth.	Easy access to New York City by numerous railroads.	Considerable manufacturing. Favorite place of suburban residence.
Ho'boken.	Opposite New York City.	Starting-point of several Transatlantic steamship lines. Seat of the Stevens Institute of Technology.
Camden.	Opposite Philadelphia.	Ship-yards, iron-founderies, chemical and glass works, etc.
New Brunswick.	On the Raritan River. Northern terminus of Raritan and Delaware Canal.	Manufacture of india-rubber goods, paper-hangings, hardware, etc. Seat of Rutgers College.

☞ Pupils may find out and state something about each of these additional cities, towns, and villages: —

Orange.	Millville.	Freehold.	Newton.	Keyport.
Bridgeton.	Plainfield.	Hackensack.	Princeton.	Woodbury.
Rahway.	Morristown.	Salem.	Somerville.	
Burlington.	Phillipsburg.	Bordentown.	Flemington.	

DELAWARE.

1. Description. — In soil and surface Delaware resembles New Jersey, from which it is separated only by Delaware Bay.

2. Industries. — The soil is generally fertile, and agriculture is a leading pursuit, the chief products being wheat, vegetables, peaches, and other fruits. The manufacturing interest is large.

3. Cities. — WILMINGTON, the only large city in Delaware, manufactures railroad-cars, carriages, paper, powder, and builds iron steamships. DOVER is the capital.

For Delaware Classes. — [Delaware classes may make a detailed study of their State by following the Outline on page 30.] ADDITIONAL FACTS. — 1. Area of the State, 2,050 square miles; population in 1880, 146,608. 2. The State is divided into three counties, viz.: New Castle, Kent, and Sussex. 3. The peach crop is very large (from 3,000,000 to 5,000,000 baskets annually). 4. The chief manufactures are those of flour, lumber, boots and shoes, iron, leather, gunpowder, cars, carriages, and wagons.

☞ State the location of the following places: — SMYRNA, NORTH MILFORD, CAMDEN, FREDERICA, NEW CASTLE, DELAWARE CITY, MIDDLETOWN, NEWARK, ODESSA, SEAFORD, LEWES, LAUREL, MILTON, SOUTH MILFORD, GEORGETOWN.

MARYLAND.

OYSTER-DREDGING AND DUCK-SHOOTING IN CHESAPEAKE BAY.

1. Physical Features. — This State has a very irregular outline, being bisected by Chesapeake Bay, which divides the mainland from the peninsula called the *Eastern Shore*. The central and western parts are crossed by ranges of the Alleghany Mountains.

2. The leading industries are (1) agriculture, the chief products being wheat, corn, and tobacco; (2) manufacturing; (3) the mining of coal in the mountain region; and (4) commerce, for which Chesapeake Bay affords fine facilities.

3. Cities. — BALTIMORE is a beautiful city, favorably situated for commerce and manufactures. It ranks as one of the greatest of flour, tobacco, and oyster markets. ANNAPOLIS, a small city, is the capital. The United States Naval Academy is located here.

SPECIAL GEOGRAPHY FOR MARYLAND CLASSES.

☞ Maryland classes should now make a full study of the geography of their State, following the Outline on page 30. See County map, page 38.

Area, 12,210 square miles. Population (census 1880), 934,943.

Outline and Extent. — This State is very irregular in its outline. It occupies an extent of about 190 miles on its northern boundary, but contracts in the west so that its southern limit has hardly half that extent, even including Chesapeake Bay. Its greatest breadth from north to south is 120 miles.

Surface. — The surface on both shores of Chesapeake Bay is level, and the soil sandy. A range of hills enters the State where the northern boundary strikes the Susquehanna and extends in a southwest direction to the Potomac River, which it intersects about 10 miles above Washington City. This ridge divides the alluvial from the mountainous part of the State.

Western Maryland, comprising a long but narrow tract between the Potomac and the southern boundary line of Pennsylvania, is traversed from north to south by various ridges of the Appalachian system, bearing different local names. The extreme western part is crossed by the main Alleghany range.

Rivers and Bays. — Chesapeake Bay extends northward about 120 miles within this State, with a breadth ranging from 7 to 20 miles. It is navigable for large vessels throughout its whole extent.

Nearly all the rivers of the State ultimately discharge their waters into Chesapeake Bay. It receives at the southern extremity of the State the large river Potomac (navigable to Washington), besides the Patuxent and Patapsco from the west, the Susquehanna from the north, and various minor streams from the east.

Mining. — The western mountain section shares with Pennsylvania the coal and iron deposits which constitute the mineral wealth of that State. The coal-trade has its center at Cumberland. The annual value of mining-products is about $4.000,000.

Agriculture. — The soil is fertile, and agriculture is a leading occupation. The three chief farm products are corn, wheat, and tobacco; of the last article about 26,000,000 pounds are raised annually. Besides these large quantities of oats, rye, buckwheat, flax, potatoes, pease, beans, fruit, butter, honey, and wool are produced.

Fish and Fowl. — The shores and waters of Chesapeake Bay are unrivaled for the variety, excellence, and abundance of their fish and game. Among these are the shad and herring, oysters, terrapins, and the canvas-back duck. The taking of these fish and fowl for domestic use and for export employs large numbers of people, and is a very important source of wealth.

Manufactures. — Maryland has a large amount of capital employed in a great variety of manufactures.

The leading articles of manufacture are cigars, chewing and smoking tobacco, flour, refined sugar, canned fruits and oysters, clothing, iron-work, and boots and shoes.

The total value of manufactured products is nearly $80,000,000 a year.

Commerce. — The foreign commerce of Maryland is carried on chiefly through the city of Baltimore, which has all the advantages of a seaport. The chief exports are tobacco, flour, wheat, coal, iron, and canned-oysters.

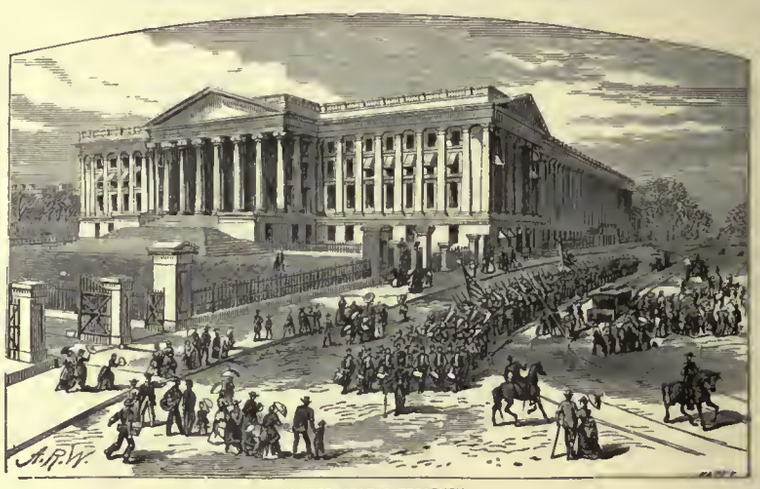
Education. — Maryland has an established system of public schools, and those of Baltimore are especially noted for their excellence. The State has also several colleges, universities, and professional schools.

Places. — In addition to Baltimore and Annapolis the principal places are **Cumberland**, the center of the coal trade; **Frederick**, the trading center for a fine farming region; and **Hagerstown**, an active manufacturing and trading point.

☞ State the location of the following places: —

Westminster.	Cambridge.	Chestertown.	Easton.	Williamsport.
Chesapeake City.	Havre de Grace.	Laurel.	St. Michael's.	Salisbury.
Elkton.	Ellicott City.	Centerville.	Sharpsburg.	Newtown.

DISTRICT OF COLUMBIA.



UNITED STATES TREASURY.

1. This District is a territory of the United States, occupying an irregular area of 70 square miles on the Maryland side of the Potomac.

2. Its Importance. — Its national importance arises from the fact that it is the political center of our country, containing WASHINGTON, the capital of the United States.

NOTE. — The District had formerly a territorial government, but at present it is governed by Congress directly, through a Committee on the District of Columbia.

3. Washington City (population 147,293), as the capital, contains the public buildings in which is transacted the public business of the three branches of the general government, legislative, executive, and judicial. GEORGETOWN is an attractive place of suburban residence, and has considerable commerce.

Public Buildings and Institutions. — Among the famous buildings and other objects of interest in Washington are the Capitol, one of the most magnificent and imposing structures in the world; the Treasury building, constructed in massive Ionic architecture; the General Post-Office; the Patent office building; the Smithsonian Institution and Museums; the Naval Observatory; and the Botanical Gardens.

VIRGINIA.

RICHMOND.

1. Physical Features. — Virginia is divided into two sections: (1) the Western section, including the Blue Ridge and the mountain-region to the west of it; (2) the Eastern section, which consists of a plain sloping from the Blue Ridge to tide-water.

2. Resources. — This State has a generally fertile soil, great mineral wealth, and fine advantages for manufacturing.

3. Industries. — The leading industry is agriculture, the principal staples being tobacco, wheat, and corn. The mining, manufacturing, and fishing interests are important.

4. The Capital. — RICHMOND, the capital and largest city, is at the head of tide-water on the James River. It contains extensive tobacco factories and warehouses, flour-mills, and iron-works.

SPECIAL GEOGRAPHY FOR VIRGINIA CLASSES.

☞ Virginia classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 42,450 square miles. Population (census of 1880), 1,512,565.

Outline. — The form of Virginia is that of an irregular triangle, having for its base a straight line forming the northern boundary of North Carolina and part of the northern boundary of Tennessee.

Surface. — The Appalachian system of mountains traverses the State from southwest to northeast in two main parallel ridges, — the Alleghany Mountains and the Blue Ridge. The Peaks of Otter in the Blue Ridge (nearly 4,000 feet high) are the loftiest summits in the State.

Bays and Rivers. — Chesapeake Bay, which has numerous fine harbors, has its outlet in this State, though more than half its length is in Maryland.

Most of the rivers of the State flow into Chesapeake Bay. The principal of these are: the Potomac, Rappahannock, York, James, with its principal affluent the Appomattox, and Shenandoah.

The western slope toward the Ohio is drained by various head-streams of the Ohio and Tennessee rivers.

Mineral Resources. — The mineral resources are vast, the mountains containing rich deposits of coal and iron, and valuable marble, slate, and stone quarries. The salt-springs are an important source of wealth.

Agriculture. — Agriculture is the leading industry, much of the soil being well adapted to farming. Corn, wheat, and tobacco are the great staples. The tobacco yield is second only to that of Kentucky.

Manufactures. — The leading articles of manufacture are prepared tobacco and flour. The rich deposits of coal and iron in this State, together with its unlimited water-power, must make Virginia a great manufacturing State.

Education. — The State is rapidly advancing in facilities for free education. Among the great seats of learning are the University of Virginia at Charlottesville, Washington and Lee University and the Military Institute at Lexington.

Cities. — After Richmond the most important places are: —

Names.	Advantages of Location.	Industries and Characteristics.
Norfolk. Portsmouth.	Mouth of Elizabeth River.	Large export trade. Oyatering. United States Navy-Yard.
Petersburg.	Head of tide-water on the Appomattox.	Tobacco and cotton factories, manufacture of paper, flour, soap, iron, etc.
Alexandria.	On the Potomac, near Washington.	Trade by river, canal, and railroad.
Lynchburg.	On James River and James River and Kanawha Canal. Salubrious climate.	Great manufacture of all kinds of prepared tobacco. Miscellaneous manufacturing. Fine educational facilities.
Staunton.	In the Shenandoah Valley.	Important trading-point. Seat of Lunatic Asylum and Institution for Deaf, Dumb, and Blind.
Winchester.	In the Shenandoah Valley.	Trading-point of a rich farming region.
Danville.	On Dan River. Water-power.	Center of finest tobacco region in the world. Tobacco trade and manufacture.
Manchester.	On the James, opposite Richmond.	Manufacture of tobacco, cotton, paper, iron.

WEST VIRGINIA.

1. History. — West Virginia formed a part of the State of Virginia until 1862, when it was organized as a separate State.

2. Physical Features. — In surface West Virginia is a mountainous State. The eastern part is crossed by several parallel ridges of the Alleghanies, and its western part is a hilly table-land with fertile river-bottoms, sloping toward the Ohio River.

Scenery. — This State abounds with magnificent mountain scenery. Among the special points of note is Harper's Ferry, where the Potomac breaks through the Blue Ridge, forming stupendous walls of rock on either hand.

3. Resources. — This State has rich deposits of coal and iron, and numerous oil-wells and salt-springs. The mountain pastures are admirably adapted to stock-raising, and the rich river-bottoms yield corn, tobacco, and garden products.

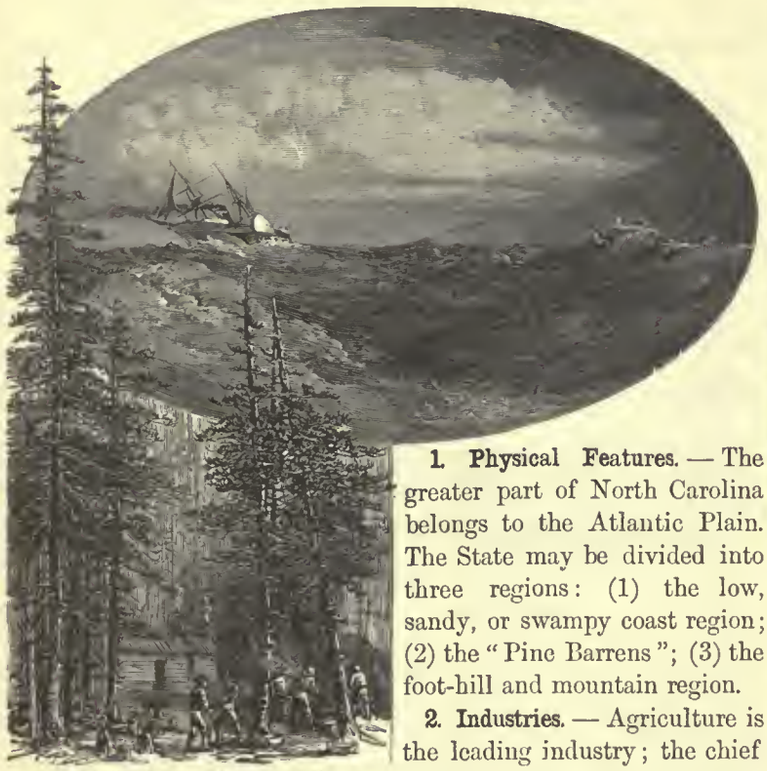
4. The leading industries are mining and agriculture. The commerce of the State is largely by way of the Mississippi Valley.

5. Cities. — WHEELING, on the Ohio, is the chief business city; it contains numerous iron-works and manufactories. CHARLESTON, the capital, on the Kanawha, is noted for its salt-works.

☞ **West Virginia classes may make a detailed study of the geography of their State by following the Outline on page 30.**

HARPER'S FERRY.

NORTH CAROLINA.



OFF HATTERAS.—TURPENTINE PINES.

1. Physical Features. — The greater part of North Carolina belongs to the Atlantic Plain. The State may be divided into three regions: (1) the low, sandy, or swampy coast region; (2) the "Pine Barrens"; (3) the foot-hill and mountain region.

2. Industries. — Agriculture is the leading industry; the chief products are sweet-potatoes, corn, cotton, and tobacco. In the production of tar, pitch, turpentine, and rosin this is the leading State.

3. Cities. — WILMINGTON is the chief port. RALEIGH is the capital.

SPECIAL GEOGRAPHY FOR NORTH CAROLINA CLASSES.

☞ North Carolina classes should now make a full study of the geography of their State, following the Outline on page 30. See map, page 31.

Area, 52,250 square miles. Population (census of 1880), 1,399,750.

Outline and Extent. — In outline this State is irregular, having its greatest extent from east to west, and being broadest near the center. Its greatest length is 450 miles; its greatest breadth 180 miles.

Coast. — The coast is low and fringed by long sandy spits and islands, while sand-bars obstruct the mouths of the rivers, thus rendering navigation difficult. Two great inbreakings of the sea form Albemarle Sound and Pamlico Sound. The most easterly cape is Hatteras, off which are great storms.

Surface. — The ranges of the Appalachian system are so far to the west that the State may be said to belong to the Atlantic Plain; but this presents in its various parts very different characteristics. The marshy coast region extends about 60 miles inland; then come the "Pine Barrens," having a breadth of about 50 miles; while westward to the base of the Blue Ridge is the upland district. The mountain region of the west is a wild and precipitous country crossed by the Blue Ridge, the Alleghany Mountains, and the Black Mountains (Mount Mitchell, 6,476 feet high).

River System. — The principal watershed of this State is formed by the Blue Ridge, and the chief rivers are the Chowan, Roanoke, Tar, Neuse, Cape Fear, and Yadkin, a tributary of the Great Pedee, and the Catawba, the name given to the upper course of the Wateree. The various streams in the western mountain section flow westward and form a part of the Mississippi system.

Forest Products. — The products of the pine, namely, pitch, tar, turpentine, and rosin, are the characteristic exports. The annual value of these products is two and a half million dollars, — about three times the yield of these articles in all the rest of the United States.

Farm Products. — The leading crops are those of tobacco, cotton, corn, rice, sweet-potatoes, and peanuts.

Towns. — In addition to Wilmington and Raleigh are the following cities: New Berne, with saw-mills and turpentine distilleries; **Fayetteville**, a flourishing trading-point; and **Charlotte**, the leading city of the southwestern part. The places next in size are Beaufort, Washington, Asheville, Tarboro, Edenton, Kinston, Plymouth, Goldsboro, Elizabeth City, Wilson, and Oxford.

SOUTH CAROLINA.

RICE PLANTATION.

1. The natural divisions of South Carolina, or the "Palmetto State," are: the lowlands along the sea-coast; the pine region, or "Middle Country," and westward of this the "Ridge," where the surface rises by a steep and sudden elevation.

2. The leading industry is agriculture. The chief exports are cotton and rice; and in the production of the latter article South Carolina is the leading State.

3. Cities. — CHARLESTON, the largest city, is engaged in manufacturing and commerce. COLUMBIA is the capital.

SPECIAL GEOGRAPHY FOR SOUTH CAROLINA CLASSES.

☞ South Carolina classes should now make a full study of the geography of their State, following the Outline on page 30. See map, page 31.

Area, 30,570 square miles. Population (census of 1880), 995,577.

Outline and Extent. — In outline this State is irregularly triangular. Its breadth north and south on the meridian of Savannah is about 200 miles, and its greatest length about 300 miles. It has above 200 miles of seaboard.

Coast and Harbors. — Its coast presents in a marked manner the features of the South Atlantic seaboard States; namely, shoals and sand-bars, shallow sounds, low islands, cypress-swamps, and open marshes.

River System. — All its rivers belong to the Atlantic system, and flow in a southerly direction into the Atlantic Ocean.

Climate. — South Carolina is in the warm-temperate zone, and its semi-tropical character is shown in the growth of the palmetto and magnolia, the orange, lemon, and fig.

Agriculture. — The chief agricultural products are cotton and rice.

COTTON. — The two kinds of cotton grown in this State are the long, or Sea Island cotton, and the short, or upland cotton. The Sea Island cotton is of the finest quality, and is distinguished by its long, silky fiber.

RICE. — Rice is more extensively produced here than in any other State. South Carolina was the first place on the American continent where this cereal was cultivated. The seed was introduced from Madagascar.

Inhabitants. — The last census gives 399,105 whites and 604,332 colored.

Towns. — In addition to Charleston and Columbia the following are the leading places: **Greenville**, a charming place of summer resort; **Graniteville**, which has extensive cotton-mills; **Georgetown**, which has saw-mills, turpentine-works, and local trade; and **Newberry**, which has extensive granite-quarries. The places next in size are Beaufort, Pickensville, Winnsborough, Spartanburg, Camden, Hamburg, Sumter, Anderson, Marion, Pendleton, and Cheraw.

GEORGIA.

1. Its Rank. — Georgia is the most enterprising and flourishing of the Southern States.

2. Physical Features. — The surface is low and level along the coast, hilly in the middle, and mountainous in the north.

3. The leading industries are (1) agriculture, the chief products being corn, rice, cotton, and sweet-potatoes; and (2) manufacturing, for which Georgia has fine facilities, and in which it surpasses any other Southern State.

4. Cities. — SAVANNAH is an important city and seaport; it ships cotton, rice, and lumber. ATLANTA, the capital, is an important railroad point, and has iron-works and machine-shops.

SPECIAL GEOGRAPHY FOR GEORGIA CLASSES.

☞ Georgia classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 59,475 square miles. Population (census of 1880), 1,542,180.

Outline and Extent. — Georgia is irregular in form. It has an extreme length north and south of 320 miles, and an extreme breadth east and west of 254 miles.

Surface. — In Georgia, the Appalachian system begins to decline into broken ridges, forming in the northern part wild and picturesque scenery. The character of the coast is similar to that of the Carolinas, but the coast-line is short compared with the extent of the State.

Okeefino'kee Swamp is, next to the Everglades of Florida and the Dismal Swamp, the most extensive morass in the United States.

River System. — The rivers of the State belong either to the Atlantic system or to the Gulf system. The principal rivers of the Atlantic system are the Savannah, the Ogee'chee, the Altamaha', with its branches, and the Saltil'la; those of the Gulf system are the various branches of the Suwa'nee, the Ocloconee, the Chattahoo'chee and its tributary the Flint River, and the Et'owah and Oostanau'la, forming the Coosa.

Agriculture. — In the production of cotton Georgia ranks second only to Mississippi, the crop amounting to over 800,000 bales annually. In rice-growing it is second only to South Carolina, and in the production of sweet-potatoes is second only to North Carolina. The uplands produce wheat, rye, hay, and Irish potatoes.

Minerals. — Gold, iron, coal, marble, and slate abound in the State.

Manufactures. — The value of the manufactured articles, chiefly of cotton and iron, of this State amounts to over $30,000,000 annually.

Education. — All the leading cities of Georgia have excellent public schools, and great interest in education is manifested throughout the State.

History. — Georgia was settled by General James Oglethorpe, who came from England, and landed near Savannah. It was one of the original thirteen colonies.

Cities. — In addition to Savannah and Atlanta there are six cities: **Augusta**, noted for its extensive cotton-trade and its cotton-mills; **Macon**, noted for its cotton-trade and superior educational advantages; **Columbus**, which has the finest cotton and woolen mills in the South; **Athens**, the seat of the State University; **Milledgeville**, the former capital; and **Rome**, noted for its foundries and fine water-works.

FLORIDA.

1. Physical Features. — Florida is a long peninsula with a generally level surface. The southern section is a continuous morass, and the *everglades* are extensive swamp-lands overgrown with cypress and water-oaks. The climate is semi-tropical.

NOTE. — Florida is a coral formation covered with soil and vegetation. The Florida *Keys* are a number of low coral islands off the southern point of the peninsula, noted for the great number of vessels wrecked there.

2. Resources. — The hot, moist climate admirably adapts this State for the culture of cotton, sugar, and rice, as well as oranges, lemons, and other tropical fruits. Other valuable exports are cedar, live-oak, and sponge.

3. Places.—KEY WEST and JACKSONVILLE are the largest cities; TALLAHASSEE is the capital. The first named city, on the island of Key West, is strongly fortified, and is a United States naval station.

NOTE. — Pensacola and Appalachico'la are the chief ports on the Gulf; St. Augustine is a favorite resort for invalids.

TOPICAL REVIEW OF THE ATLANTIC SEABOARD STATES.

States.		Area.	Population. Census of 1880.	Capitals.	Chief City, and Pop. (in round numbers) by Census of 1880.	Industrial Pursuits.
		sq. miles.				
NEW ENGLAND..	Maine.	33,040	648,936	Augusta.	Portland (34,000).	Lumbering, ship-building, manufacturing, fisheries.
	New Hampshire.	9,305	346,991	Concord.	Manchester (32,700).	Manufacturing, agriculture, dairying.
	Vermont.	9,565	332,286	Montpelier.	Burlington (11,400).	Dairying, agriculture, pasturage, marble-quarrying.
	Massachusetts.	8,315	1,783,085	Boston.	Boston (363,000).	Manufacturing, fisheries, commerce, ship-building.
	Rhode Island.	1,250	276,531	Providence. Newport.	Providence (105,000).	Manufacturing, especially cottons and woolens.
	Connecticut.	4,990	622,700	Hartford.	New Haven (63,000).	Varied manufacturing, agriculture.
MIDDLE STATES..	New York.	49,170	5,082,871	Albany.	New York (1,200,000).	Agriculture, manufacturing, commerce.
	New Jersey.	7,815	1,131,116	Trenton.	Newark (136,000).	Manufacturing, agriculture, mining, horticulture.
	Pennsylvania.	45,215	4,282,891	Harrisburg.	Philadelphia (847,000).	Mining, manufacturing, agriculture, commerce.
	Delaware.	2,050	146,608	Dover.	Wilmington (42,000).	Manufacturing, horticulture.
	Maryland.	12,210	934,943	Annapolis.	Baltimore (332,000).	Mining, agriculture, manufacturing, fisheries, commerce.
	District of Columbia.	70	177,624	Washington.		
SOUTH ATLANTIC STATES.....	Virginia.	42,450	1,512,565	Richmond.	Richmond (64,000).	Raising tobacco and grain, mining, fisheries.
	West Virginia.	24,780	618,457	Charleston.	Wheeling (31,000).	Mining, pasturage, agriculture.
	North Carolina.	52,250	1,399,750	Raleigh.	Wilmington (17,400).	Agriculture, manufactures of pitch, tar, etc.
	South Carolina.	30,570	995,577	Columbia.	Charleston (50,000).	Agriculture, commerce.
	Georgia.	59,475	1,542,180	Atlanta.	Atlanta (35,000).	Raising cotton and rice, manufacturing, commerce.
	Florida.	58,680	269,493	Tallahassee.	Key West (10,000).	Raising cotton and semi-tropical fruits.


UNITED STATES
SECTION 2
GEORGIA
And The
SOUTH CENTRAL
STATES
SCALE OF MILES
1½ Latitude = 1 Inch
Local Time A.M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude West from Washington
Local Time A.M. when Noon on the Meridian of Washington
GULF OF MEXICO
FLORIDA STRAIT
TROPIC OF CANCER
TENNESSEE
Mouths of the Mississippi R.
Atchafalaya Bay
Apalachee Bay
Barataria Bay
Chandeleur Islands
Key West
Florida Reefs
Cape Sable
Havana

SOUTH CENTRAL STATES.

THIS section consists mainly of the southern part of the Mississippi Valley and the low plains bordering on the Gulf of Mexico, into which most of the rivers flow.

2. The States. — The South Central States are Alabama, Mississippi, Louisiana, Arkansas, and Tennessee.

NOTE. — Florida, though it has a great extent of coast on the Gulf of Mexico, has been included among the Atlantic States. Texas, though in part a South Central State, is, for convenience of mapping, included among the "States of the Plains."

3. Surface. — The Appalachian Mountain system is continued into the northeastern part of this section, and the western part, in Arkansas, has various detached ridges, as Pea Ridge, Boston Mountains, etc.: with these exceptions the surface is generally level.

4. Coast. — The coast on the Gulf of Mexico, like that of the South Atlantic States, is bordered by low sandy islands, between which and the mainland are inlets or lagoons. The river-mouths are mostly obstructed by sand-bars, so that good harbors are few.

5. River System. — The drainage of this section is mainly through the mighty Mississippi. It is here a broad, slow-moving stream, and discharges itself into the Gulf by various channels. The alluvial deposits brought down by the Mississippi have formed the *Delta*, which occupies a large part of the State of Louisiana.

The principal tributaries which the Mississippi here receives are the Yazoo and Big Black from the east, and the White, Arkansas, and Red Rivers from the west.

In Florida, Alabama, Mississippi, and Louisiana are a few streams forming a Gulf system, independent of the Mississippi system.

6. Climate and Vegetation. — The northern part has a warm-temperate climate, and the States bordering the Gulf of Mexico have a semi-tropical climate. Abundant rains fall. Magnolias and the cypress with pendent moss characterize the coast-belt; farther inland is the zone of the pine; this is succeeded by forests of oak and the deciduous trees.

7. Resources. — The soil is admirably adapted for the growth of cotton and the cereals, and in the southern part, of sugar and semi-tropical fruits. The forests supply ship-timber and naval stores. Coal and iron, copper and zinc, salt, marble, and gypsum, are among the mineral riches of this section.

8. Industries. — The fertile soil, abundant moisture, and warm temperature of this section give rise to its great industry, agriculture. The three leading staples grown are cotton, rice, and the sugar-cane. Mining and manufacturing, though secondary industries, are being rapidly developed. The labor is largely carried on by the colored people, who number about three millions.

9. Commerce. — These States have a large domestic trade, while the Mississippi River and the railroad connections with the Atlantic seaboard are the channels of an extensive foreign commerce. The chief exports are cotton, rice, sugar, lumber, and naval stores.

DELTA OF THE MISSISSIPPI.

MAP STUDIES ON THE SOUTH CENTRAL STATES.

Position. — 1. Between what parallels are the northern boundaries of Tennessee and Arkansas? 2. What parallel at the mouth of the Mississippi? 3. What States north of this section? 4. What gulf south? 5. What three States lie between this section and the Atlantic Ocean? 6. What State and Territory on the west?

Surface. — 1. Into what States does the southern extremity of the Appalachian Mountain system extend? 2. What mountains in Arkansas? 3. Which part of Tennessee is mountainous? 4. In which two States are there no mountains? 5. Which State has numerous lakes? 6. Where is Lake Pontchartrain?

Coast. — 1. What three States of this section border on the Gulf of Mexico? 2. What is the nature of the coast? 3. Locate Chandeleur Islands. 4. What four principal bays on the Gulf of Mexico? 5. What ocean current flows eastward through Florida Strait? *Ans.* The Gulf Stream.

Rivers. — 1. What great river in this section? 2. What are the principal tributaries which the Mississippi receives from the east? — from the west? 3. Which four of the States in this section border on the Mississippi? 4. What is the nature of the coast? 5. Describe the course of the Suwanee; — the Chattahoochee; — the Escambia; — the Alabama; — the Tombigby; — the Pearl; — the Sabine.

Cities. — 1. What is the direction of New Orleans from Cincinnati? 2. What is the direction of Mobile from Charleston? 3. What two Gulf States have their capitals in the same latitude? 4. What large Atlantic city is in nearly the same latitude as Montgomery and Jackson? 5. How would steamers laden with cotton go from Nashville to New Orleans? — from Little Rock to New Orleans?

THE STATES. — (To be taken in connection with the text on each State.)

I. **Alabama.** — 1. What abbreviation is used? *Ans.* Ala. 2. Bound Alabama. 3. Which part is hilly? 4. Into what body of water do most of its rivers flow? 5. What river traverses the northern part? 6. What is the capital of Alabama? 7. What is its principal seaport?

II. **Mississippi.** — 1. What abbreviation is used? *Ans.* Miss. 2. Bound Mississippi. 3. What great river on the west? 4. What two States on the opposite bank of the Mississippi? 5. Name the two principal tributaries of the Mississippi in this State. 6. What two rivers flow into Mississippi Sound? 7. In what part of the State is the capital? 8. Locate Natchez; — Corinth; — Vicksburg.

III. **Louisiana.** — 1. What abbreviation is used? *Ans.* La. 2. Bound Louisiana. 3. What great river forms a partial eastern boundary? 4. Which part of the State extends to the east of the Mississippi? 5. Where is Lake Pontchartrain? — Grand Lake? 6. Name the three principal passes at the mouth of the Mississippi. 7. Where is New Orleans? 8. What city on the upper course of the Red River? 9. Locate Port Hudson; — Baton Rouge; — Alexandria.

IV. **Arkansas.** — 1. What abbreviation is used? *Ans.* Ark. 2. Bound Arkansas. 3. Which part of the State is mountainous? 4. Name the three chief tributaries of the Mississippi in the State. 5. On what river is the capital? 6. Locate Helena; — Arkansas Post.

V. **Tennessee.** — 1. What abbreviation is used? *Ans.* Tenn. 2. Bound Tennessee. 3. What great river forms its western boundary? 4. Describe the course of the Cumberland; — of the Tennessee. 5. What two mountain-ranges in the eastern part? 6. They belong to what mountain system? 7. Where is Nashville, the capital? 8. Locate Memphis; — Chattanooga; — Knoxville.

ALABAMA.

COTTON SHIPPING.

1. Physical Features. — Alabama is generally level except in the northern part, which is broken or mountainous.

2. Industries. — Cotton is the great staple, and Alabama ranks as one of four leading cotton-growing States. The cotton manufacture is carried on to a considerable extent.

3. Cities. — MOBILE, the largest city, is one of the most important ports on the Gulf of Mexico. MONTGOMERY, the capital, in the central part, is a flourishing commercial and railroad city.

SPECIAL GEOGRAPHY FOR ALABAMA CLASSES.

☞ Alabama classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 52,250 square miles. Population (census of 1880), 1,262,505.

Divisions. — The State may be divided into five regions : (1) the timber region ; (2) the cotton region ; (3) the agricultural and manufacturing region ; (4) the mineral region ; (5) the stock and agricultural region.

The timber region extends across the southern portion of the State, 40 miles north of the Florida line. This section is covered with forests of yellow-pine which yields excellent timber. Tar, pitch, and turpentine are largely made.

The cotton region joins the timber region on the north ; it has a width of about 100 miles on the western line of the State, and 60 miles on the eastern.

The agricultural and manufacturing region is north of the cotton region, and extends across the State with a width of about 35 miles. The streams here afford excellent water-power.

The mineral region occupies the northeastern corner of the State, extending southwest about 160 miles with an average width of about 80 miles. This district abounds in coal, iron, plumbago, marble, limestone, granite, etc.

The stock and agricultural region occupies the northwestern part.

Industries. — *Agriculture* forms the principal occupation of the people. The chief productions are cotton and Indian corn ; other grains and the sugar-cane, rice and tobacco, are also produced.

The mining interest is attracting increased attention, and the large deposits of coal and iron must become a great source of wealth to the State.

The most important manufactures are those of cotton and cotton goods, thread and yarn, iron, leather, and lumber.

Cities. — Selma has a large river and railroad trade. Huntsville is noted for its fine climate and educational facilities. Opel'ika is an important railroad point. Eufau'la is an active commercial city. Birmingham has extensive iron-works. Tuscaloosa is the seat of the State University, Auburn of the State Agricultural College, and Greensboro of the Southern University.

☞ Locate and tell something about the following places : —

Marion.	Talladе'ga.	Tuskegee'.	Greensboro.	Florence.	Wetumpʻka.
Greenville.	Demop'olis.	Union Springs.	Prattville.	Tuscumbia.	Grantville.
La Fayette.	Troy.	Jacksonville.	Deca'tur.	Uniontown.	

MISSISSIPPI.

COTTON PICKING.

1. Physical Features. — The surface of this State is generally level, and much of the south and west is low. Along the Mississippi and Yazoo rivers the bottom-lands are subject to overflow, and the rich cotton plantations are protected by *levees.*

2. Industries. — The leading industry is the culture of cotton, in which Mississippi ranks as the foremost State. Great quantities of corn and sweet-potatoes are also raised.

3. Cities. — VICKSBURG and NATCHEZ are the principal shipping points on the Mississippi River, and have a large trade in cotton. JACKSON, the capital, is a small city on the Pearl River.

SPECIAL GEOGRAPHY FOR MISSISSIPPI CLASSES.

☞ Mississippi classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 46,810 square miles. Population (census of 1880), 1,131,597.

Outline. — In form Mississippi is oblong, having its length from north to south about twice its width. Like Alabama, it has a narrow strip of land south of the main body of the State and extending to the Gulf of Mexico.

Surface. — In its greater part the surface is level, though the central and northern portions are undulating and covered with occasional bluffs and ranges of hills. The valleys of the northern and central section are exceedingly fertile, and the region between the Mississippi and the Yazoo is the most productive in the State. The southern part, generally for about 100 miles from the Gulf, is mostly a sandy, level country, covered with pine forest, interspersed with cypress-swamps, prairies, and marshes.

River System. — The chief river, the Mississippi, washes the whole western border of the State, for a distance, by its circuitous course, of 530 miles, but in a straight line of not half that distance. The chief tributaries of the great river in this State are the Yazoo, which flows into the Mississippi 12 miles above Vicksburg, and the Big Black (200 miles long), which is navigated by steamboats for 50 miles. The other rivers flow southward directly into the Gulf of Mexico.

Products. — Mississippi is almost exclusively an agricultural State. The leading crop, cotton, amounts to about a million of bales annually. Horses, mules, swine, and cattle are extensively raised.

Commerce. — The natural outlets of the commercial products of this State are New Orleans and Mobile, with which it communicates by river and rail.

Cities. — In addition to the cities mentioned in the main text the following are the largest places : — Columbus, the chief business of which is shipping cotton to Mobile ; Meridian, a railroad center ; Oxford, the seat of the State University ; Holly Springs, which is noted for its superior educational institutions ; and East Pascagoula, which has a large trade in lumber.

☞ Locate and tell something about the following towns : —

Aberdeen.	Pass Christian.	Grena'da.	Corinth.	Okolo'na.
West Point.	Macon.	Mississippi City.	Water Valley.	Pascagou'la.

LOUISIANA.

SUGAR PLANTATION.

1. Its Rank.—Louisiana ranks as one of the most important States, not only on account of its staple products, but commercially, as holding the outlet of the Mississippi Valley.

2. Physical Features. — The surface is low, generally level, and in many places swampy; along the banks of the Mississippi and Red rivers the plantations are protected from inundation by embankments, or *levees*.

3. The leading industries are agriculture and commerce.

Agriculture. — The staple products are the sugar-cane, cotton, and rice. The State produces nine tenths of all the sugar raised in the United States, and great crops of cotton and rice.

Commerce. — The commercial facilities of the State arise from its situation at the lower extremity of the Mississippi Valley, on the coast of the Gulf of Mexico. This gives it the control both of the foreign and the domestic trade of this rich section.

4. Cities. — NEW ORLEANS is the largest city and the greatest cotton-market in the Gulf States. Baton Rouge is the capital.

SPECIAL GEOGRAPHY FOR LOUISIANA CLASSES.

☞ Louisiana classes should now make a full study of the geography of their State, following the Outline on page 80.

Area, 48,720 square miles. Population (census of 1880), 939,946.

Outline and Extent. — Louisiana has an irregular outline. Its greatest length east and west is about 300 miles; its greatest width north and south, 240 miles.

Sea-coast. — Louisiana has a coast-line of 1,256 miles on the Gulf.

Surface. — The surface of Louisiana is low and generally level. The entire Delta of the Mississippi, comprising one fourth of the area of the State, is seldom elevated more than ten feet above the level of the sea, and is liable to frequent inundations from freshets in the rivers. A great part of the Delta is composed of sea-marsh, which is subject to overflow by high tides.

North of the Delta are vast level prairies, which are slightly elevated above the marsh-lands. The western margin of the Lower Mississippi is also a low country, intersected by many small rivers and bayous, and liable to overflow.

In the west and north is an extensive region comprising one half the State, which is somewhat broken, but which nowhere exceeds 200 feet in elevation.

Levees. — Below Baton Rouge, on both banks, and on the west bank throughout the State, the country requires to be protected by levees. Occasionally they give way, causing great damage by the overflow. An example of this occurred in the spring of 1874, when in consequence of crevasses in the levees thirty-one parishes were submerged, and great loss and suffering followed.

Rivers. — *The principal river* is the Mississippi, which forms the eastern boundary in the northern half of the State. It is here a deep, broad, watercourse, with many windings, and in this State, taking its "bends" into account, has a course of 800 miles. The waters of the Mississippi find their way into the Gulf through numerous mouths, bayous, and lagoons, and discharge immense quantities of sediment, brought down from the Rocky Mountains.

The main tributary which the great river receives in this State is the Red River (rising in the Rocky Mountains), which pours its waters, swelled by those of the Ouachita', into the Mississippi nearly at the 31st parallel.

The chief rivers not tributary to the Mississippi are the Calcasieu [*kal'ka-shoo*], Bayou Têche, and Amite, with the Pearl and Sabine, boundary streams.

Climate. — The climate is semi-tropical, and many of the fruits and flowers of the Torrid Zone, such as the orange, fig, pomegranate, and magnolia grandiflora, flourish in perfection.

Minerals. — The State is not rich in minerals. It may be noted, however, that in Calcasieu Parish are extensive deposits of sulphur and gypsum, and that at Petit Anse in Iberia Parish there is a mass of pure rock-salt, more than 144 acres in area, and of unknown depth. It was discovered during the war (1861–65), and is now largely mined.

Agriculture. — Louisiana is largely an agricultural State. The staples, besides Indian corn and other cereals for home use, are cotton, rice, and sugar.

Cotton. — Cotton is largely cultivated, and Louisiana ranks as the seventh State in the production of this important article.

Rice. — In the production of rice this State ranks high. The rice is grown in the alluvial soil along the Mississippi, a large part of it being produced in the parish of Plaquemines [*plak'meen*].

Sugar. — This State is the only part of our country that produces sugar in large quantities. The sugar-cane does not flourish above latitude 31°. The culture of the cane in Louisiana began about the middle of the last century. The sugar crop in 1860 was 220,000 hogsheads, but is now less.

Manufactures. — The manufacturing interest is not large or diversified. The principal products of manufacture are sugar and molasses. The next most important articles are tobacco and cigars, boots and shoes, flour, clothing, iron-castings, and machinery.

Political Divisions. — The State is divided into *Parishes* corresponding to the counties of other States. The use of the term *parish* is derived from the early French inhabitants.

History. — "Louisiana," in the last century, was the name applied to an extensive territory including the whole country westward from the Mississippi not occupied by Spain, and northward to the southern boundary of British America, — a vast region then in possession of France. In the year 1803, during the administration of Jefferson, this domain was purchased from France for $15,000,000 dollars. The *State* of Louisiana was organized in 1812, and all the rest of "Louisiana" took the name of "Missouri."

Cities.—In addition to New Orleans and Baton Rouge, the most important place is **Shreveport**, the principal cotton city in the Red River section. The following places are next in importance: **Monroe**, a cotton point on the Ouachita; **Natchitoches** and **Alexandria**, on Red River; **Plaquemines** and **Donaldsonville**, on the Mississippi; **Franklin** and **St. Martinsville**, on the Têche; **Thibodeauville**, on the Lafourche; **Opelou'sas**, on the Courtableau; and **Jackson**, in the Feliciana region.

ARKANSAS.

1. Physical Features. — The eastern part of this State, bordering on the Mississippi, is low, level, and swampy; in the interior it becomes hilly, and in the west it rises into a mountain region.

2. Industries. — The staple farm products are cotton and corn; stock-raising is extensive, and the mineral resources are great.

3. Capital.—LITTLE ROCK is the capital and largest city.

For Arkansas Classes.—I. Area, 53,850 square miles; population, by the census of 1880, 802,525. II. The chief products are, in the north, wheat, corn, oats, potatoes, hemp, butter, apples, and live-stock; in the south, timber, corn, cotton, tobacco, rice, sweet-potatoes, honey, and beeswax. The cotton crop amounts to about 600,000 bales a year. III. The minerals in the Ozark Mountain region are coal, iron, zinc, and lead. The oil-stone of the Ouachita mineral-spring region is the best in the world. In the Ouachita valley, about 60 miles from Little Rock, there are many hot springs, remarkable for their high temperature, which varies from 100° to 150°. IV. The following are, next to Little Rock, the most populous places: Fort Smith, Pine Bluff, Camden, Hot Springs, Van Buren, Fayetteville, Arkadelphia, Dardanelle, Searcy, and Batesville.

TENNESSEE.

MEMPHIS.

1. Physical Features. — This State is divided into three sections, — East Tennessee, Middle Tennessee, and West Tennessee.

2. The leading industries are (1) mining and grazing in the Eastern Mountain section; (2) the raising of cotton, corn, wheat, and live-stock in the Middle section; and (3) the production of cotton and tobacco in the Western section.

3. Cities. — MEMPHIS, an important city, is the principal cotton and grain market between St. Louis and New Orleans.

NASHVILLE, a fine city on the Cumberland River, is the capital, and the chief market for Middle Tennessee.

SPECIAL GEOGRAPHY FOR TENNESSEE CLASSES.

☞ Tennessee classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 42,050 square miles. Population (census of 1880), 1,542,359.

Situation and Extent. — Tennessee by its geographical position forms the middle ground between the North Central and the Gulf States. Its greatest length from east to west is about 430 miles; its breadth is about 110 miles.

Surface. — The whole of the State belongs to the Mississippi Valley, but it is usually divided into three sections, — East Tennessee, or the part east of the Cumberland Mountains; Middle Tennessee, which lies between these mountains and the Tennessee River; and West Tennessee, which extends from the Tennessee River to the Mississippi.

East Tennessee is a mountain-valley region about 100 miles in width. This region is intersected by numerous parallel ridges, bearing various local names. *Middle Tennessee* is moderately hilly. *West Tennessee* is either level or gently undulating.

River System. — Noble rivers open to navigation, and streams furnishing water-power, mark this State. The Mississippi forms the western boundary for 160 miles, and into this great reservoir flow ultimately all the waters of the State.

The Cumberland has a course in this State of 150 miles, and is navigable to Carthage.

The Tennessee, formed by the union of the Clinch and Holston, after leaving this State and flowing through the northern part of Alabama, re-enters the western part, takes a northerly course through its whole breadth, and, passing into Kentucky, joins the Ohio at Paducah. It is navigable from its mouth up to Florence, Alabama, at the foot of Muscle Shoals.

Minerals. — In mineral resources Tennessee is exceedingly rich. The State has over 5,000 square miles of coal, and 28 counties filled with inexhaustible beds of iron-ore. The iron and coal interests are rapidly growing. Copper and salt are abundant, and nitrous earth, from which saltpeter is obtained, is found in many places. The marbles of Tennessee are esteemed for their beauty and variety.

Agriculture is the most important industry in this State. Middle and West Tennessee have a highly productive soil, and the valleys in East Tennessee are very fertile.

The great staples are wheat, corn, cotton, hemp, and tobacco. In the production of the last-named article it ranked as the fifth State in 1880.

Stock-raising, including horses, mules, cattle, and hogs, is largely carried on.

Manufactures. — The manufacturing industries are more developed than in any other of the South Central States. There are many cotton-mills, woolen-mills, manufactories of machinery, hardware, and other metallic ware, tobacco factories, potteries, paper-mills, etc.

The value of manufactured articles is over $50,000,000 a year.

Commerce. — An extensive internal trade is carried on through the rivers and railroads of the State. Two great outlets for the cotton of the State are New Orleans, *via* Memphis and the Mississippi River, and by railroad to Norfolk, Va.

Education. — Tennessee is distinguished for the number of its colleges and private institutions. The city of Nashville alone has four colleges and universities, viz.: the University of Nashville, Vanderbilt University, Fisk University, and Central Tennessee College. A State University, with which is connected the State Agricultural College, is at Knoxville.

Historical. — This State derives its name from the Tennessee River, signifying the "river of the great bend." In colonial times it formed part of the territory of North Carolina, having been settled by emigrants from that colony in 1757. After the Revolution it was ceded to the General Government and formed part of the "Southwest Territory." It was admitted into the Union in 1796, being the sixteenth State.

Cities. — Next to Memphis, the metropolis, and Nashville, the capital, the most important places are: —

Names.	Advantages of Location.	Industries and Characteristics.
Knoxville.	On Holston River.	Trading center for East Tennessee.
Chattanooga.	On Tennessee River in southern part of State. Coal and iron fields.	Important iron works. Railroad and trading center.
Jackson.	Fertile region in West Tennessee.	Local trade.
Murfreesboro.	On Stone River.	Important trade, especially in cotton and grain.
Clarksville.	On Cumberland River.	Trading center in Middle Tennessee.
Columbia.	On Duck River.	Local trade. Educational center.

☞ State the location of the following additional places, and anything known regarding each: —

Brownsville. Lebanon. Shelbyville. Franklin.
Gallatin. Trenton. Cleveland. Fayetteville.

TOPICAL REVIEW OF THE SOUTH CENTRAL STATES.

Names.	Area.	Population, by Census of '80.	Capitals.	Chief City, and Population (in round numbers) by Census of 1880.	Industrial Pursuits.
	sq. miles.				
Alabama.	52,250	1,262,505	Montgomery.	Mobile (32,000).	Culture of cotton and grain; lumbering, mining.
Mississippi.	46,810	1,131,597	Jackson.	Vicksburg (12,000).	Culture of cotton and grain; stock-raising.
Louisiana.	48,720	939,946	Baton Rouge.	New Orleans (216,000).	Culture of sugar, cotton, and rice; commerce.
Arkansas.	53,850	802,525	Little Rock.	Little Rock (13,000).	Culture of cotton and grain; pasturage.
Tennessee.	42,050	1,542,359	Nashville.	Nashville (44,000).	Culture of cotton, tobacco, and grain; mining, manufacturing.

THE NORTH CENTRAL STATES.

CINCINNATI. ST. LOUIS. CHICAGO.

INTRODUCTION.

1. The States. — The North Central States comprise the "Lake States" and the States of the "Upper Mississippi Valley," — in all, nine States.

The Lake States are: Michigan, Ohio, Indiana, Illinois, and Wisconsin. For convenience of mapping, Kentucky is united with this group.

The Upper Mississippi States are: Minnesota, Iowa, and Missouri.

2. Situation. — This section lies in the same latitude as the New England and Middle States, its northern part in Minnesota (49th parallel) extending somewhat farther north than Maine, and its most southern part (the southern boundary of Missouri and Kentucky) being on the same parallel as the southern boundary of Virginia.

3. Size. — The North Central States include about one seventh of the area and one third of the population of our country.

4. The surface as a whole is but little elevated above the sea, and is either level or undulating; still, the section presents certain mountains, plateaus, and slopes.

5. Mountains. — The Cumberland Mountains, the most western range of the Appalachian Mountain system, form the boundary between Virginia and Kentucky.

The *Height of Land*, which forms the watershed between the Mississippi Basin and the northern slope of the Central Plain of North America, traverses Northern Minnesota. The highlands of Northern Wisconsin and the Upper Peninsula of Michigan are an extension of the *Height of Land*.

The Ozark Mountains, consisting of groups and knobs of highlands rather than mountains, occupy Southern Missouri.

6. Plateaus and Slopes. — The western slope and foothill region of the Appalachian Mountain system form a plateau, or table-land, of moderate elevation, extending through Eastern Kentucky, nearly the whole of Ohio, and the southeastern part of Indiana. The general slope is toward the Ohio and Mississippi rivers.

The plateau region of Northern Wisconsin and the Upper Peninsula of Michigan has a slope toward the south and east. The States bordering the Mississippi slope toward that river, and have also a general slope toward the Gulf of Mexico.

7. Lakes. — Four of the five Great Lakes, namely, Erie, Huron, Michigan, and Superior, are situated in the northern part of this section.

NOTE.—Lake Superior is six hundred feet above the sea-level, and has an area of thirty-two thousand square miles, — a surface equal to that of the whole of the State of Maine or the island of Ireland. Lake Michigan, about fifty feet lower than Lake Superior, is three fourths as large. Lake Huron is two thirds as large as Lake Superior. Lake Erie is one third as large as Lake Superior, and is very shallow, being less than one hundred feet deep.

8. Rivers. — The principal rivers of this section belong to the Mississippi system.

The Mississippi proper rises in Lake Itasca in Minnesota. This lake is 1,575 feet above the sea-level. The great river has uninterrupted navigation from the Falls of St. Anthony through this entire section, and southward to the Gulf of Mexico, a distance of 3,136 miles.

Chief Tributaries. — Two of the tributaries of the Mississippi are of such length and volume as to deserve the name of *constituents* rather than tributaries. These are: 1. *The Missouri*, which receives numerous affluents, has a length of 3,000 miles, and is navigable to the base of the Rocky Mountains. 2. *The Ohio*, which is navigable to Pittsburgh, a distance of nearly 1,000 miles.

Several rivers of this section belong to the basin of the St. Lawrence and Great Lakes. They are comparatively short, and are valuable rather for mill-uses than for navigation.

9. Resources. — This favored region is rich in natural advantages. The chief of these are a generally fertile soil, great deposits of the most valuable minerals, extensive forests, and ready means of commercial communication.

Soil. — The broad and fertile prairies, admirably adapted both for tillage and grazing, form the granary of our country.

Minerals. — Coal is very widely distributed throughout this section, and is in inexhaustible quantities. Iron is extensively found, especially in Missouri and Michigan. The Lake Superior copper-mines are the richest in the world. Most of the lead produced in the United States is obtained from the lead-mines of Iowa, Illinois, Wisconsin, and Missouri.

Forests. — This section is well timbered; the northern States contain great forests of white-pine; the hard woods, also, are plentiful in many parts.

The means of communication afforded by nature are the numerous large navigable streams, especially the Mississippi and its tributaries, which give communication with the Gulf of Mexico, and the Great Lakes, which, with the St. Lawrence, give communication with the Atlantic Ocean.

10. Industries. — Agriculture and grazing, manufacturing, mining, and lumbering, are the leading industries in this section.

11. Commerce. — These States export immense quantities of wheat, flour, corn, pork, bacon, beef, cheese, salt, wool, copper, lead, and lumber. The splendid commercial facilities with which nature has endowed this section are further increased by a network of railroads, built by the enterprise of the Western people.

12. History. — With the exception of Kentucky, all the States of this section east of the Mississippi originally formed parts of the "Northwest Territory," organized in 1787. The States of this section lying west of the Mississippi were included in Louisiana, which was purchased from France in 1803.

NOTE. — For the date of the admission of each State into the Union, see Special Geography.


UNITED STATES
SECTION 3
The
NORTH CENTRAL
STATES
1½° Latitude - 1 Inch
SCALE OF MILES
10 50 100
Local Time A.M. 6 when Noon on the Meridian of Greenwich
Longitude West from Greenwich
West Longitude from Washington
Local Time A.M. 11 when Noon on the Meridian of Washington
DOMINION OF CANADA
MANITOBA
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
INDIAN TERRITORY
MINNESOTA
WISCONSIN
MICHIGAN
IOWA
ILLINOIS
INDIANA
OHIO
MISSOURI
KENTUCKY
ARKANSAS
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
NORTH CAROLINA
SOUTH CAROLINA
VIRGINIA
WEST VIRGINIA
PENNSYLVANIA
ONTARIO
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
GEORGIAN BAY
Green Bay
Saginaw Bay
Thunder Bay
LAKE OF THE WOODS
L. Winnipeg
Winnipeg
Pembina
Moorhead
Duluth
St. Paul
Minneapolis
Stillwater
Hastings
Red Wing
Winona
Rochester
Mankato
Red Lake
Itasca L.
Leech L.
Mille Lacs
Vermilion L.
Rainy L.
Ft. William
Nipigon Lake
Isle Royal
Keweenaw Point
Eagle River
Ontonagon
Apostle Isles
Ashland
Marquette
Escanaba
Sault St. Marie
Mackinaw Strait
Cheboygan
Michipicoten I.
Fort Howard
Green Bay
Appleton
Oshkosh
Manitowoc
Sheboygan
Fond du Lac
Milwaukee
Racine
MADISON
Janesville
Beloit
La Crosse
Kilbourn
Prairie du Chien
Watertown
Dubuque
Galena
Freeport
Rockford
Elgin
Chicago
Aurora
Joliet
La Salle
Ottawa
Rock Island
Galesburg
Peoria
Pekin
Bloomington
Quincy
Decatur
SPRINGFIELD
Jacksonville
Alton
Belleville
Cairo
Sioux City
Ft. Dodge
Algona
DES MOINES
Council Bluffs
Omaha
Cedar Rapids
Iowa City
Davenport
Muscatine
Clinton
Winterset
Ottumwa
Burlington
Keokuk
Leon
St. Joseph
Atchison
Leavenworth
Topeka
Kansas City
Chillicothe
Hannibal
Lexington
Sedalia
Booneville
Columbia
St. Louis
JEFFERSON CITY
Lebanon
Springfield
Joplin
Fort Scott
Iron Mt.
Pilot Knob
Ironton
C. Girardeau
Fort Smith
Searcy
LITTLE ROCK
Memphis
Jackson
NASHVILLE
Columbia
Murfreesboro
Clarksville
Knoxville
Chattanooga
Corinth
Huntsville
Decatur
Muscle Shoals
Mt. Mitchell
Columbus
Paducah
Hopkinsville
Bowling Green
Franklin
Mammoth Cave
Munfordsville
Owensboro
Henderson
Madisonville
Louisville
FRANKFORT
Lexington
Danville
Richmond
Paris
Maysville
Covington
Newport
Cincinnati
Evansville
Vincennes
Terre Haute
INDIANAPOLIS
La Fayette
Logansport
Fort Wayne
La Porte
South Bend
Richmond
Madison
Jeffersonville
New Albany
Toledo
Fremont
Sandusky
Cleveland
Akron
Canton
Mansfield
COLUMBUS
Zanesville
Marietta
Springfield
Dayton
Hamilton
Chillicothe
Portsmouth
Wheeling
Pittsburgh
Erie
Detroit
Ann Arbor
Ypsilanti
Jackson
Adrian
LANSING
Flint
Port Huron
Bay City
East Saginaw
Saginaw
Grand Rapids
Muskegon
Big Rapids
Manistee
Kalamazoo
Battle Creek
Windsor
Chatham
London
Port Sarnia
Guelph
Hamilton
TORONTO
Kellys I.
Pt. Pelee
Huntington
Abingdon
Cumberland Gap
BOSTON MTS.
OZARK MTS.
CUMBERLAND MTS.
BLUE RIDGE
Mississippi R.
Missouri R.
Ohio R.
Wabash R.
Illinois R.
Tennessee R.
Cumberland R.
Arkansas R.

MAP STUDIES ON THE NORTH CENTRAL STATES.

Position. — 1. What parallel on the southern boundary of Kentucky and Missouri? 2. What parallel separates Minnesota from Canada? 3. What natural boundary on the north? 4. What States border on Lake Superior? 5. What State occupies two peninsulas? 6. What States border on Lake Michigan? 7. What States border on Lake Erie? 8. Name the States of this section on each side of the Mississippi; — on each side of the Ohio. 9. Which are the two most southerly States? 10. What three States form the northern tier?

Surface. — 1. Into what part of this section do the Alleghany Mountains extend? 2. What mountain-range in Missouri? 3. Where is Pilot Knob? 4. What part of Michigan is mountainous? 5. What is the Height of Land?

Rivers. — 1. Describe the course of the Mississippi River. 2. What great tributary does it receive from the west? 3. What are its principal eastern tributaries? 4. Describe the course of the Ohio River, — of the Illinois, — of the Wisconsin. 5. What river between Indiana and Illinois? — between Kentucky and West Virginia? 6. What two great tributaries does the Ohio receive from the south? 7. What river between Minnesota and Dakota? What river between Iowa and Nebraska?

Lakes. — 1. How is Lake Superior connected with Lake Huron? 2. How are Lakes Michigan and Huron connected? 3. What rivers connect Lake Huron and Lake Erie? 4. What lake is between them? 5. Which State contains many small lakes? 6. Name some of the lakes of Minnesota. 7. Where is Lake Winnebago?

STATES AND CITIES. — (To be taken in connection with the text on each State.)

I. **Kentucky.** — 1. What mountains and river form its eastern boundary? 2. What river on the north? — on the west? 3. Where is its capital? 4. Locate Louisville. 5. What is the abbreviation for *Kentucky? Ans.* Ky.

II. **Ohio.** — 1. Bound this State. 2. What are the chief tributaries of the Ohio River? 3. What rivers flow into Lake Erie? 4. What is the capital? 5. Locate Cincinnati. 6. What cities on the shore of Lake Erie? 7. What is the abbreviation for *Ohio? Ans.* O.

III. **Indiana.** — 1. Bound this State? 2. What boundary river on the south? 3. In what direction do the large rivers flow? 4. On what lake has this State a water-front? 5. What and where is the capital? 6. What is the abbreviation for *Indiana? Ans.* Ind.

IV. **Michigan.** — 1. On what lakes does Michigan border? 2. In what direction does the northern peninsula extend? — the southern? 3. What bays in the southern peninsula? 4. Has this State any large rivers? 5. What is the capital? 6. Where is Detroit? 7. What is the abbreviation for *Michigan? Ans.* Mich.

V. **Illinois.** — 1. What natural boundary has this State on the west? 2. What river and lake form a partial eastern boundary? 3. Name the chief tributaries of the Mississippi in this State. 4. What is the capital? 5. Where is Chicago? 6. What is the abbreviation for *Illinois? Ans.* Ill.

VI. **Wisconsin.** — 1. Bound Wisconsin. 2. Does this State extend as far north as Minnesota? 3. In what direction and into what do the principal rivers flow? 4. What is the capital? 5. Where is Milwaukee? 6. What is the abbreviation for *Wisconsin? Ans.* Wis.

VII. **Missouri.** — 1. Bound this State. 2. Which part is mountainous? 3. What great river traverses it from northwest to southeast? 4. What is the capital? 5. Where is St. Louis? 6. What is the abbreviation for *Missouri? Ans.* Mo.

VIII. **Iowa.** — 1. Bound this State. 2. What are the principal tributaries of the Mississippi? 3. What two rivers form the western boundary? 4. What is the capital? 5. Name four cities on the Mississippi. 6. What is the abbreviation for *Iowa? Ans.* Ia.

IX. **Minnesota.** — 1. What parallel north? 2. What lakes form a partial northern boundary? 3. Name four lakes in the State. 4. Where does the Mississippi rise? 5. Where is St. Paul? — Minneapolis? 6. What is the abbreviation for *Minnesota? Ans.* Minn.

Commercial Communications. — 1. Upon what bodies of water would a vessel sail in going from Chicago to Cleveland? 2. What water-highway for shipping grain is there between Detroit and Buffalo? 3. How might copper be shipped by water from the copper region in Northern Michigan to Chicago? 4. How would pork and bacon be sent by steamer from Cincinnati to Cairo? 5. By or between what States would a raft float from the Falls of St. Anthony to Memphis, Tenn.? 6. How would you sail from Jefferson City to Cairo? 7. By what water-route would bales of furs laden in a steamer at Sioux City, Iowa, reach St. Louis?

KENTUCKY.

1. Physical Features. — In surface this State is mountainous in the southeast, hilly in the middle part, and an undulating plain in the west. The Ohio River flows along its whole northern, and the Mississippi along its western border.

2. The leading industries are (1) agriculture, the chief crops being wheat, corn, flax, hemp, and tobacco; (2) the raising of fine breeds of horses, cattle, hogs, and sheep; (3) the manufacturing of flour, sawed lumber, and prepared tobacco.

3. Cities. — LOUISVILLE is the commercial emporium of the State. It has tobacco-warehouses and pork-packing establishments, and carries on active commerce. FRANKFORT is the capital.

SPECIAL GEOGRAPHY FOR KENTUCKY CLASSES.

☞ Kentucky classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 40,400 square miles. Population (census of 1880), 1,648,690.

Outline and Extent. — In form this State is irregular. Its greatest length east and west is 350 miles; its greatest breadth, 178 miles.

Surface. — The southeast is broken by the Cumberland Mountains and their offshoots: average height, 2,000 feet; highest summits, about 3,000 feet.

North and west of the hill country is an upland region (from the Big Sandy River to longitude 86° West), occupying more than half the whole area of the State. This is included in the blue limestone formation, and is called the "Blue Grass" region, — the most fertile part of Kentucky. The western part has a generally level surface, diversified by "oak knobs." A range of hills extends parallel with the Ohio.

Rivers. — Kentucky is abundantly provided with noble streams.

The Mississippi forms its western limit for 80 miles.

The Ohio gives it steamboat navigation for more than 600 miles.

Most of the rivers of the State flow into the Ohio. The most important are: The Big Sandy, navigable for only a short distance; the Licking, the mouth of which is opposite Cincinnati; the Kentucky, navigated by steamboats 80 miles; Green River, navigable for steamboats to Greensburg, 200 miles; the Cumberland, navigable to Nashville, Tenn.; and the Tennessee River.

Agriculture. — *Tobacco* is the most valuable product. The annual yield is one third the whole amount produced in the United States.

Of hemp and flax this State raises two thirds of all that is grown in the country. It also produces great crops of corn, oats, wheat, and rye.

In *stock-raising* it ranks as one of the leading States, not only on account of its great numbers of horses, mules, cattle, sheep, and hogs, but on account of the excellence of the breeds.

Minerals. — *Coal* abounds in the State. *Iron* ores of a very superior quality are found, and numerous iron-furnaces are in operation in the northeastern part.

The hydraulic limestone abounds, and is largely used in the manufacture of cements. Limestones are also extensively found in caves; the most famous of these is the Mammoth Cave, the largest in the world.

Manufactures. — The principal manufactures (ranked in the order of the value of products) are flouring and grist mill products, distilled liquors, sawed lumber, forged, rolled, and pig iron, castings, bagging, and prepared tobacco.

Commerce. — The domestic commerce of the State is large. The principal exports are hemp, flax, tobacco, horses, mules, hogs, cattle, bagging, and rope.

Education. — There are in the State nearly 5,000 public schools, attended by over 200,000 pupils. Kentucky has 42 colleges.

History. — Kentucky was the second State admitted under the Federal Constitution. It came into the Union in 1792. The name of the State signifies "the dark and bloody ground" (*kan-tuck-kee*).

Cities. — In addition to Louisville and the capital the leading cities are: —

Names.	Advantages of Location.	Industries and Characteristics.
Covington. Newport.	Connection with Cincinnati by suspension bridges.	Iron-works. Manufacture of cotton and hemp. Great pork and beef packing establishments.
Lexington.	Center of the "Blue Grass" region.	The most important inland city. Manufacture of bagging, rope, etc.
Padu'cah.	Confluence of the Tennessee with the Ohio.	Chief mart for trade of the western section.
Maysville.	On the Ohio River.	Center of large local trade. Manufacture of bagging, rope, and agricultural implements.
Henderson.	On the Ohio River.	Manufacture of prepared tobacco, wagons, carriages, cars, whiskey, etc. Large local trade.

☞ Locate and state something about the following additional places: —

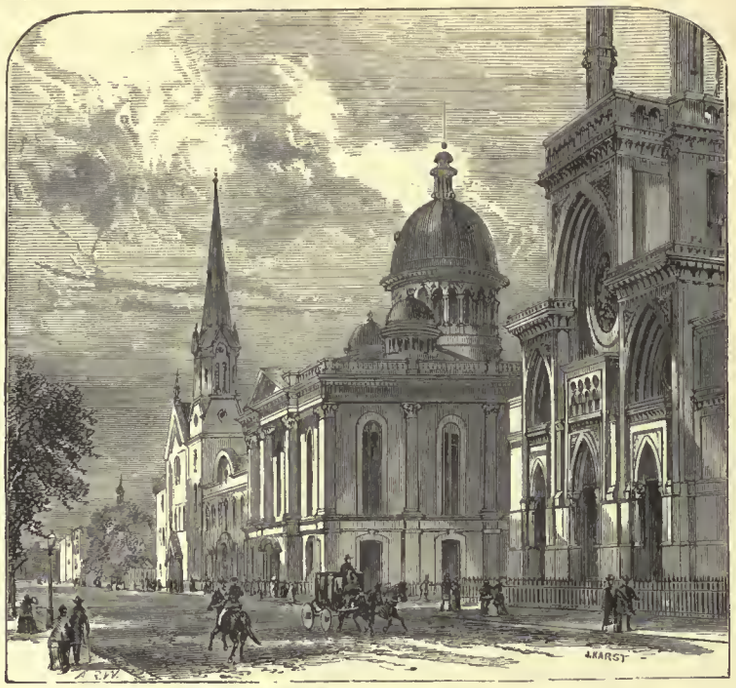
Owensboro. Paris. Harrodsburg.
Hopkinsville. Franklin. Boonesborough.

OHIO.

1. Its Rank. — Ohio is one of the wealthiest and most progressive of the North Central States, and ranks in population as the third State in the Union.

2. Physical Features.—The State as a whole forms a part of the western slope of the Alleghanies, and hence has a surface more elevated than that of the prairie States to the west. It has direct water communication with the Atlantic Ocean by means of Lake Erie on its northern border, and with the Gulf of Mexico by the Ohio River, which flows along the southeastern and southern border.

3. Resources. — The natural wealth of the State is very great, comprising vast deposits of coal and iron, extensive forests, a fertile soil, and the finest means of commercial communication.



STREET SCENE IN CINCINNATI

4. The leading industries are (1) agriculture, comprising the cultivation of the principal food-crops, with wool, flax, and tobacco, and also the raising of horses, cattle, sheep, and hogs; (2) coal and iron mining, carried on in the eastern and southern parts, along the Ohio River; and (3) manufacturing, of which the most important products are agricultural implements, flour, furniture, sawed lumber, whiskey, leather, and iron-work.

5. Cities. — CINCINNATI, the metropolis, a great manufacturing and commercial point on the Ohio River, is one of the most beautiful and prosperous interior cities in the Union.

COLUMBUS, the capital, is largely engaged in manufacturing, for which it has fine advantages owing to its nearness to the coal-fields.

SPECIAL GEOGRAPHY FOR OHIO CLASSES.

☞ Ohio classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, page 58.

Area, 41,060 square miles. Population (census of 1880), 3,198,062.

Outline and Extent. — In outline this State approaches a square, its departure from a regular square being due to the fact that it has the natural boundaries of Lake Erie on the north and the Ohio River on the southeast and south. Its greatest length is 220, and its greatest breadth 200 miles.

Surface. — As a whole, the State is a table-land, which in its middle belt is about 1,000 feet, and on the northern and southern borders from 600 to 800 feet, above the sea-level.

Though the surface is diversified, it nowhere presents any considerable elevations above the general level. A ridge of highlands north of the middle of the State forms the watershed that divides the short streams flowing northward into Lake Erie from the rivers flowing into the Ohio River.

The general slope toward the Ohio River is interrupted by a subordinate ridge which crosses the State in the latitude of Zanesville and Columbus, and between which and the Ohio the surface is diversified with hill and dale.

River System. — The Ohio River, entering the State from Pennsylvania near the middle of the eastern boundary, flows along the whole of the southeastern and southern border, a distance of over 500 miles.

Its principal tributaries are the Musking'um, Hocking, Scio'to, Little Mia'mi, and Miami, or Big Miami, rivers.

Of the rivers of the northern slope flowing into Lake Erie the most important are the Maumee', the Sandusky, and the Cuyahog'a.

Minerals. — Lying, as Eastern Ohio does, contiguous to the rich coal-fields and iron-mines of Western Pennsylvania, it shares this mineral wealth.

The coal of Ohio is bituminous, and the product of its coal-mines is second only to that of Pennsylvania.

In the value of its iron products (pig-iron, rolled and forged iron) it also ranks next to that State.

The State contains numerous salt-springs and oil-wells, and there are many quarries of fine building-stone.

Forest Products. — The extensive forests of hard-woods comprise maple, oak, ash, walnut, hickory, etc. They furnish great quantities of most valuable lumber used in the manufacture of furniture and agricultural implements.

Agriculture. — The agricultural interest is very large. Great crops of wheat, corn, oats, barley, hay, potatoes, and orchard and garden products are raised. The State produces large quantities of flax. In the culture of tobacco it ranks fourth. The grape is extensively cultivated along the Ohio River and on the shores and islands of Lake Erie.

Live-Stock. — In live-stock it is one of the leading States, having fine breeds of horses, cattle, hogs, and sheep. It is the foremost State in sheep-raising, and produces more than 20,000,000 pounds of wool a year. Immense quantities of pork, hams, bacon, and lard are made for home use and export.

Manufactures. — In the value of its manufactured articles it ranks as the fourth State in the Union and as the first of the Western States. The annual value of its manufactured products is about $300,000,000.

The most important articles are flouring-mill products, agricultural implements, clothing, packed pork, sawed lumber, distilled and malt liquors, wine, furniture, carriages and wagons, leather, boots and shoes, woolen goods, machinery, and prepared tobacco.

Commerce. — No interior State in the Union has finer commercial advantages than Ohio. Lake Erie and the Ohio River furnish great natural highways, and these are supplemented by numerous canals and railroads.

Cities. — Besides Cincinnati and Columbus the largest cities are: —

Names.	Advantages of Locality.	Industries and Characteristics.
Cleveland.	On Lake Erie.	Great lake trade. Extensive iron-works, oil-refineries, and manufactories of agricultural implements.
Toledo.	On the Maumee River, three miles from the west end of Lake Erie.	Great corn and grain mart. Extensive trade in pine and black-walnut lumber. Manufacture of wagons, bent-work, furniture, agricultural implements, etc.
Dayton.	Fine water-power from Mad River. Canal and railroad facilities.	Iron-mills, machine-shops, linseed-oil mills, car-factories, and manufactories of agricultural implements.
Sandusky.	Sandusky Bay, Lake Erie.	Distributing point for lumber. Great fish-market of the State. Manufacture of wheels and tool-handles, lime, lumber, and gypsum.
Springfield.	Railroad center.	Manufacture of agricultural implements and water-wheels.
Hamilton.	On the Miami River, 25 miles from Cincinnati.	Manufacture of woolen goods, paper, agricultural implements, machinery, and tools.
Portsmouth.	On the Ohio River. Southern terminus of Ohio and Erie Canal.	Iron and coal in the vicinity. Iron-works. Canal and river trade.
Zanesville.	On the Muskingum River, in a rich mineral region.	Manufacture of iron, steam-engines, stoves, agricultural implements, glass-ware, stone-ware, paper, etc.
Akron.	On the Ohio and Erie Canal, and Little Cuyahoga River.	Iron-works. Manufacturing of agricultural implements.
Chillicoth'e.	In the rich Scioto valley.	Agricultural trade.

Additional Places. — The following additional places had each from 5,000 to 10,000 population by the census of 1870: —

Steubenville. Canton. Youngstown. Mansfield. Xenia. Newark. Piq'ua. Pomeroy. Massillon. Tiffin. Circleville. Marietta. Ironton. Wooster. Fremont.

☞ Pupils may state the location of each; also anything known regarding their industries.

INDIANA.

INDIANA SCENES.

1. Physical Features. — Indiana, in the heart of the Great West, has a generally level surface, the southeastern part being undulating, and the only elevations of any note the "river-hills" along the Ohio and other streams.

2. The natural advantages of the State consist in its fertile soil, its extensive deposits of coal and iron, and the facilities for communication afforded by its rivers.

3. Industries. — The prosperity of the State is based on its agricultural, mining, and manufacturing interests. Immense crops of wheat, corn, oats, potatoes, and fruit are produced, and cattle, sheep, and hogs are raised in great numbers.

4. The Capital. — INDIANAP'OLIS, the capital and largest city, is the center of numerous railroads, and is an active manufacturing and commercial point.

SPECIAL GEOGRAPHY FOR INDIANA CLASSES.

☞ Indiana classes should now make a full study of the geography of their State, following the Outline on page 80. Refer to County map, page 58.

Area, 36,350 square miles. Population (census of 1880), 1,978,301.

Outline and Extent. — In form this State is an irregular oblong. Its length from north to south is nearly twice its breadth from east to west, its extreme length being 276 miles and its extreme breadth 176 miles.

Surface. — With the exception of river-hills and isolated knobs, the surface is a level or rolling plain. The absence of any marked watershed is a singular physical feature; still, the country has continuous slopes of great extent, and the difference in elevation between the highest land and the Ohio River at the falls is nearly 600 feet. The river-hills inclose bottom-lands, which have a rich alluvial soil, and are generally well wooded. Behind these stretches a low table-land presenting various forms of landscape, — here extensive groves and there broad prairies.

River System. — *The Ohio*, the final reservoir of the principal watercourses of the State, flows along the whole southern boundary from the mouth of the Miami to that of the Wabash, a distance by the river's course of 380 miles.

The Wabash, forming a part of the western boundary of the State, is the chief tributary of the Ohio. Its principal branches are the Salamonie', Mississin'ewa, Wildcat, Sugar (or Rock), Racoon, White, and Pato'ka from the south and east; and from the north and west the Little Wabash and Embar'ras, in Illinois, the Vermilion in both States, and in Indiana the Tippecanoe', Eel, and Little rivers. The Whitewater joins the Miami six miles above its entrance into the Ohio.

The rivers of the northern section are the St. Joseph and St. Mary, forming the Maumee, another St. Joseph falling into Lake Michigan, and the Kankakee' and Iroquois, which are the principal branches of the Illinois River.

Lakes. — This State has at the northwest a water-front on Lake Michigan. Numerous small lakes are situated north of the Wabash River.

Agriculture. — Indiana is a rich agricultural State. It holds a high rank in growing wheat and corn, and it produces great quantities of oats, potatoes, and tobacco. Its fine pasturage supports immense numbers of cattle, sheep, and horses, and millions of hogs are fattened on the great corn-crops.

Forest-Products. — Although a considerable part of the surface of this State is prairie-land, yet it is rich in forests of hard-woods, such as the oak, beech, ash, maple, hickory, walnut, black-locust, etc., which furnish great quantities of valuable lumber.

Minerals. — The most valuable mineral found in the State is bituminous coal, which exists in great abundance. The beds form part of the great coal-field which extends through Illinois, Indiana, and Kentucky. The mineral interest is of great and increasing importance.

Manufactures. — The manufacturing industries in this State are large and varied. The chief manufactured articles are flouring-mill products, sawed lumber, woolen goods, carriages and wagons, agricultural implements, iron-castings, distilled liquor, and packed pork. The annual value of these products is over $100,000,000.

Commerce. — Indiana has no direct foreign commerce, but it has a vast domestic trade by means of its navigable waters and its grand system of railroads and canals. Its geographical position is such that the whole land-commerce between the manufacturing States of the east and the country west of the Mississippi must pass through its territory.

Education. — This State has a flourishing common-school system, an admirable State Normal School at Terre Haute [*ter'ry-hōt*], and numerous colleges, academies, and private schools. The public schools are attended by nearly half a million of pupils. The State University, at Bloomington, and Purdue University are free in all departments to both sexes.

History. — Previous to the French and Indian War this whole country formed a part of New France, and 200 years ago a considerable number of French settlers located here, leaving their memorials in such names as Vincennes, Terre Haute, etc. In 1800, when the State of Ohio was carved out of this Territory, the rest of the extensive region received the name of "Indiana Territory." In 1809 Indiana was reduced to its present limits, and in 1816 it was admitted as a State.

Cities. — In addition to Indianapolis the most important cities are: —

Names.	Advantages of Locality.	Industries and Characteristics.
Evansville.	On the Ohio River, at terminus of Wabash and Erie Canal.	Large river trade. Manufacture of flour, iron, beer, etc.
Fort Wayne.	Confluence of St. Mary and St. Joseph rivers.	Manufactures in hard-wood, machinery, agricultural implements, furniture, buckets, etc.
Terre Haute.	Railroad center.	Manufacture of iron, hominy, whiskey, and beer. Great pork-market. Seat of State Normal School.
New Albany.	On the Ohio River.	Extensive river-trade. Building of steamboats. Manufacture of iron, engines, flour, glass, etc.
Lafayette.	On the Wabash River.	Large grain-trade and pork-packing. Manufacture of flour, woolen goods, ornamental iron-ware, beer, etc. Purdue University.
Logansport.	Junction of Eel River with the Wabash.	Large grain-trade. Manufacture of lumber, cars, hubs and spokes, etc.
Madison.	On the Ohio River.	Varied manufactures,—furniture, leather, wagons, wood-work, saddle-trees, starch, etc.
Richmond.	East-central part of the State.	Manufacture of agricultural implements, carriages, etc. Trading-point.
Jeffersonville.	On Ohio River, just above the falls.	Car-building and ship-building. Trade and manufactures.
South Bend.	On St. Joseph River.	Trade. Manufacture of wagons, sewing-machines, etc.
La Porte.	Proximity to Lake Michigan.	Manufacture of agricultural implements, flour, lumber, iron-castings, etc. Ice-cutting.
Vincennes.	On the Wabash River. Rich agricultural and coal region.	Agriculture. Manufacturing.

☞ State the location of the following additional cities, and any facts known respecting each:—

Peru.	Wabash.	Franklin.	Rising Sun.
Greencastle.	Mount Vernon.	Connersville.	Columbia City.
Goshen.	Shelbyville.	Seymour.	Plymouth.
Lawrenceburg.	Valparaiso.	Kendallville.	


REFERENCE MAP
OF
OHIO
INDIANA &
MICHIGAN
SCALE 1 Inch=55 Miles
10 20 30 40 50 60
Local Time A. M. when Noon at Greenwich
Longitude West from Greenwich
Longitude West from Washington
Local Time A. M. when Noon at Washington
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
GEORGIAN BAY
LAKE ERIE
SAGINAW BAY
GREEN BAY
NORTH CHANNEL
MANITOULIN ID.
LAKE ST. CLAIR
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
KENTUCKY
WEST VIRGINIA
PENN.
Chicago
Milwaukee
Detroit
Lansing
Grand Rapids
Toledo
Cleveland
Sandusky
Columbus
Dayton
Springfield
Cincinnati
Hamilton
Portsmouth
Zanesville
Akron
Fort Wayne
Indianapolis
Lafayette
Terre Haute
Richmond
Madison
New Albany
Louisville
Evansville
Vincennes
Pittsburgh
Wheeling
Marietta
Parkersburg
Charleston
Frankfort
Lexington
Saginaw
Flint
Port Huron
Jackson
Kalamazoo
Muskegon
Mackinac
Sault de Ste Marie
Marquette
Escanaba
Alpena
Toronto
London
Windsor

MICHIGAN.

1. Natural Divisions. — Michigan comprises two peninsulas,— the Lower, lying between Lake Michigan on the west and lakes Huron, St. Clair, and Erie on the east; and the Upper, lying between Lake Superior on the north, and lakes Michigan and Huron on the south.

2. The physical features of each are as follows: The Upper Peninsula is rugged and in parts mountainous, with a generally sterile soil, but it is valuable on account of its rich veins of copper and iron and its heavy pine forests. The Lower Peninsula has a generally level surface, a fine climate, and a fertile soil.

UNIVERSITY OF MICHIGAN, AND PICTURED ROCKS.

3. The leading industries are (1) lumbering, favored by the extensive forests; (2) farming, fruit-raising, and manufacturing in the Lower Peninsula; and (3) mining the rich copper and iron ores.

4. Cities. — DETROIT (pop. 116,000) has the best harbor on the Great Lakes, and is extensively engaged in manufacturing and in foreign and domestic commerce. The river-front for over six miles is lined with mills, dry-docks, ship-yards, founderies, grain-elevators, etc. LANSING is the capital.

SPECIAL GEOGRAPHY FOR MICHIGAN CLASSES.

☞ Michigan classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to County map, on the opposite page.

Area, 58,915 square miles. Population (census of 1880), 1,636,937.

Outline and Extent. — Michigan, having mainly a water-line boundary, and being divided into two peninsulas hemmed in by lakes, is exceedingly irregular in outline.

The Lower Peninsula has its greatest extent from north to south, about 283 miles; its greatest breadth is 210 miles. The Upper Peninsula has its greatest extent from east to west, about 320 miles; its greatest breadth is 130 miles.

Surface. — *The Upper Peninsula* is a wild, rugged, and mountainous region. The Wisconsin, or Porcupine Mountains, which form the watershed that separates the streams flowing into Lake Superior from those flowing into Lake Michigan, reach an elevation of about 2,000 feet in the northwestern part.

The Lower Peninsula is mainly an extensive undulating plain, though it rises into hills in the central and northern parts. The watershed separating the streams flowing into lakes Huron and Erie from those flowing into Lake Michigan is about 1,000 feet above the sea-level.

Lakes and Islands. — Michigan well deserves its title, the "Lake State," surrounded as it is by the largest bodies of fresh water on the globe.

☞ **A series of detailed map questions on the lakes should here be given by the teacher.**

In addition to the Great Lakes there are in the interior of the State many smaller picturesque sheets of water, the sources of numerous rivers.

Several small islands belong to Michigan. The most important are Isle Royale, in Lake Superior, and Mackinaw, Beaver, Bois Blanc, and Drummond islands, in or near the Strait of Mackinaw.

Natural Curiosity. — On the southern shore of Lake Superior there is a line of about twelve miles of sandstone bluffs rising to a height of 300 feet, which have been wrought by the action of the winds and waves into fantastic forms of castles, temples, pillars, etc. These are known as the Pictured Rocks.

Rivers. — The principal streams of the southern peninsula are: —

Flowing into Lake Huron: the Au Sable and Sag'inaw. Saginaw River, formed by the junction of the Tittabawas'see, Cass, Flint, and Shiawas'see rivers, is a large stream navigable for all except the very largest lake vessels; the tributaries which unite to form it afford a great extent of river navigation, valuable for the flotage of logs and lumber.

Flowing into Lake Erie: the Huron and Raisin rivers.

Flowing into Lake Michigan: the St. Joseph, Kalamazoo', Grand, Muske'gon, and Manistee' rivers. These have courses of from 200 to 300 miles, are navigable for 30 to 40 miles, and furnish valuable water-power.

In the Upper Peninsula the streams have, from the nature of the surface, short and rapid courses.

Climate. — The influence of the Great Lakes causes the climate to be milder than that of the adjoining States in the same latitude. The prevailing wind of Southern Michigan (the west and southwest), being tempered in passing over Lake Michigan, gives the western part of the State a temperature from eight to ten degrees warmer than that of Wisconsin, on the opposite side.

Minerals. — The copper region along the shores of Lake Superior is one of the richest known, and the mines are extensively worked. *Deposits of coal and iron* of great value are also found. *The salt-beds* of the Saginaw valley produce immense quantities of salt. *Gypsum* is found in Grand River valley.

Lumbering. — Extensive forests overspread the Upper and large parts of the Lower Peninsula, affording vast supplies of lumber. In the production of sawed lumber this State exceeds any other in the Union, the annual value being over $30,000,000.

Fisheries. — The fisheries form one of the secondary yet important sources of wealth in this favored State. White-fish and Mackinaw trout are taken in large quantities for home use and export.

Agriculture. — The soil, except in the rugged regions and some parts on the eastern side of the Lower Peninsula, is generally fertile. It yields large crops of wheat, corn, oats, hay, and potatoes. Great quantities of butter, cheese, and wool are produced.

Fruit-raising is extensively followed in the "fruit belt" of the Lower Peninsula. The peaches and apples are of superior quality, and the value of the orchard-products exceeds that of New Jersey or California.

Manufactures. — In its manufactures this State ranks high, the annual value exceeding $100,000,000.

The leading articles of manufacture are sawed lumber, wood-work of all kinds, flour, milled and smelted copper, iron, salt, clothing, leather, boots and shoes, furniture, woolen goods, and malt liquors.

Commerce. — Though an inland State, Michigan has the finest commercial facilities in the possession of 1,000 miles of lake-shore. These natural highways are supplemented by an extensive system of railroads.

The chief exports are lumber, wheat, flour, dairy-products, orchard-products, live-stock, wool, copper, and salt.

Education. — This State early established a system of public schools, which has since been carried to a high degree of excellence and efficiency. It has also several colleges, and a State Normal School at Ypsilan'ti. The University of Michigan at Ann Arbor is the largest and most distinguished of the Western universities: it has over 1,200 students, and is open to both sexes. The State Agricultural College and State Reform School are near Lansing.

History. — Michigan formed a part of the Northwest Territory. It was

Special Geography of Mich. continued.]

made into a separate Territory as early as 1805, but it did not become a State until 1837.

Cities. — In addition to Detroit and the capital the most important cities are: —

Names.	Advantages of Location.	Industries and Characteristics.
Grand Rapids.	Head of navigation on Grand River, 80 miles from Lake Michigan. Water-power.	Large and varied wood-manufactures. Foundries, flouring-mills. Manufacture of brushes, gypsum, etc.
East Saginaw. Saginaw City.	On opposite sides of Saginaw River, 15 miles from its mouth.	Extensive salt-works and lumber-mills.
Jackson.	Railroad center in the southern part of the State.	Extensive trade and considerable manufacturing. Mining of coal and fire-clay. Seat of State Prison.
Bay City.	On Saginaw Bay. Excellent harbor.	Manufacture of lumber and of all kinds of wooden-ware. Salt manufacture.
Kalamazoo (village).	On Kalamazoo River. Water-power.	Large trade. Extensive and varied manufactures. Seat of Kalamazoo College and Michigan Female College.
Adrian.	Fertile farming region.	Large traffic in produce, fruit, etc. Brass-foundery and paper-mills. Seat of Adrian College.
Muskegon.	Fine harbor on Muskegon Lake, near Lake Michigan.	Immense manufacture of pine lumber. Also of machinery and saws.
Port Huron.	On Lake Huron.	Large lumber manufacture and trade.
Flint	On Flint River. Water-power.	Saw-mills, flouring-mills, etc. Seat of Asylum for Deaf, Dumb, and Blind.
Ann Arbor.	On Huron River. Water-power	Local trade and manufactures. Seat of State University.
Monroe.	On Raisin River, near Lake Erie.	Important wheat mart. Varied manufactures. Seat of Female College.
Battle Creek.	On Kalamazoo River. Water-power.	Manufacture of agricultural implements and flour. Seat of the College of the Advent denomination.
Marquette.	On Lake Superior.	Shipping port for the iron region. Iron manufacture. Quarries of freestone and slate.
Ypsilanti.	On Huron River. Water-power.	Manufacture of woolen goods, Iron, flour, etc. Seat of State Normal School.

Additional Places. — The following additional cities and towns had each from 3,000 to 5,000 population by census of 1874: —

Ishpeming.	Marshall.	Niles.	Grand Haven.
Coldwater.	Alpena.	Negaunee.	Hillsdale.
Pontiac.	St. Joseph.	Ionia.	Wyandotte.
Big Rapids.			

☞ Pupils may state the location of each, also anything known regarding their industries.

ILLINOIS.

1. Its Rank. — Illinois ranks as one of the most populous, wealthy, and enterprising of the Western States, being splendidly situated in the heart of the Mississippi Valley, and commanding the trade both of the Mississippi River and of the Great Lakes. In population it is the fourth State in the Union.

2. Physical Features. — The surface is generally level, consisting either of prairie-land or of a gently undulating plain. The State has three great rivers, — the Mississippi, Ohio, and Wabash, — as partial boundaries, and its northeast part borders on Lake Michigan.

3. Industries. — Agriculture forms the basis of the prosperity of this State: in the production of the great breadstuffs, wheat and corn, it surpasses every other State, and in stock-raising it ranks among the first. It has rich lead and coal mines. In manufactures it ranks next to Missouri.

4. Cities. — CHICAGO is the commercial metropolis, and the largest city on the northern lakes. It has an extensive lake commerce, is the center of the railroad system of the surrounding States, and ranks as the greatest wheat, corn, and live-stock market in the Union.

SPRINGFIELD, the capital, has a large trade in live-stock, and has steam flour-mills, founderies, and machine-shops.

SPECIAL GEOGRAPHY FOR ILLINOIS CLASSES.

☞ Illinois classes should here make a full study of the geography of their State, following the Outline on page 30. Refer to the County map, pages 62, 63.

Area, 56,650 square miles. Population (census of 1880), 3,077,871.

Outline and Extent. — In form Illinois is of irregular outline, owing to the winding course of its boundary rivers, the Wabash, Ohio, and Mississippi. Its extreme length from north to south is 385 miles; its extreme width from east to west, 218 miles.

Surface. — From both shores of Lake Michigan the surface of the Upper Mississippi and Lake region forms an inclined plane, which extends in a southwesterly direction through Indiana and Illinois. The State of Illinois occupies the lower part of this inclined plane, down which the principal rivers of

Special Geography of Illinois, continued.

the State flow. The lowest part of the plane is the extreme southern angle of the State. Here the surface is only 340 feet above the level of the Gulf of Mexico. The greatest elevation of the State is about 1,150 feet.

A small tract in the northwest corner of the State is hilly, and the river-banks present bluffs and elevations ranging from 100 to 400 feet high; but by far the greatest portion of the surface consists of vast level or gently undulating prairies.

Rivers. — The unbroken surface of Illinois affords a drainage extending from the borders of Lake Michigan toward the west and southwest across the entire State.

The boundary rivers are: on the west the Mississippi, on the south the Ohio, on the east the Wabash. Into these rivers flow most of the numerous streams of the State.

The chief rivers within the State are the Kaskas'kia, Illinois, and Rock, tributaries of the Mississippi; the Little Wabash and Embar'ras, tributaries of the Wabash; and the Saline and Cash, tributaries of the Ohio.

Flowing into Lake Michigan the only considerable stream is the Chicago River, which is important as furnishing a harbor for the great commercial city of Chicago. The South Branch of the Chicago River is connected with the navigable Illinois at Lasalle by the Illinois and Michigan Canal, 96 miles long.

Minerals. — The State has extensive deposits of bituminous coal. The coal-fields occupy most of the country lying south of a line traced from the mouth of Rock River east to Lasalle County, and thence southeast into Indiana.

Coal is mined extensively at Rock Island, Lasalle, Streator, Wilmington, Duquoin, Belleville, and Mt. Carbon, while numerous other points produce coal in sufficient quantities to supply the local demand.

Lead is one of the important items of mineral wealth. This metal is found in the northwest corner of the State, which includes a portion of the great lead-bearing belt of Wisconsin and Iowa.

Salt is obtained in large quantities in the southern section.

Agriculture. — Illinois is in the front rank of agricultural States.

The principal grains are wheat, corn, and oats. Of all these, according to the census of 1880, it produces more than any other State. Other farm products largely raised are barley, flax, rye, hay, and potatoes.

In live-stock it was at the same time surpassed only by New York.

Its fruit-products and orchard-products are of great value.

Manufactures. — In the value of its manufactured articles this State ranks as the sixth in the Union. The value of its manufactures in 1870 amounted to $200,000,000.

Leading articles are: the products of butchering, distilled liquors, planed lumber, packed pork: in the product of these Illinois ranks first. More than one third of all the pork packed in the United States is contributed by Illinois.

Other important manufactures are: agricultural implements, carriages and wagons, sadlery and harness, wood-work, woolen goods, clothing, leather, and boots and shoes.

Commerce. — This State has splendid natural facilities for commerce in its great navigable rivers.

The railroads of the State reach an aggregate of about 9,000 miles in length, being a greater length of railroad than in any other State.

The domestic trade of Illinois is the largest of any of the North Central States. The foreign commerce also is very great.

The Metropolis. — The rapid growth of Chicago in population and commercial importance is without a parallel. The town was first surveyed in 1830, at which time it contained twelve families besides the garrison of Fort Dearborn, which was located on its site. Chicago was incorporated as a city in 1837. In the latter year the first census showed a population of 4,170. By the census of 1880 the population had increased to 503,000, in round numbers.

The city has a most advantageous situation on the shore of Lake Michigan, at the mouth of Chicago River. This river, or bayou, and its branches, with numerous slips, afford a water frontage of about 40 miles. Along the lake the city extends about 8 miles north and south, and westerly from the lake about five miles. The streets, generally 80 feet wide, form a total length of about 600 miles. The principal thoroughfares are paved with wooden blocks. The business part, since the great fire of 1871 reconstructed in superb brick and iron edifices, presents an appearance at once solid and brilliant.

In commercial importance Chicago ranks next to New York. More than 10,000 miles of railroad are directly tributary to Chicago, and 350 trains enter and leave daily, giving 700 arrivals and departures. Its commerce exceeds $500,000,000 annually. It is the greatest grain-market in the world. The grain is received and shipped in bulk. It is lifted into elevators from railroad-cars by buckets running on an endless chain and operated by powerful steam-machinery, and is emptied through spouts into the holds of vessels. There are 16 of these immense elevator warehouses, each of which can receive and ship 100,000 bushels per day.

As a market for live-stock Chicago is the most important center in the United States. The vast live-stock trade is transacted at the Union stock-yards, which occupy 350 acres. Since 1862 – 63 Chicago has held the supremacy in the extent of pork-packing, having in that year distanced Cincinnati in this respect. Nearly 1,000,000 hogs are packed every winter. In addition to the great industries already named, Chicago is largely engaged in the lumber manufacture and trade, and also in miscellaneous manufacturing.

In October, 1871, Chicago was the scene of one of the most disastrous conflagrations of modern times. The total area burned over was nearly 3½ square miles; 17,450 buildings were destroyed, and the loss amounted to $200,000,000. The energy with which in two or three years the ruins were replaced by a new city of splendid edifices is one of the marvels of the present century.

Education. — Illinois ranks as one of the foremost States in the excellence of its public schools. It contains about 12,000 schools, attended by nearly three quarters of a million of pupils. The State Normal University is at Normal. The Southern Illinois Normal University is at Carbondale.

For the higher education the State is well supplied with universities and colleges. The Illinois Industrial University is situated at Urbana.

History. — The first settlements in the State were made by the French in the latter part of the seventeenth century, after the explorations of Marquette and La Salle. Kaskaskia and Cahokia are the oldest towns in the State, having been founded by the French some time between 1680 and 1690. The territory of Illinois formed a part of the "Northwest Territory," from which all the States north of the Ohio and east of the Mississippi were subsequently formed. Illinois was admitted into the Union in 1818. Kaskaskia was the first capital, and so remained till 1818, when the government was removed to Vandalia, and thence to Springfield in 1836.

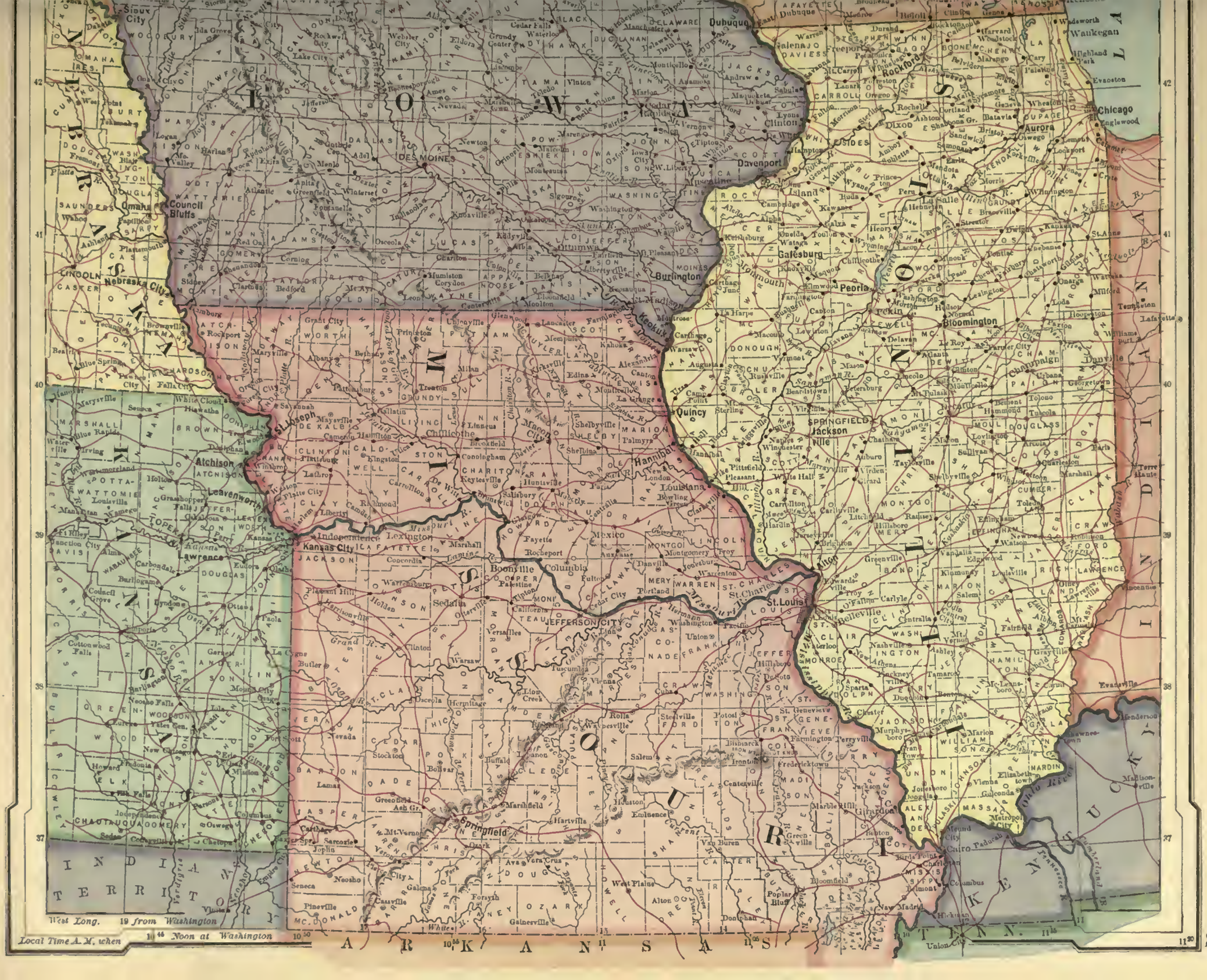
Cities. — In addition to Chicago, the metropolis, and Springfield, the capital, the most important cities are: —

Names.	Advantages of Location.	Industries and Characteristics.
Quincy.	On the Mississippi River.	Large river trade. Manufacture of farming implements, cabinet-ware, stoves, machinery, tobacco, whiskey, and beer.
Peoria.	On the Illinois River.	Trade in lumber, grain, and pork. Distilleries.
Bloomington.	Middle of the State. Important railroad center.	Extensive trade. Mills and factories. Educational institutions.
Aurora.	On Fox River. Water-power.	Large manufacturing interests. Extensive trade.
Rockford.	On Rock River. Water-power.	Center of active business and manufacturing.
Galesburg.	Railroad facilities. Fertile farm region.	Active agricultural trade. Seat of Lombard University and Knox College.
Jacksonville.	Railroad center southwest of Springfield.	Varied manufacturing. Seat of several State institutions for the deaf and dumb, the blind, the imbecile. Also seat of several colleges.
Alton.	On the Mississippi. Fine fruit-growing and farming region.	Active trade and varied manufactures. Extensive limestone-quarries.
Belleville.	Proximity to Mississippi River and St. Louis. Center of coal-region of South Illinois.	Coal-mining. Manufacture of iron, flour, and beer. Agricultural trade.
Rock Island.	On the Mississippi River.	Manufacture of plows, wagons, carriages, glass, stoves, etc. Extensive jobbing business.
Freeport.	On Pekatonica River. Railroad center.	Varied manufactures. Seat of Freeport College.
Ottawa.	On the Illinois River. Water-power. Coal-field.	Great grain-mart. Varied manufactures, including those of starch and glass.
Joliet.	On the Des Plaines River.	Quarrying and shipping building-stone. Manufacture of agricultural implements, steel and iron rails, stoves, and flour. Grain-mart.
Decatur.	On the Sangamon River.	Large local trade. Rolling-mills.
Galena.	On the Galena River near the Mississippi.	Trade and manufacturing. Center of the lead-mining interest.
Cairo.	Confluence of Ohio and Mississippi rivers.	River trade.
Pekin.	On the Illinois River.	Shipping of produce.
Elgin.	On Fox River. Water-power.	Extensive manufacture of watches, woolen goods, wood-work, condensed milk, dairy-products.
Lasalle.	On the Illinois River and Canal. Coal region.	Large coal-trade. Manufacture of glass, zinc, etc.

☞ State the location of the following additional cities: —

Moline.	Sterling.	Olney.	Shelbyville.
Monmouth.	Litchfield.	Macomb.	El Paso.
Champaign.	Peru.	Morris.	Watseka.
Waukegan.	Mendota.	Centralia.	Anna.
Dixon.	Amboy.	Buahnell.	Mount Carmel.

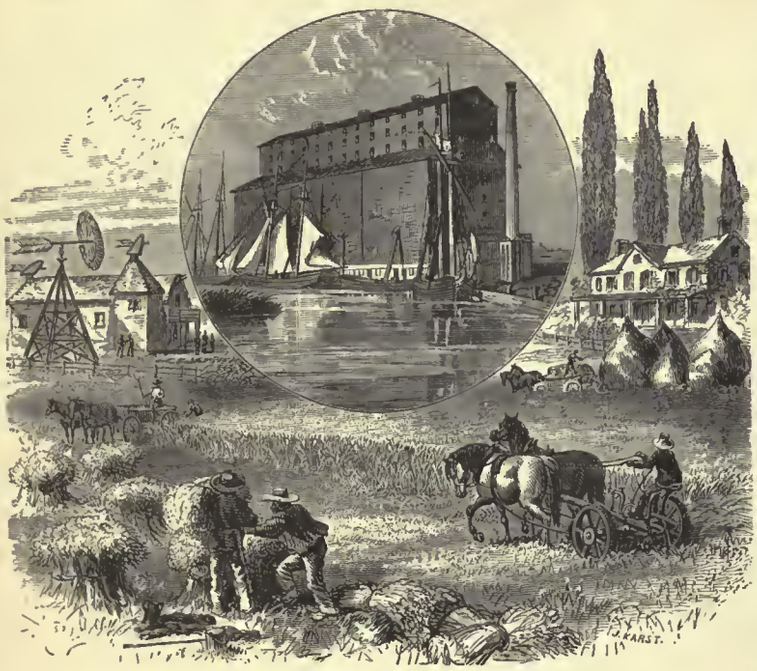

REFERENCE MAP OF
MINNESOTA, IOWA,
WISCONSIN,
ILLINOIS,
MISSOURI;
AND PARTS OF
MICHIGAN
NEBRASKA and KANSAS.
SCALE 1 Inch — 50 Miles
0 10 20 30 40 50
Local Time A. M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
MANITOBA
LAKE OF THE WOODS
DOMINION OF CANADA
HUNTERS ISLAND
Thunder Bay
LAKE SUPERIOR
MICHIGAN
NORTH DAKOTA
SOUTH DAKOTA
MINNESOTA
IOWA
WISCONSIN
ILLINOIS
Pembina
St. Vincent
Hallock
Two Rivers
Rainy R.
Warren
Snake R.
Red Lake R.
Clear Water R.
Crookston
Big Fork R.
Rainy Lake
Pigeon R.
Grand Marais
Saxton
Copper Harbor
Manitou I.
Eagle River
Houghton
Hancock
Calumet
Keweenaw Bay
Fargo
Detroit City
Park Rapids
Cass Lake
Leech L.
Gauss L.
Saint Louis R.
Duluth
Superior
Thomson
Bayfield
APOSTLE ISLES
PRESQUE I.
MADELINE I.
La Pointe
Ontonagon
Marquette
Negaunee
Ishpeming
Onota
Alger
Otter Tail City
Otter Tail L.
Fergus Falls
Battle L.
Elbow Lake
Alexandria
Long Prairie
Sauk Centre
Gleewood
Morris
Big Stone Lake
Ortonville
Benson
Litchfield
Montevideo
Granite Falls
Gaylord
Gibbon
Glencoe
Hutchinson
Shakopee
Minneapolis
St. Paul
Farmington
Hastings
Red Wing
Lake City
Wabasha
Winona
Rochester
Mankato
Northfield
Le Sueur
Kasota
Lake Benton
Currie
Pipestone
Luverne
Worthington
Fairmont
Blue Earth City
Albert Lea
Austin
Lyle
Le Roy
Caledonia
Lanesboro
Chatfield
Rushford
Root R.
Wells
Wilmington
Jackson
Sioux Falls
Rock Rapids
Sibley
Spirit Lake
Estherville
Swan Lake
Algona
Mason City
Northwood
Plymouth
Osage
Decorah
Waukon
Crescent
Grantsburg
Shell Lake
Hayward
Chippewa
Trout L.
Penokee
Ashland
Florence
Escanaba
Iron River
Iron Mountain
Menominee
Marinette
Oconto
Sturgeon Bay
Green Bay
Kewaunee
Two Rivers
Manitowoc
Sheboygan
Port Washington
Milwaukee
Watertown
Oconomowoc
Brookfield
Waukesha
Fond du Lac
Oshkosh
Appleton
Neenah
Menasha
Kaukauna
Shawano
Wausau
Merrill
Rhinelander
Crandon
Phillips
Fifield
Prentice
Medford
Abbotsford
Colby
Neillsville
Black River Falls
Tomah
Sparta
La Crosse
Viroqua
Elroy
Wonewoc
Portage
Baraboo
Reedsburg
Richland Center
Lodi
Columbus
Juneau
Beaver Dam
Horicon
Waupun
Ripon
Berlin
Princeton
Green Lake
Wautoma
Weyauwega
Waupaca
New London
Clintonville
Antigo
Langlade
Oconto
Peshtigo
Florence
Iron River
Ontonagon
Houghton
Hancock
Calumet
Keweenaw Bay
Lake Superior
Lake Michigan
Green Bay
Lake Winnebago
Lake Mendota
Lake Monona
Lake Koshkonong
Rock River
Wisconsin R.
Mississippi R.
Minnesota R.
Red River of the North
Missouri R.
Big Sioux R.
Des Moines R.
Iowa R.
Cedar R.
Chippewa R.
Wisconsin R.
Fox R.
Illinois R.
Rock R.
Kankakee R.
Wabash R.
Ohio R.
Kaskaskia R.
Big Muddy R.
Galena
Dubuque
Clinton
Davenport
Muscatine
Burlington
Keokuk
Fort Madison
Quincy
Hannibal
Canton
Alexandria
Rochester
Winona
La Crosse
Prairie du Chien
Dubuque
Galena
Freeport
Rockford
Janesville
Beloit
Madison
Milwaukee
Chicago
Waukegan
Kenosha
Racine
Joliet
Aurora
Elgin
Peoria
Bloomington
Springfield
Decatur
Champaign
Danville
Kankakee
Streator
Ottawa
La Salle
Rock Island
Moline
Galesburg
Macomb
Jacksonville
Carlinville
Alton
East St. Louis
Belleville
Centralia
Mount Vernon
Effingham
Mattoon
Charleston
Paris
Terre Haute
Vincennes
Evansville
Cairo
Carbondale
Du Quoin
Pinckneyville
Chester
Sparta
Nashville
Mount Carmel
Olney
Robinson
Lawrenceville
Flora
Salem
Centralia
Vandalia
Greenville
Hillsboro
Litchfield
Edwardsville
Collinsville
Belleville
Lebanon
Mascoutah
Breese
Carlyle
Shelbyville
Mattoon
Charleston
Paris
Danville
Champaign
Urbana
Rantoul
Gibson City
Watseka
Momence
Kankakee
Joliet
Aurora
Elgin
Rockford
Freeport
Dixon
Sterling
Rock Falls
Morrison
Fulton
Clinton
Tipton
Wilton
Muscatine
Davenport
Rock Island
Moline
Galesburg
Monmouth
Macomb
Rushville
Jacksonville
Carrollton
Alton
Edwardsville
Belleville
Centralia
Mount Vernon
Effingham
Mattoon
Charleston
Paris
Terre Haute
Vincennes
Evansville
Cairo
Carbondale
Du Quoin
Pinckneyville
Chester
Sparta
Nashville
Mount Carmel
Olney
Robinson
Lawrenceville
Flora
Salem
Centralia
Vandalia
Greenville
Hillsboro
Litchfield
Edwardsville
Collinsville
Belleville
Lebanon
Mascoutah
Breese
Carlyle
Shelbyville



Local Time A. M. when 11h 24m Long. 19 from Washington 10h 46m Noon at Washington 10h 50m

63

WISCONSIN.



WISCONSIN SCENES.

1. **Physical Features.** — The surface of Wisconsin presents two features, — a prairie region in the south and an undulating plateau region in the north.

2. **Advantages.** — The extensive forests in the north, the rich deposits of lead and iron, the fertile soil, together with great facilities for commerce, form the principal natural advantages of this State.

3. **The leading industries** are agriculture, mining, lumbering, and manufacturing.

4. **Cities.** — MILWAU'KEE is the commercial metropolis. It is a great wheat market, and one of the most beautiful and flourishing cities of the Northwest.

MADISON, the capital, is the seat of the State University.

SPECIAL GEOGRAPHY FOR WISCONSIN CLASSES.

☞ Wisconsin classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to County map on the previous page.

Area, 56,040 square miles. Population (census of 1880), 1,315,497.

Outline and Extent. — In form Wisconsin is irregular, having a water-line boundary on the north, east, and west. Its extreme length from north to south is about 285 miles; its greatest breadth from east to west, about 255 miles.

Surface. — The State is in general an elevated, rolling prairie-plateau, from 600 to 1,200 feet above the sea-level. The general slope is toward the southwest and south.

The highest part of this plateau is in the north; it forms the dividing ridge between the waters flowing southwest into the Mississippi River and those flowing north into Lake Superior.

The general southerly slope is interrupted about the middle of the State by another ridge giving origin to a second slope drained by Rock River and its tributaries.

In the southeastern part is a third ridge or elevation dividing the watercourses of Lake Michigan from those of Green Bay.

Along the Mississippi and Wisconsin rivers are many of the peculiar elevations called "bluffs."

Lakes. — Besides the great lakes, Superior and Michigan, which form its northern and its eastern water-front, the State has numerous beautiful interior lakes, which afford excellent fish.

The largest lake is Winnebago, southeast of the middle of the State; it is about twenty-eight miles long and ten miles wide.

Rivers. — The Mississippi, with the St. Croix, a tributary stream, forms the greater part of the western boundary.

The rivers of the interior flow generally in a southwest direction, and discharge their waters into the Mississippi. The most important are Wisconsin River (which is navigable to Portage City, and there connects by canal with Fox River, thus extending navigation to Lake Michigan), and Black and Chippewa rivers, valuable for the flotage of lumber, etc.

Fox River, which drains Lake Winnebago, has one of the most extensive and reliable water-powers in the United States.

The rivers of the northern slope that empty into Lake Superior are, from the nature of the ground, necessarily short and rapid streams.

Climate. — The climate, though severe, with long winters, is regular and free from those frequent changes that prevail farther south. The lakes, too, exert a mitigating influence, the temperature being about seven degrees higher on the lake side than on the Mississippi side.

Minerals. — Lead is largely mined in the southwest section of the State, which forms a part of the lead-bearing region extending into Illinois and Iowa.

Of iron rich deposits are found in the central, eastern, and northern parts of the State.

Zinc and beautiful varieties of marble also abound.

Lumbering. — The great pine forests of the State furnish in abundance the most valuable timber. Lumber is now manufactured to the amount of fifteen millions of dollars a year, and is largely exported.

Agriculture. — In the production of wheat this State ranks as one of the leading States. Oats, rye, barley, corn, potatoes, hay, and hops are extensively cultivated.

Live-stock is largely raised. In the production of wool and cheese it is among the leading States.

Manufactures. — The manufacturing interest in this State is large and increasing. Important articles are: wood-work of all kinds, agricultural implements, machinery, cloth, boots and shoes, paper, etc.

Commerce. — The Mississippi, with its tributaries, and Lakes Superior and Michigan, afford great commercial facilities.

The chief exports are wheat, flour, lumber, lead, wool, and live-stock.

Education. — This State has an excellent public-school system. There are four State normal schools: these are richly endowed, and are second to none in the country.

The University of Wisconsin, the State institution for the higher education, is one of the most flourishing in the Northwest. There are also several other colleges and universities.

History. — Wisconsin, called after the river of the same name, has been successively under French, English, and American control. Originally a part of the Northwest Territory, it was made a separate Territory in 1836, and admitted into the Union in 1848. The soil and climate of this State have proved particularly attractive to natives of Northern Europe, and large numbers of Swedes and Norwegians have made their home here.

Cities. — In addition to Milwaukee and Madison the most important places are: —

Names.	Advantages of Location.	Industries and Characteristics.
Fond du Lac.	Head of Winnebago Lake. Fine farming country.	Great establishments for cutting and manufacturing pine and hard-wood. Active grain-trade.
Oshkosh.	West shore of Winnebago Lake.	Lumber manufactures and trade. Barge-building. Seat of a State Normal School.
Racine.	On Lake Michigan.	Largest manufactory of threshing-machines in the world. Manufacture of wagons, farming-mills, fancy castings, etc. Seat of Racine College.
Janesville.	On Rock River. Water-power.	Manufacture of agricultural implements, household furniture, and flour. Agricultural trade.
La Crosse.	On the Missisalppi.	Manufacture of lumber and fanning machinery. Large river trade.
Watertown.	On Rock River. Water-power.	Manufacture of agricultural implements, flour, etc. Local trade.
Sheboygan.	On Lake Michigan	Large trade in grain and lumber.
Green Bay. Ft. Howard.	On opposite sides of Fox River.	Manufacture of lumber, shingles, staves, spokes, hubs, etc.
Manitowoc.	On Lake Michigan.	Lake commerce. Ship-building.
Appleton.	On the Lower Fox River.	Varied manufactures, — lumber, wooden-ware, wood-pulp, furniture, iron, brick, flour, etc.
Beloit.	On Rock River. Water-power.	Varied manufactures, — building and roofing material, paper, paper barrels, machinery for paper-mills, water-wheels, iron and steel goods, windmills, agricultural implements, flour, etc. Seat of Beloit College.

Additional Places. — Locate and state something about the following additional places: —

Portage. Milton. Galesville. Beaver Dam.
Kenosha. Eau Claire. Whitewater. Ozaukee.

MISSOURI.

1. Its Rank. — Missouri ranks in population as the fifth State in the Union, and the most populous west of the Mississippi. In area it is nearly equal to the whole of New England.

2. Physical Features. — The State is divided into two regions, — the rolling or prairie region north of the Missouri and Osage rivers, and the highland region including the Ozark Mountains, south of these rivers.

3. Resources. — A fertile soil, an exhaustless store of iron, lead, and other minerals, great forests, vast water-power, and the means of communication afforded by the Mississippi and Missouri rivers, constitute the principal resources, or natural wealth of Missouri.

MISSOURI SCENES.

4. Industries. — Very extensive iron-mining is carried on in the section south of St. Louis; the mining of lead and coal is an important industry. Agriculture is a leading occupation, and great crops of corn, wheat, rye, tobacco, hemp, and grapes are raised in the prairie section. The manufacturing interest is large and increasing.

5. Cities. — St. Louis, the largest city west of the Mississippi River, occupies a commanding position for domestic and foreign commerce, and is largely engaged in iron-manufactures. A magnificent steel bridge crosses the Mississippi River at this point.

The capital of the State, Jefferson City, is a well-built, prosperous place.

SPECIAL GEOGRAPHY FOR MISSOURI CLASSES.

☞ Missouri classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to County map, page 62.

Area, 69,415 square miles. Population (census of 1880), 2,168,380.

Outline and Extent. — Missouri has an irregular outline. Its length is about 318 miles; its breadth, about 280 miles. It is one and a half times as large as New York, eight times the size of Massachusetts, and as large as England and Wales.

Surface. — The section north of the Missouri River is generally undulating prairie-land, with low level bottom-lands along the rivers; the streams are generally belted with forest. The section south of the Missouri River presents a great variety of surface. The ridges forming the Ozark group of mountains extend in a direction northeast and southwest, separating the waters that flow into the Mississippi from those that flow into the Missouri. Beyond the Osage River commences a great expanse of prairie. In the southeastern part is an extensive swamp.

Climate. — Missouri, lying between the parallels of 36½° and 40½° north latitude, enjoys a temperature intermediate between the cold of the northern States of the Mississippi Valley and the heat of the Gulf States. The salubrity of its climate is proverbial. The summers are long and warm, the winters generally short and mild. On the parallel of St. Louis the fall of snow is seldom more than two or three inches deep, and rarely remains on the ground a week.

Rivers. — This State enjoys the navigation of the two greatest rivers in the United States. By means of the Mississippi, which forms the entire eastern boundary, the State has communication with the most northern part of the Union; by means of the Missouri River communication is extended to the Rocky Mountains. These two great channels are the final reservoirs of all the streams of the State.

The chief tributaries of the Missouri in this State are the Grand, Chariton, Osage, and Gasconade. The chief tributaries of the Mississippi are the Salt and Maramec. In the southern part of the State rise the head-streams of the St. Francis and White rivers, flowing southward through the State of Arkansas into the Mississippi.

Minerals. — In the number, extent, and value of its mineral resources Missouri surpasses every other State.

Iron holds the first place, and Missouri deserves the title of "the Iron State." This metal abounds in many parts, but the immense masses of almost solid ore found in Shepherd Mountain, Pilot Knob, and Iron Mountain — situated in St. François, Iron, and Reynolds counties — greatly surpass the other deposits.

Lead. — In Missouri is one of the two great lead-bearing regions of the United States, — the other being in Iowa, Wisconsin, and Illinois. The yield is very large, though the mines are but imperfectly developed.

The coal deposits are of vast extent, and are estimated by the State geologist to be capable of yielding 100,000 tons a day for three thousand years.

Other valuable metals and minerals found in large quantities in the State are copper, tin, zinc, cobalt, nickel, kaoline, fire-clay, lithographic-stone, salt, and fine marble, granite, and other building-stone.

Manufactures. — The manufacturing interests of the State are diversified, and are rapidly developing: it already ranks as the fifth State in manufacturing importance, and in 1870 the value of the products was over $200,000,000.

Leading articles of manufacture are iron and iron-ware, wooden-ware, cotton fabrics, clothing, boots and shoes, and wine.

Education. — Missouri has a fine system of public schools, and numerous colleges. It has normal schools at Kirksville, Warrensburg, Cape Girardeau, and Jefferson City. The University of Missouri and the Agricultural College are at Columbia; the School of Mines is at Rolla.

History. — Missouri takes its name from its chief river, signifying "muddy water." It was originally a part of the Louisiana purchase, and when the present State of Louisiana was admitted the remainder of the extensive domain was erected into the Territory of Missouri. The State was formed from a part of this Territory and was admitted into the Union in 1820.

Cities. — In addition to St. Louis and the capital the leading cities are: —

Names.	Advantages of Location.	Industries and Characteristics.
Kansas City.	On the Missouri River. Great railroad center.	Distributing-point for trade of the Missouri Valley. Foundries, machine-shops, etc. Immense beef-packing establishments.
St. Joseph.	On the Missouri River.	Has various manufactures, and is the trading center for the northwestern part of the State.
Hannibal.	On the Mississippi River.	Flouring-mills, car-shops, etc. Great lumber-mart.
St. Charles.	On the Missouri River. Proximity to St. Louis.	Center of a rich wheat and corn region. Quarries and coal-mines and some manufactories.
Springfield.	In a rich lead region in the southern part of the State.	Center of trade. Lead-mining.
Sedalia.	Important railroad center.	Extensive local trade.
Lexington.	On the Missouri River. Coal-fields.	Trade. Manufacture of lumber, flour, rope, etc.
Chillicothe.	Railroad point.	Trading center.
Cape Girardeau.	On the Mississippi River.	Manufacture of flour, lime, barrels, etc. River-trade. Seat of a State Normal School.
Mexico.	Railroad facilities.	Trade and varied manufactures. Seat of Hardin College.
Columbia.	Central part of the State.	Seat of the State University.

☞ State the location of the following additional places: —

Independence. Palmyra. Canton. Pleasant Hill. Carthage.
Boonville. Iron Mount. Carrollton. Liberty. Hermann.

IOWA.

1. Physical Features. — Iowa, lying between the Mississippi on the east and the Missouri on the west, is a prairie State.

2. Resources. — Its fertile soil, rich deposits of coal and lead, and fine natural means of communication, form the principal sources of the wealth of this State.

3. Industries. — Agriculture is a leading industry; in raising wheat, corn, and stock, Iowa ranks with the leading States. Lead and coal mining are extensively followed. The manufactures are important.

4. Cities. — DUBUQUE [*du-buke'*] carries on extensive manufacturing, and has a large trade by river and railroad. DES MOINES is the capital and the largest city.

BRIDGE OVER THE MISSOURI AT COUNCIL BLUFFS.

SPECIAL GEOGRAPHY FOR IOWA CLASSES.

☞ Iowa classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to County map, pages 62, 63.

Area, 56,025 square miles. Population (census of 1880), 1,624,615.

Position. — Iowa occupies a central position in North America: it is almost equidistant from the Atlantic and Pacific oceans, and is nearly midway between the Arctic Ocean and the Gulf of Mexico.

Outline and Extent. — The State is bounded on the north and on the south by parallels of latitude. The eastern and western boundaries follow the crooked courses of the Mississippi and Missouri rivers. The general form of the State is, therefore, rectangular.

The greatest extent of the State from north to south is (leaving out the angle at the southeast corner) about 200 miles; its greatest extent from east to west is a little over 300 miles.

Surface. — The surface is a rolling prairie, with a general slope southward. There are also two minor drainage-slopes, one southeastward to the Mississippi; the other southwestward to the Missouri. There are no mountains in this State, though there are gently sloping hills of considerable elevation, and there are also bluffs along the river-courses.

The dividing ridge that forms the great watershed separating the streams flowing into the Mississippi from those flowing into the Missouri traverses the counties of Dickinson, Clay, Buena Vista, Sac, Carroll, Audubon', Guthrie, and Adair; thence trending southeastward it passes into Missouri.

Rivers. — The rivers of the State are on a magnificent scale. The Mississippi winds along the eastern border for about 450 miles. On the western border the Missouri, from the mouth of the Big Sioux, flows for 300 miles.

The Iowa rivers proper flow into the Mississippi on the one hand, and into the Missouri on the other. The tributaries of the Mississippi are, from the length of the main slope, necessarily longer than those of the Missouri.

Lakes. — In the northern part of the State there are numerous small but beautiful lakes, which belong to a system of lakes extending northward into Minnesota. The largest, Lake Okeboji, or Spirit Lake, is 15 miles in length, with a greatest breadth of 2 miles.

Minerals. — The coal-field of Iowa embraces an area of several thousand square miles, and is practically inexhaustible. The coal is bituminous and of excellent quality. The mines of Fort Dodge, Moin'gona, Des Moines [*de-moin'*], and Oskaloosa are the most largely developed; but many others are worked in different parts of the coal-field.

The lead-mines in the Galena limestone have been worked for many years. The lead-bearing region reaches the Mississippi River at Dubuque, and lies along the valley of Turkey River toward the northwest, but only the mines near the Mississippi have been worked. From 4,000,000 to 6,000,000 lbs. of ore have been smelted annually at the Dubuque mines.

Other minerals of considerable value are found in the State, — gypsum in very great quantities at and near Fort Dodge, building-stone of the best description, various clays, etc.

Soil. — Iowa is famed for the fertility of its soil, and almost the whole surface of the State is tillable. The evenness of the surface is also of great advantage, in allowing the use of farm machinery.

Agriculture. — In agriculture the State ranks high. According to the census of 1880 it produced more oats and Indian corn than any other State except Illinois. The other principal crops are wheat, barley, rye, buckwheat, flax, hemp, and potatoes.

In stock-raising it ranks among the leading States; it is a particularly fine sheep country, and great quantities of wool are exported.

Manufactures. — The article most extensively manufactured, and the annual value of which is greatest, is flour. Next come sawed lumber, woolen goods, boots and shoes, farm and mill machinery, linseed-oil, paper, leather, etc.

Commerce. — Iowa has no direct foreign commerce, but its trade with the Atlantic and Gulf ports is extensive. The exports consist of the products of agriculture and the mines; and the imports, of Eastern and foreign manufactures, groceries, etc.

Railroads. — In the development of its railroad system Iowa has made remarkable progress. In 1855 there were but 68 miles of railroad; in 1874, the total length exceeded 4,000 miles.

Education. — In addition to a well-organized system of common and high schools, the State has about twenty colleges and universities. The State University is at Iowa City; the Agricultural College is at Ames, and the State Normal School is at Cedar Falls.

History. — The name Iowa is taken from the river thus called. The State was originally a part of the vast territory included in Louisiana, bought by the United States from France in 1803. It was organized as a separate Territory in 1838, and admitted as a State in 1846.

Cities. — In addition to Des Moines, the capital, and Dubuque, the most important places are: —

Names.	Advantages of Location.	Industries and Characteristics.
Davenport.	On the Mississippi, opposite Rock Island. The Mississippi is bridged here.	Large river and railroad trade in agricultural products. Manufacture of cotton and woolen goods, sawed lumber, etc.
Burlington.	On the Mississippi, in southern part of State. The river is bridged here.	River and railroad trade.
Keokuk.	On the Mississippi, at southern angle of State.	River and railroad trade. Pork-packing and manufacture of lumber, tobacco, etc.
Council Bluffs.	On the Missouri River, opposite Omaha. The river is here spanned by a fine iron bridge.	Center of trade for western section of State. Great railroad terminus.
Clinton.	On the Mississippi, at the most eastern point of the State. The river is bridged here.	Large trade. Lumber-mills, paper-mills, chair and wheelbarrow manufactories, etc.
Muscatine.	On the Mississippi.	Railroad and river trade.
Cedar Rapids.	On Cedar River. Water-power.	Varied manufacturing. Local trade.
Iowa City.	On the Iowa River.	Former capital. Seat of the State University.
Ottumwa.	On Des Moines River. Railroad center.	Trade and manufactures.
Fort Madison.	On the Mississippi, between Burlington and Keokuk.	Railroad and river trade. Manufacture of lumber, agricultural implements, wine, etc. Seat of State Penitentiary.
Lyons.	On the Mississippi, 188 miles due west from Chicago.	Manufacture of lumber, iron, paper, flour, farming implements, carriages, and wagons, etc.

☞ Pupils may state the location of each of the following additional places, and anything known regarding their industries: —

Waterloo.	Marshalltown.	Fort Dodge.	Mt. Pleasant.
Waverly.	Cedar Falls.	Independence.	Oskaloosa.
Sioux [soo] City.	Fairfield.	McGregor.	Winterset.

MINNESOTA.

FALLS OF ST. ANTHONY, AND LUMBERING SCENE

1. **Physical Features.** — Minnesota occupies the central part of North America, and includes the "Height of Land" which divides the Arctic Plain from the Valley of the Mississippi.

2. **Resources.** — The State has a fertile soil, great forest wealth, and abundant natural highways for trade and intercommunication.

3. **The leading industries** are (1) agriculture, the chief products being wheat and oats; (2) lumbering; and (3) manufacturing, the principal articles being sawed lumber and flour.

4. **Cities.** — ST. PAUL, the capital, is one of the commercial centers of the State.

SPECIAL GEOGRAPHY FOR MINNESOTA CLASSES.

☞ Minnesota classes should now make a full study of the geography of their State, following the Outline on page 30. Refer to County map, page 58.

Area, 83,365 square miles. Population (census of 1880), 780,807.

Outline and Extent. — Minnesota is of irregular outline. Its length from north to south is about 380 miles, and its extreme width 300 miles.

Surface. — The States of Minnesota and Wisconsin, with the Upper Peninsula of Michigan, form an extensive undulating table-land, with an average height of about 1,000 feet. In Northwestern Minnesota the surface reaches a height of 1,700 feet. This elevation is known as the "Height of Land," — the highest region between the Gulf of Mexico and Hudson Bay; it forms a watershed which sends out streams to all points of the compass.

Rivers and Lakes. — On the Height of Land the Mississippi takes its rise. Issuing from Lake Itasca as a slender rivulet, it receives the waters of lakes Cass, Winibigosh'ish, Leech, and many other smaller lakes, and is swelled by the two main tributaries, — the Minnesota and St. Croix [*kroi*]. It is navigable for steamboats below the Falls of St. Anthony.

The Red River of the North, which forms a part of the western boundary, belongs to the Hudson Bay system of rivers. It rises in Lake Traverse, and receives the waters of several tributary lakes and rivers.

Rainy River, the outlet of a long chain of lakes which form a part of the northern boundary, flows into the Lake of the Woods, which has its outlet in the Hudson Bay river-system.

The Pigeon and the St. Louis rivers flow into Lake Superior, and belong to the St. Lawrence Basin.

In addition to the lakes already named the State is dotted with numerous smaller bodies of fresh water.

Climate. — The winters are long and cold, but dry and bracing, and the climate is famed for its salubrity.

Scenery. — The Upper Mississippi is noted for its clear waters and picturesque scenery. St. Anthony and Minnehaha are well-known cataracts.

Agriculture. — The staple product is wheat, in the production of which Minnesota is one of the leading States. The other cereals are largely raised.

Lumbering. — Great quantities of lumber are sawed in the State, and immense rafts of logs are floated down the Mississippi to be sawed in Iowa, Illinois, and other States in the Mississippi Valley.

Fish. — The lakes and rivers abound in white-fish and trout.

Education. — Minnesota has a fine system of public schools, three State normal schools, and numerous higher institutions of learning. The State University is at Minneap'olis.

History. — Minnesota was first explored by the Jesuit missionaries two hundred years ago, and was a part of the great Louisiana purchase. It was organized as a Territory in 1849, and became a State in 1858.

Cities. — In addition to St. Paul, the largest cities are: —

Names.	Advantages of Location.	Industries and Characteristics.
Minneapolis.	Falls of St. Anthony. Water-power.	Immense lumber manufacture. Seat of State University.
Wino'na.	On the Mississippi.	Great lumber and wheat trade. Seat of First State Normal School.
Red Wing. } **Hastings.** }	On the right bank of the Mississippi.	Largest primary wheat-markets in the world.
Stillwater.	On Lake St. Croix.	Great lumber-mart. Seat of State Penitentiary.
Rochester.	Southeast part of the State.	Large wheat-trade.
Manka'to.	On Minnesota River.	Seat of Second State Normal School.
Duluth'.	On Lake Superior. Terminus of Northern Pacific Railroad.	Extensive lake trade. Iron manufactures.

☞ State the location of the following additional places: —

St. Cloud. Faribault. St. Peter. Rushford.
Austin. Owatonna. Shakopee City. St. Charles.

TOPICAL REVIEW OF THE NORTH CENTRAL STATES.

Names.	Area.	Population by Census of '80.	Capitals.	Chief City and Population (in round numbers) by Census of 1880.	Industrial Pursuits.
	sq. miles.				
Kentucky.	40,400	1,648,690	Frankfort.	Louisville (124,000).	Culture of tobacco and grain, stock-raising, manufacturing.
Ohio.	41,060	3,198,062	Columbus.	Cincinnati (256,000).	Agriculture and pasturage, coal and iron mining, manufacturing.
Indiana.	36,350	1,978,301	Indianapolis.	Indianapolis (75,000).	Agriculture, coal-mining, manufacturing.
Michigan.	58,915	1,636,937	Lansing.	Detroit (116,000).	Agriculture, mining, lumbering, fisheries.
Illinois.	56,650	3,077,871	Springfield.	Chicago (503,000).	Agriculture, coal and lead mining, manufacturing.
Wisconsin.	56,040	1,315,497	Madison.	Milwaukee (116,000).	Agriculture, lead mining, lumbering, manufacturing.
Missouri.	69,415	2,168,380	Jefferson City.	St. Louis (350,000).	Agriculture, iron-mining, manufacturing.
Iowa.	56,025	1,624,615	Des Moines.	Des Moines (22,500).	Agriculture, coal and lead mining, manufacturing.
Minnesota.	83,365	780,773	St. Paul.	Minneapolis (47,000).	Agriculture, lumbering, manufacturing.


UNITED STATES
— SECTION 4 —
TEXAS, KANSAS,
S.NEBRASKA ,COLORADO.
NEW MEXICO
INDIAN TERRITORY
1½° Latitude — 1 Inch
SCALE OF MILES
10 50 100
5 Local Time A.M. 5 10 when Noon on the 5 20 Meridian of 5 30 Greenwich 5 40
109 106 105 104 103 Longitude 101 West from 99 Greenwich 97 96 95 94
30 Longitude West 28 from Washington 26 25 24 23 19 18
10 Local Time A.M. 10 10 when Noon on the 10 20 Meridian of Washington 10 30
COLORADO
KANSAS
NEBRASKA
IOWA
MISSOURI
ARKANSAS
INDIAN TERRITORY
NEW MEXICO
TEXAS
CHIHUAHUA
COAHUILA
GULF OF MEXICO
PUBLIC LAND
Estacado or Staked Plain
NAVAJOS RESERVATION
CHEYENNES AND ARRAPAHOES
KIOWAS, COMANCHES AND APACHES
CHICKASAWS
CHOCTAWS
CREEKS
OSAGES
Denver
Leadville
Pueblo
Colorado Springs
Cheyenne
Omaha
Lincoln
Topeka
Leavenworth
Wichita
Santa Fe
Albuquerque
El Paso
Austin
San Antonio
Dallas
Ft. Worth
Houston
Galveston
Waco
Laredo
Brownsville
Corpus Christi
Tahlequah
Ft. Smith
Rio Grande
Arkansas River
Canadian R.
Red R.
Rio Pecos

THE PLAINS AND ROCKY MOUNTAIN REGION.

INTRODUCTION.

I. THE PLAINS.

1. States and Territories. — In the section of the Plains are included Texas, the Indian Territory, Kansas, Nebraska, South Dakota, and North Dakota.

2. Situation. — These form a tier of States extending from north to south through twenty-four degrees of latitude, and occupying the eastern slope of the Rocky Mountains.

3. Physical Features. — The surface consists of an undulating and generally treeless, grass-covered plain, which has a very gradual rise from the Mississippi toward the Rocky Mountains. With the exception of the Texan rivers, all the streams of this region belong to the Mississippi system.

4. Resources and Industries. — The rolling plains afford fine pasturage for cattle, and the rich soil of the river-bottoms is well adapted for tillage. Hence agriculture and stock-raising are the leading industries.

CAÑON OF THE COLORADO.

II. THE ROCKY MOUNTAIN REGION.

1. States and Territories. — The Rocky Mountain section includes the States of Monta'na and Colora'do, and the Territories of New Mexico and Wyo'ming, which are crossed by the main ridge of the Rocky Mountains.

2. Situation. — This section is bounded on the north by the 49th parallel, which separates it from British America, and on the south it extends to 31½° north latitude, where it abuts on Mexico. The meridian of 103° of west longitude may be said to form the general eastern boundary, while on the west it adjoins the Pacific States and Territories.

3. Surface. — The grand natural feature of this region is the Rocky Mountain system, the main axis of which traverses it in a general southeasterly direction. The Rocky Mountains, within this section, comprise several chains more or less parallel and connected by numerous cross ranges. They have an average elevation of 10,000 feet; but some of the peaks are more than 15,000 feet in height.

4. Climate. — This section has a cool climate, owing to its elevation above the level of the sea. It is also noted for its dryness. This is due to its great distance from the ocean, the rain-clouds from which are deprived of their moisture by the intervening mountains.

5. Industries. — This section is rich in mines of gold, silver, copper, lead, and coal, and the vast grassy plains afford fine pasturage; hence mining and stock-raising form the leading industries of the inhabitants.

6. Scenery. — Some of the grandest scenery in the world is found in the Rocky Mountains. Among the most remarkable localities are the mountain scenery and "parks" of Colorado, the Fire Hole Basin, and the Cañon of the Yellowstone.

I. The Fire Hole Basin is in the valley of the Madison River, one of the head-streams of the Missouri. It contains many hundreds of boiling springs and spouting geysers, far exceeding those of Iceland in size and grandeur. The "Grand Geyser," the most magnificent in the world, throws a stream of hot water to a height of 300 feet.

II. The Cañon of the Yellowstone is a great mountain-rent, with perpendicular basaltic walls, from 1,000 to 2,000 feet high. For a distance of 25 miles along this mighty chasm the river rushes with fearful velocity, making in one place a leap of 450 feet, forming one of the grandest of waterfalls. The rocks in many places along the cañon are worn into fantastic shapes, resembling ruined castles with minarets and spires.

7. National Park. — A section of this magnificent mountain-region, nearly the size of Connecticut, has been set apart by Congress as a great "National Park." Within its limits are several thousand boiling springs and geysers, and many grand waterfalls, deep cañons, beautiful lakes, and rugged mountain peaks.

MAP STUDIES.

Texas. — 1. What abbreviation is used? *Ans.* Tex. 2. Bound this State. 3. Measure by the scale of miles the extent of the Gulf coast. 4. Which part of the State is mountainous? 5. In what direction do most of the rivers flow? 6. Name the principal rivers. 7. Where is the capital? 8. Name three seaports.

Indian Territory. — 1. What abbreviation is used? *Ans.* Ind. Ter. 2. Bound the Indian Territory. 3. What is the nature of the surface? 4. Name the largest rivers. 5. Where is Tal'equah?

Kansas. — 1. What abbreviation is used? *Ans.* Kas. 2. Bound this State. 3. What meridian is the western boundary of Kansas? 4. What parallel is the northern boundary of this State? 5. Name and describe the principal rivers. 6. Where is Atchison? — Leavenworth? — Topeka? — Lawrence? — Fort Scott?

Nebraska. — (*Map, p. 71.*) 1. What abbreviation is used? *Ans.* Neb. 2. Bound this State. 3. What great river flows through Nebraska? 4. How many degrees of latitude between the north and south boundaries? 5. Where is Omaha? 6. Where is Fremont? — Columbus? 7. What is the capital?

South Dakota. — (*Map. p. 71.*) — 1. What abbreviation is used? *Ans.* S. Dak. 2. Bound it. 3. What boundary rivers has it? 4. What interior rivers?

North Dakota. — 1. What abbreviation is used? *Ans.* N. Dak. 2. What parallel forms the northern boundary? 3. What great river crosses the State?

Colorado. — 1. What abbreviation is used? *Ans.* Colo. 2. Bound this State. 3. Name the rivers that rise in Colorado. 4. Where is Denver? — Central City?

New Mexico. — 1. What abbreviation is used? *Ans.* N. Mex. 2. Bound this Territory. 3. What large river flows through it? 4. What part is most mountainous? 5. Where is Santa Fé? — Albuquerque [*al-bu-kerk'*]?

Wyoming. — (*Map p. 71.*) — 1. What abbreviation is used? *Ans.* Wy. Ter. 2. Bound it. 3. What mountains are in it? 4. What railroad passes through it? 5. Near what part of Wyoming is the National Park? 6. Where is Cheyenne?

Montana. — (*Map p 71.*) — 1. What abbreviation is used? *Ans.* Mont. 2. Bound it. 3. What mountains are in Montana? 4. What large rivers? 5. Near what part of Montana is the National Park? 6. Where is Virginia City? — Hel'ena?

TEXAS.

SCENE IN TEXAS.

1. **Physical Features.** — Texas, the largest State in the Union, has the physical features both of the Gulf States and the Plains. Its surface consists of a succession of great terraces sloping gradually from the Rocky Mountains to the Gulf of Mexico.

2. **Advantages.** — Some of the natural advantages of this State are a fertile soil, vast grassy plains, an abundant supply of coal, iron, and salt, and excellent means of communication.

3. **The leading industries** are (1) stock-raising, in which Texas is the foremost State; and (2) agriculture, the chief products being cotton and sugar, with corn and other cereals.

4. **Cities.** — GALVESTON, the largest city, has an extensive and increasing cotton trade, and is the port through which nearly all the exports and imports of the State pass.

HOUSTON is a flourishing city and important railroad center, with a large internal trade. SAN ANTONIO is the center of the overland wagon-trade with New Mexico. DALLAS is a new city in the northern part of the State. AUSTIN is the capital.

SPECIAL GEOGRAPHY FOR TEXAS CLASSES.

☞ Texas classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 265,780 square miles. Population (census of 1880), 1,591,749.

Outline and Extent. — The State has a very irregular outline. The longest line that can be drawn from north to south is about 700 miles; that from east to west, about 800 miles. In area it is by far the largest State in the Union, being equal to the New England and the Middle States, together with Maryland, Virginia, and North Carolina. It has a greater extent than France or the German Empire.

Physical Features. — Between the level plain bordering the Gulf of Mexico in the southeastern part and the mountain and plateau region in the west, the surface of Texas presents three terraces.

The first terrace is the coast plain, extending from 25 to 60 miles inland from the Gulf of Mexico. It consists mainly of fertile lowlands wooded only along the banks of the rivers. This region has a semi-tropical climate, a rich alluvial soil, and is adapted to the culture of cotton, rice, sugar, tobacco, etc.

The second terrace is a region of hill-lands, — high rolling prairies, narrow wooded bottoms, and "islands" of timber. It has a dry and healthful climate, is well watered by numerous rivers, and is excellently adapted to the culture of the cereals and the vine, and to pasturage.

The third terrace is a table-land rising to the height of over 2,000 feet, and forming the eastern base of the Rocky Mountains, some outlying ridges of which extend into the western part of the State. This region has been known from early Spanish times as the *Llano Estaca'do*, or "staked plain." Its characteristic vegetation consists of the cactus, the aloe, mesquite, etc.

River System. — The main boundary rivers are the Red and Sabine on the north and east, and the Rio Grande on the west.

The chief rivers belonging wholly to Texas are the Trinity, which is navigated in high stages of water to Magnolia Bluff, about 300 miles; the Brazos (length 950 miles), which is navigated to Columbia, about 50 miles; the Nueces (length 350 miles), which, with its main branch, the Rio Frio, is navigated about 150 miles. The Colorado, on account of *rafts* and other obstructions is not navigated.

Agriculture. — Texas has the finest facilities for agriculture. In the production of cotton it ranks as the third State. In the production of sugar it ranks next to Louisiana. Indian-corn is the chief cereal; but wheat and other small grains grow finely in the northern part. Sweet-potatoes are a great crop, and a good article of tobacco is grown. Oranges and other semi-tropical fruits thrive well along the coast.

Stock-Raising. — Texas raises more beef-cattle than any other State, having, by the census of 1870, over three million head. Immense stock-ranches, having herds of several thousand cattle and horses, are common in this State. Great attention is given to sheep-raising.

Commerce. — The trade of this State consists in the export of cotton, hides, and live-stock, and in the importation of manufactured articles. Beef-cattle are driven in large herds northward to the line of the Kansas Pacific Railroad, and shipped to Chicago and the Eastern cities. They are also shipped from Galveston to other States, and to the West Indies.

Resources. — In addition to the interests already developed, this State has many other resources, and vast capabilities of future growth. There is an abundance of most valuable timber, and great deposits of coal, iron, salt, and other useful minerals. These attractions draw a superior class of emigrants from other States, as also from Germany and other European countries.

Education. — The free-school system of this State is in a flourishing condition. It has a large school fund, derived from the sale of its public lands. Private schools, academies, and colleges are quite numerous, and afford ample opportunities for obtaining a good education.

History. — Texas, originally a part of the Spanish American possessions, became a province of Mexico in 1821. A large American immigration then took place; a few years later the people declared their independence, and in 1836 Texas became an independent republic. Subsequently, in 1845, Texas on its application was admitted into the Union.

Cities. — The principal towns not already described are **Sherman, Dennison,** and **Fort Worth,** in Northern Texas; **Marshall** and **Jefferson** in Northeastern Texas, and **Waco** in the central part, on the Brazos. **Brownsville,** on the Rio Grande, has a large trade with Mexico. **Indianola** and **Corpus Christi** are seaport towns, with an extensive coast and interior trade.

THE DAKOTAS AND INDIAN TERRITORY.

SOUTH DAKOTA.

1. **Description.** — South Dakota is a large State, level or rolling in the eastern part and hilly and mountainous in the western.

2. **Resources.** — The State posseses a pleasant climate, very rich soil, and very productive mines of gold.

3. **The leading industries** are agriculture, in which most of the inhabitants are engaged; stock-raising and gold-mining.

4. **Cities.** — SIOUX FALLS, YANKTON, HURON, MITCHELL, ABERDEEN, CHAMBERLAIN, and PIERRE are the leading cities and towns.

NORTH DAKOTA.

1. **Description.** — North Dakota borders on the Dominion of Canada. In surface it is similar to South Dakota.

2. **Resources.** — The State has vast plains of fertile lands, possessing the richest of soils.

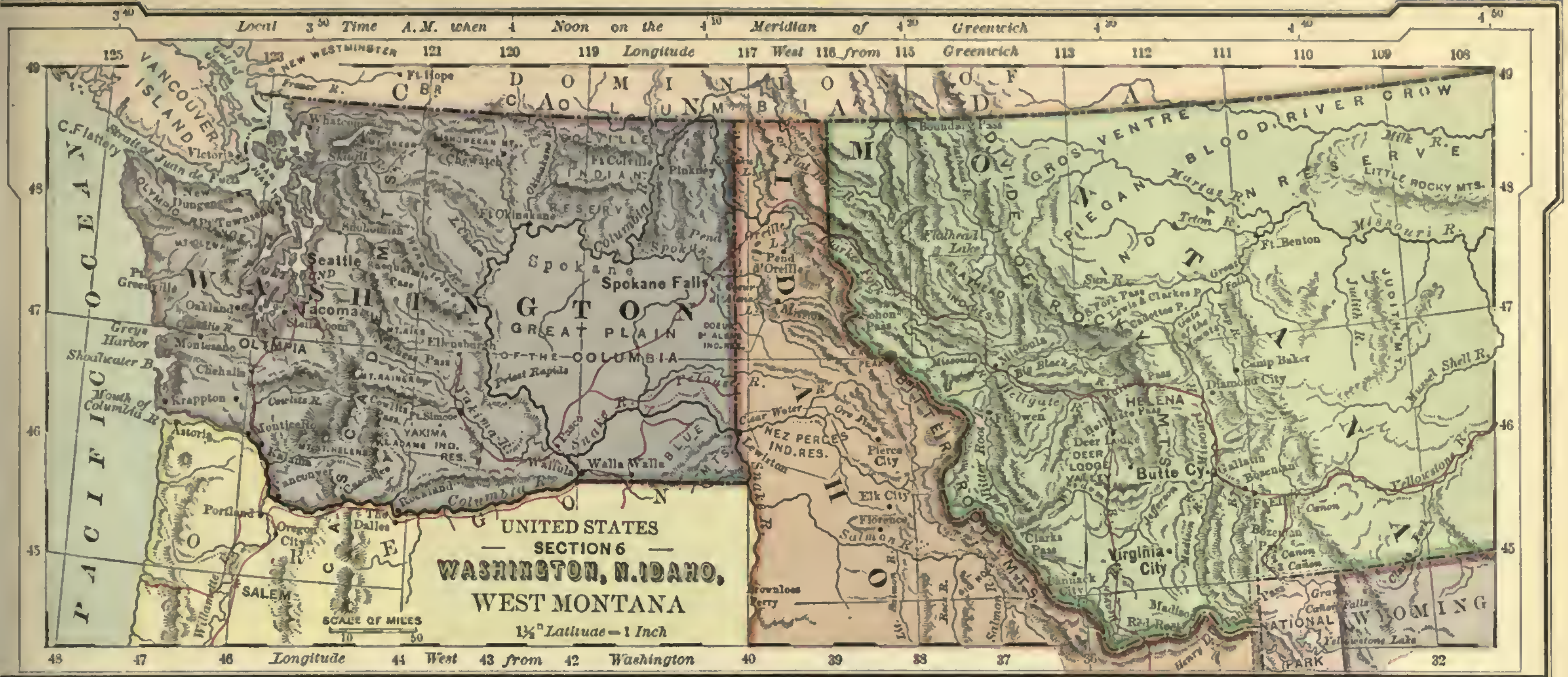
3. **The leading industry** is agriculture, some of the farms being the most extensive in the country.

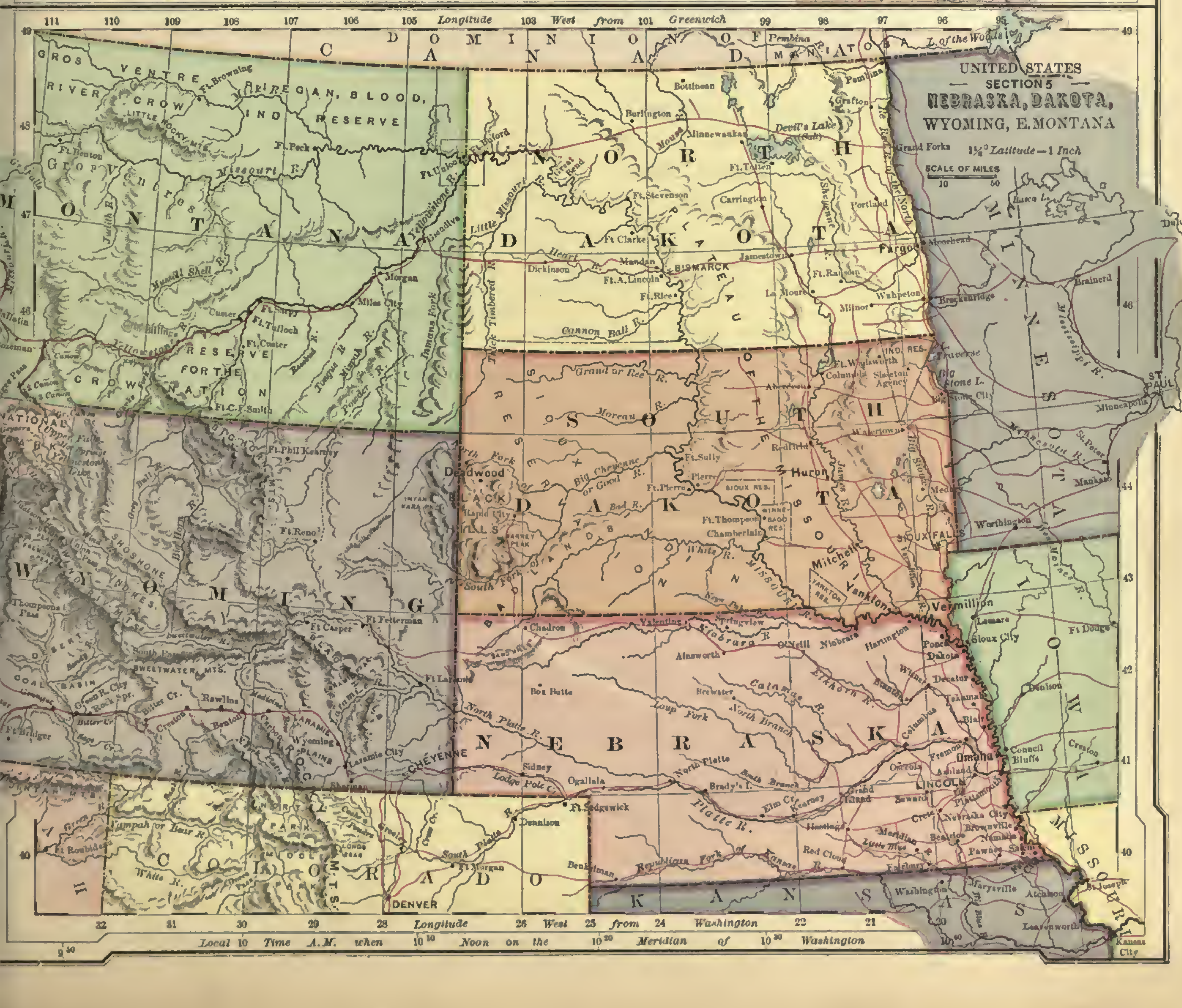
4. **Cities.** — The leading towns are BISMARCK, the capital, GRAND FORKS, FARGO, WATERTOWN, and PEMBINA.

INDIAN TERRITORY.

1. **The Indian Territory** is a section of country set apart by the Government of the United States for the home of various peaceable tribes of Indians. It has no organized government.

2. **The Indians** living on the reservations in the Territory are partly civilized. Some of them till the soil, raise herds of horses and cattle, and have books printed in the Indian language.


UNITED STATES
SECTION 6
WASHINGTON, N. IDAHO,
WEST MONTANA
1½° Latitude = 1 Inch
SCALE OF MILES
Local Time A.M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude West from Washington
DOMINION OF CANADA
PACIFIC OCEAN
VANCOUVER ISLAND
WASHINGTON
GREAT PLAIN OF THE COLUMBIA
IDAHO
MONTANA
OREGON
WYOMING
Seattle
Tacoma
OLYMPIA
Spokane Falls
Walla Walla
Portland
SALEM
Astoria
Helena
Butte Cy.
Virginia City
Ft. Benton
Missouri R.
Columbia R.
Snake R.


UNITED STATES
SECTION 5
NEBRASKA, DAKOTA,
WYOMING, E. MONTANA
1½° Latitude = 1 Inch
SCALE OF MILES
Longitude West from Greenwich
Longitude West from Washington
Local Time A.M. when Noon on the Meridian of Washington
DOMINION OF CANADA
MONTANA
NORTH DAKOTA
SOUTH DAKOTA
WYOMING
NEBRASKA
MINNESOTA
IOWA
COLORADO
KANSAS
MISSOURI
BISMARCK
Fargo
Jamestown
Devil's Lake
Grand Forks
Pierre
Huron
Deadwood
Sioux Falls
Yankton
Mitchell
CHEYENNE
Laramie City
Omaha
LINCOLN
Council Bluffs
Sioux City
DENVER
St. Joseph
Kansas City
ST. PAUL
Minneapolis
Duluth
Missouri R.
Yellowstone R.
North Platte R.
Platte R.

KANSAS.

1. Physical Features. — Kansas is a beautiful undulating plain, sloping from the eastern border of Colorado to the Missouri River and the State of Missouri.

2. Resources. — A fertile soil, abundant pasturage for stock, rich deposits of coal, and ready means of communication, are the chief resources of this State.

3. The leading industries are (1) agriculture in the eastern section, and (2) stock-raising on the great grassy prairies to the west.

SCENE ON THE MISSOURI RIVER.

4. Cities. — LEAVENWORTH, the largest city, is an important commercial and manufacturing center, and the seat of a State Normal School. TOPEKA is the capital.

NEBRASKA.

1. Physical Features. — Nebraska, like Kansas, is an undulating plain, sloping from the foothills of the Rocky Mountains to the Missouri River. The most striking physical feature is the broad and fertile valley of the Platte.

2. The leading industries are (1) agriculture, carried on in the rich bottom-lands of the rivers, and (2) stock-raising, for which the western section is admirably adapted.

3. Cities. — OMAHA is the largest city and commercial center. A fine iron railroad bridge, which spans the Missouri River at this point, connects it with Council Bluffs, Iowa. LINCOLN is the capital.

SPECIAL GEOGRAPHY FOR KANSAS CLASSES.

☞ Kansas classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 82,080 square miles. Population (census of 1880), 996,096.

Outline and Extent. — Kansas is in form a parallelogram. Its length from east to west (400 miles) is about twice its width.

Physical Features. — The broad, undulating surface is unbroken by mountains, though the Flint Hills cross the center from north to south, and there is a gentle swell towards the western part. The eastern section is prairie-land proper, and of great fertility; the western section partakes more of the characteristics of "the Plains."

While there are no large forests, there are belts of different varieties of timber along the streams. The climate is dry and healthful and the winters are short and mild.

River System. — The Missouri forms the northeastern boundary, and the Arkansas flows through the State for several hundred miles.

The principal river belonging to this State is the Kansas or Kaw River, formed by the confluence of the Republican and Smoky Hill rivers near Junction City. The Smoky Hill receives the Saline and Solomons forks. The Kansas receives on the north, at Manhattan, the Big Blue, and at Perryville, the Grasshopper. On the south it receives, near Lawrence, the Wakarusa.

Other important streams are the Marais des Cygnes River, or River of Swans, Spring River and Neosho, Cottonwood, Verdigris, Walnut, Whitewater, Little Arkansas, Pawnee Fork, Sha-kus'ka, Nin-ne'sah, or Good River, Cow-Skin, Cimarron, Medicine Lodge, and Nes-cu-tun'ga rivers.

Agriculture and Grazing. — Nature has admirably adapted this State to agriculture and grazing, and these are the two leading industries.

The chief farm-products of the eastern section are wheat, corn, oats, rye, barley, sorghum, cheese, butter, turnips, potatoes, and fruits.

The prairies are covered with a variety of nutritious grasses, which last all winter, drying into hay on the ground, and supporting vast herds of beef-cattle, which require no housing.

Minerals. — Very beautiful limestone is quarried in the Flint Hills. There are large deposits of coal in the eastern, and of salt in the western part of the State.

Education. — The State has established a good system of public schools. The educational institutions are located as follows: — the State University at Lawrence, the Agricultural College at Manhattan, and normal schools at Emporia, Leavenworth, and Concordia.

History. — Kansas first came prominently into notice in 1854, when a law was passed organizing the Kansas-Nebraska Territory, and leaving to "popular sovereignty" the question whether it should be a Free or a Slave State. The friends of both sides poured into this Territory, and for several years its soil was the scene of lawlessness and bloodshed; but the Antislavery party triumphed, and Kansas was admitted as a Free State, January 30, 1861.

Cities. — In addition to Leavenworth and Topeka the principal cities are: **Lawrence**, a railroad and trading center on the Kansas River; **Atchison**, a thriving city on the Missouri; and **Fort Scott**, the center of a coal-mining and of an agricultural and grazing district.

☞ State the location and anything known regarding the following places: —

Wyandotte.	Manhattan.	Baxter Springs.	Burlingame.	Grasshopper Falls.
Ottawa.	Paola.	Garnett.	Hiawatha.	Junction City.
Emporia.	Olathe.	Oswego.	Osage Mission.	

SPECIAL GEOGRAPHY FOR NEBRASKA CLASSES.

☞ Nebraska classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 76,855 square miles. Population (census of 1880), 452,402.

Outline. — Nebraska is an irregular oblong, its length from east to west being about twice its width.

Surface. — With the exception of the natural undulations of the Plains the only elevations are the sand-hills in the northwestern part. The eastern section consists of fine farming lands; the western, of grassy plains.

River Syatem. — The Missouri forms the northeastern and eastern boundary, and the Platte River with its numerous branches flows through the State from west to east, entering the Missouri near Plattsmouth.

Industries. — The raising of corn, wheat, and other cereals, and fruit-growing are carried on with great success in the eastern section; beef-cattle and other live-stock are raised in great numbers in the western grazing regions. The cheap and fertile lands, together with the ready means of communication, offer great inducements for settlement to emigrants.

Communications. — The Union Pacific Railroad traverses this State from east to west, thus bringing the inhabitants in easy communication both with the Eastern railroad system and with San Francisco.

Education. — The advantages of public-school education are well understood in Nebraska, and the public schools are liberally provided for. The State University is at Lincoln, and the State Normal School at Peru.

History. — Nebraska, originally a part of the Louisiana purchase, was, jointly with Kansas, organized into a Territory in 1854. When Kansas became a State in 1861, Nebraska remained for some years a Territory, but finally was admitted into the Union in 1867. The name is made up of two Indian words, meaning *water-valley*.

Cities. — **Nebraska City**, on the Missouri River, is an important city; **Plattsmouth** ships grain and stock, and manufactures agricultural implements; **Fremont**, on the Union Pacific Railroad, is an important trading point, with several railroad connections.

COLORADO.

1. Physical Features.—Colorado, which became a State in 1876, is divided by the Rocky Mountains into the eastern section, which resembles Kansas, and the western section, which is a mountain-plateau region.

2. Advantages. — Colorado has rich deposits of gold and silver, much good agricultural land, and a large amount of pasturage.

3. The leading industries are gold-mining, largely carried on in the mountains, and grazing and agriculture in the eastern section.

4. Denver is the capital and largest city: it is connected by railroad with the Kansas Pacific and with the Union Pacific railroads, and is the center of trade for an extensive region of country. CENTRAL CITY ranks next in population.

FOR COLORADO CLASSES.

I. AREA, 103,925 square miles. The population by the census of 1880 was 194,327. The State forms nearly a parallelogram; average length, east and west, 380 miles; breadth, north and south, 280 miles.

II. The State is intersected north and south near the center by the Rocky Mountains, which here attain their greatest elevation. From Mount Lincoln are visible 200 peaks nearly 13,000 feet high, and about 25 of 14,000 or over. The eastern range of the Rocky Mountains are called the Front or Colorado range; six of its peaks are from 14,000 to 14,200 feet above the sea, viz.: Long's Peak, Mount Torrey, Gray's Peak, Mount Rosa, Mount Evans, and Pike's Peak. West of this range, and between it and Park range, are North, Middle, and South parks. These are extensive irregular plateaus or basins, shut in on each side by lofty mountain-ranges. The valleys in the parks are clothed with luxuriant grasses and flowering-plants, and the soil is exceedingly fertile.

III. The river system of Colorado embraces the principal tributaries of the Rio Colorado, Rio Grande, Arkansas, Platte, and the Smoky Hill and Republican forks of the Kansas.

IV. Vast deposits of useful minerals of almost every kind occur in nearly every part of the State. The most important are gold and silver, which are found in large quantities in a belt about 50 miles wide, stretching north and south across the central portion of the State. From 1858 to 1872 the amount of gold produced was over $60,000,000. Coal, copper, and iron-pyrites abound. The State has many valuable salt, soda, and sulphur springs.

V. About one third of the State is good agricultural land. In the plains and the parks the soil of the valleys is particularly fertile, and yields rich harvests of all the grains and fruits. As a grazing and dairy country Colorado excels, deriving peculiar advantages from its nutritious grasses, upon which cattle thrive the whole year.

☞ State the location of the following cities and towns: —

Leadville.	Pueblo.	Trinidad.	Kit Carson.	Cañon City.
Georgetown.	Golden City.	Greeley.	Boulder City.	Colorado City.

MONTANA.

3. Description. — Montana is divided into two sections, — the eastern slope belonging to the Missouri valley, and the western part, which is a mountainous region traversed by the main ridge of the Rocky Mountains, and their numerous spurs.

2. Resources. — The gold mines are extensively worked, and the mountain pastures offer great advantages for stock-raising.

3. Towns. — HELENA is the principal trading-town, and the capital.

INDIAN LIFE IN THE ROCKY MOUNTAINS.

THE ROCKY MOUNTAIN TERRITORIES.

NEW MEXICO.

1. Description. — New Mexico is a Mountain-Plateau region, crossed by various parallel ranges of the Rocky Mountain system. The eastern half of the Territory belongs to the Texas slope, and is a continuation of the *Llano Estaca'do.* The great valley of the Rio Grande traverses the territory. The elevation of its surface gives New Mexico a temperate climate.

2. Agriculture. — The valley of the Rio Grande is the most fertile part, and the soil here is successfully tilled; but as very little rain falls, crops are raised wholly by irrigation. Much of the country is finely adapted to stock-raising, and this constitutes the chief occupation of the inhabitants.

3. Minerals — Gold, silver, and copper are abundant; but the mines have not been developed to any great extent.

4. Inhabitants. — Indians and Mexicans constitute the bulk of the population; in addition, there are a few thousand settlers from different parts of the Union.

5. Towns. — SANTA FÉ, the capital city, is the central point in the wagon-train route from north to south. ALBUQUERQUE, TAOS [*tah'oce*] and MESIL'LA in the valley of the Rio Grande are small settlements.

WYOMING.

1. Description. — Wyoming is an elevated Plateau and Mountain region traversed by the main axis of the Rocky Mountains.

2. Resources. — Extensive coal-beds are found in the Green River region; there are productive gold mines in the Sweetwater district, and the elevated plains afford fine pasturage for stock.

3. The leading industries are stock-raising and mining for coal and gold.

4. Towns. — CHEYENNE [*shi-en'*], the capital, is an important railroad center, and the distributing point for goods to all parts of the section north and south. SHERMAN STATION (8,000 feet) is the highest point in the Rocky Mountains crossed by the Pacific Railroad.


UNITED STATES
SECTION 7
CALIFORNIA
OREGON, NEVADA
UTAH, ARIZONA,
W.WYOMING,
S.IDAHO, S.MONTANA,
SCALE OF MILES
10 50 100
1½ Latitude = 1 Inch
Local Time A. M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude West from Washington
Local Time A. M. when Noon on the Meridian of Washington
PACIFIC OCEAN
OREGON
IDAHO
MONTANA
WYOMING
NEVADA
UTAH
CALIFORNIA
ARIZONA
COLORADO
NEW MEXICO
MEXICO
SONORA
LOWER CALIFORNIA
SANTA BARBARA ISLANDS
Gulf of California

THE PACIFIC STATES AND TERRITORIES.

GREAT SALT LAKE.

INTRODUCTION.

1. Situation. — This section includes the greater part of the United States west of the Rocky Mountains.

2. States and Territories. — The States are California, Nevada, Oregon, and Washington. The Territories are Utah, Arizona, and Idaho, together with Alaska.

3. Size and Population. — This section comprises one fifth of the area, but contains only one fortieth of the population, of our country.

4. The Mountains. — The main chains of the Rocky Mountains are in the eastern part of this section. The Sierra Nevada Mountains, with the Cascade Range, are in the western part.

5. The Plateau. — The greater part of this section consists of the Pacific Plateau. This table-land has an elevation of from 4,000 to 8,000 feet, and is about 800 miles wide in the middle part.

The Wahsatch Mountains, a cross range of the Rocky Mountain system, divides the plateau into two parts: the elevated plateau-basin of the Colorado River, from 7,000 to 8,000 feet high, and the "Great Basin" of Utah, from 4,000 to 6,000 feet high.

On the north the Great Basin slopes down to the Basin of the Columbia, with a general height of about 2,000 feet.

6. Rivers and Lakes. — The great rivers of this section are the Columbia, Sacramento, San Joaquin, and Colorado. All of these flow into the Pacific Ocean or its arms. The inland waters of the Great Basin flow into lakes that have no outlet, or sink into the sterile soil.

The principal lakes of the Great Basin are Great Salt Lake, Utah Lake, and Pyramid, Carson, Walker, Soda, and Owens lakes. Most of these bodies of water have no outlet, and hence are salt.

7. Sea-coast. — Exclusive of Alaska, this section has a coast line of about one thousand miles. Good harbors, however, are not numerous. The most important is that of San Francisco.

8. Climate. — This section presents two distinct climates, — that of the Plateau and that of the Pacific coast.

The Plateau region is, owing to its elevation, considerably colder than the Atlantic coast or Mississippi Valley in the same latitudes. It is also noted for its dryness, many parts being almost entirely rainless. This is due to the fact that the rain-clouds are deprived of their moisture by the lofty mountain-ranges which form the eastern and western flanks of the Pacific Plateau. Most of this region is an arid desert covered with sage-brush.

The Pacific slope, including the region to the west of the Sierra Nevada and Cascade ranges, has a climate unlike that of any other part of our country. There are but two seasons, the rainy season (winter) and the dry season (summer).

9. Resources. — This section is the richest metalliferous region on the globe. Gold, silver, quicksilver, coal, and many other minerals abound. The forests of California, Oregon, and Washington afford an exhaustless supply of the finest timber. The river valleys, especially in California and Oregon, are of great fertility, and excellent pasturage is found. The Pacific Ocean facilitates commerce.

10. Industries. — Mining is carried on in most of the States and Territories, and is the most general occupation; agriculture and stock-raising are greatly followed; the lumber interest is large.

MAP STUDIES.

California. — 1. What abbreviation is used? *Ans.* Cal. 2. What parallel forms the northern boundary? 3. Measure by the scale of miles the length of the Cal. coast. 4. In what latitude is San Francisco Bay? 5. What bay south of San Francisco Bay? 6. Name three capes. 7. What mountain-chain in the eastern part? 8. Where is Mount Shasta? — Mount Whitney? 9. Where is Yosemite Valley? 10. Describe the Coast Range. 11. Name and describe the principal rivers of Cal. 12. Where is Tulare Lake? — Lake Tahoe? 13. Where is the capital? 14. Where is San Francisco? — Oakland? — Stockton? — San Jose? — Los Angeles? — San Diego?

Nevada. — 1. What abbreviation is used? *Ans.* Nev. 2. What parallel and meridians form the northern, eastern, and western boundaries? 3. What State on the southwest? 4. What is the general character of the surface? 5. Name some mountain-ranges. 6. In what direction do they extend? 7. What is the principal river of the State? 8. Into what do most of the streams flow? 9. Where is Pyramid Lake? 10. Name two other lakes. 11. In what direction does the Central Pacific Railroad traverse the State? 12. Where is Virginia City? — Carson? — Austin? — Elko?

Oregon. — 1. What abbreviation is used? *Ans.* Or. 2. What parallel forms the southern boundary? 3. What natural boundary west? What State north? — east? 5. What cape in the southwestern part? 6. What is the principal mountain-range? 7. Where is Mt. Hood? — Mt. Jefferson? 8. What rivers form partial boundaries? 9. Describe the chief tributary of the Columbia. 10. What is the capital? 11. Where is Portland?

CALIFORNIA.

1. Its Rank. — California ranks as the wealthiest and most populous of the Pacific States. It is, next to Texas, the largest State in the Union.

2. Physical Features. — This State may be divided into four sections: (1) the mountain-region of the Sierra Nevada; (2) the desert plateau-region east of that range; (3) the fertile valley-region between the Sierra Nevada and the Coast Range mountains; and (4) the narrow coast-belt bordering on the Pacific Ocean.

The climate is semi-tropical, and there are only two seasons, — the rainy and the dry.

3. Scenery. — California is famed for its grand and striking natural features. Among these are the Yosemite [*yo-sem'i-ty*] Valley and Falls, the Big Tree Groves, Lake Ta'hoe, and the Geysers.

4. Advantages. — This State is highly favored by nature. It is rich in gold, quicksilver, coal, and other minerals. Its fertile soil and favorable climate adapt it to the production of the grains and fruits both of the temperate and semi-tropical climes. Its water-front on the Pacific Ocean gives it command of the trade with the Orient.

5. The leading industries are agriculture, stock-raising, mining, and manufacturing. California is the leading State in the export of wheat, gold, quicksilver, wool, and wine. The orange, lemon, fig, olive, and almond are cultivated in the central and the southern parts.

6. Cities. — SAN FRANCISCO is the commercial emporium of the whole western coast of North America, and has a large trade with China, Japan, India, Australia, the Sandwich Islands, and other islands of the Pacific. It is the chief manufacturing city of the Pacific coast. SACRAMENTO is the capital.

SPECIAL GEOGRAPHY FOR CALIFORNIA CLASSES.

☞ California classes should now make a full study of the geography of their State, following the Outline on page 30.

Area, 158,360 square miles. Population (census of 1880), 864,694.

Outline and Extent. — California is an irregular oblong, its length being about three times its breadth. Its length from north to south is 750 miles; its breadth from east to west is 250 miles.

Surface. — As a whole, California is a mountainous State.

The Sierra Nevada, which has a breadth of from 30 to 60 miles, extends the entire length of the State. It is the highest and most distinctly marked range in the United States. Its loftiest peaks are Mt. Whitney (14,887 feet), with several surrounding peaks over 14,000 feet high, and Mt. Shasta (14,440 feet). The mountains of the Sierra Nevada Range are exceedingly wild and rugged, and are covered with heavy forests, principally of pine.

The Coast Range, which is less elevated than the Sierra Nevada Mountains, stretches in broken spurs along the Pacific coast parallel to the latter range, except in the northern and southern parts of the State, where the two ranges are united in one.

The great valleys of the State — the Sacramento, the San Joaquin [*wa-keen'*], and the Tulare [*too-lah'ry*] — lie between these mountain-ranges. Along the Pacific there are narrow belts of lowland and numerous small valleys opening towards the ocean.

The desert region includes all that part of the State which lies east of the Sierra Nevada Mountains.

River System. — *The chief rivers* are the Sacramento, which is 350 miles long, and is navigable to Red Bluff, 295 miles; and the San Joaquin, which is 350 miles long, and is navigable to Stockton, 120 miles. These two rivers drain the two great valleys of the same names, and flow into Suisun [*soo-soon'*] Bay, — a continuation of the Bay of San Francisco.

The chief tributaries of the Sacramento are the American, the Yuba, and the Feather rivers, all of which flow from the gold-bearing slopes of the Sierra Nevada Mountains; of the San Joaquin are the Cosum'nes, Mokel'umne, Calave'ras, Stan'islaus, Tuol'umne, Merced', Maripo'sa, Fres'no, Kings, and Kern, all from the western slopes of the Sierra Nevada.

The other considerable rivers flowing directly into the Pacific are the Klam'ath, Eel, Russian, and Salinas [*sa-lee'nas*].

The rivers of the plateau section are Owens River, which flows into Owens Lake (salt); Mohave [*mo-hah'vy*] River, which flows into Soda Lake (salt); and the Truckee, which flows into Pyramid Lake (salt), Nevada.

The principal lakes are Tulare Lake, which has its outlet through the San Joaquin River, and Lake Tahoe, drained by the Truckee River.

Climate. — Although the greater part of California lies in the same latitude as Pennsylvania, Virginia, and North Carolina, its climate is so modified by the warm winds of the Pacific Ocean and by the protection of mountain-chains to the north, that its climate, except in the high mountain-regions, is sub-tropical. There are two seasons, the wet and the dry, and snow falls only in the high mountains. In the coast-valleys the climate is remarkably mild and uniform; in the interior valleys the dry season is very hot and the rainy season colder than on the coast; in the mountains the winters are cold and snow falls to a great depth.

Soil. — The soil of the valley lands and of the narrow coast-belt along the ocean is a deep, rich loam, exceedingly productive and easily cultivated. Along the banks of the Sacramento and the San Joaquin rivers there are vast

Special Geography of Cal. continued.]

tracts of marsh-lands subject to overflow. These tracts, known as "*tulé* lands," become very productive, when reclaimed and protected by levees.

Agriculture. — The agricultural resources are exceedingly varied.

The Cereals. — In wheat-raising it is one of the foremost States. Barley and oats are important crops.

Vegetables, as potatoes, beets, cabbages, cauliflowers, etc., grow to great size and perfection.

The culture of tobacco is favored by the soil and climate, and cotton thrives in the San Joaquin valley.

In the culture of the grape and the production of wine it exceeds any other State. The annual vintage is over six millions of gallons, besides great quantities of grape-brandy.

Fruits. — In the central valleys and along the Pacific coast south of the Bay of San Francisco, the climate is favorable to the growth of semi-tropical fruits, such as oranges, lemons, figs, olives, and almonds. Apples, pears, plums, cherries, and grapes thrive in all parts of the State.

Stock-Raising. — The rolling foot-hills and mountain-valleys afford fine grazing grounds for cattle, horses, and sheep; stock-raising is an important interest, and immense sheep-ranches are common. The climate is so mild that stock are neither housed nor fed during the rainy season (winter months). In the production of wool California is second only to Ohio.

Mining. — Gold is the leading mining product of California, the annual yield being about twenty-five millions of dollars.

The gold region lies chiefly on the western slope of the Sierra Nevada Mountains, along the tributaries of the Sacramento and San Joaquin rivers.

The gold is obtained chiefly from "quartz mines" by crushing gold-bearing quartz rock, and from hydraulic mines or "hill diggings," in which the earth is washed away by streams of water forced by heavy pressure through strong hose-pipe.

Of cinnabar, or quicksilver ore, rich deposits are found in the Coast Range, and the mine at New Almaden′ is one of the richest in the world.

The State also has mines of silver, copper, iron, and tin; but they are not as yet extensively worked. Coal is mined to a considerable extent.

Manufactures. — The available water-power of this State is small, and steam-power is chiefly used to run the machinery of mills. The manufacturing interests, though as yet comparatively new, are growing. The leading articles of home manufacture are iron machinery, flour, woolen goods, sawed lumber, boots and shoes, and numerous minor objects.

Commerce. — Commerce is carried on with the other States by means of the Pacific Railroad, steamship lines *via* the Isthmus of Panama, and sailing vessels by way of Cape Horn. The State also has extensive commercial relations with China, Japan, the East Indies, Australia, and the islands of the Pacific.

The leading exports are wheat, gold, wine, quicksilver, and wool. The value of the wheat exported exceeds that of the gold.

Scenery. — The Sierra Nevada Mountains are noted for their snow-clad summits and wild scenery. The Yosemite Valley, in the central part of the Sierra Nevada Range, is a great cleft or chasm in the mountains, several miles long, with perpendicular granite walls, from 2,000 to 4,000 feet in height. Over one of these walls, a small mountain-stream falls a distance of 1,300 feet. The Calaveras Big Tree Grove contains several hundred trees (of the species known as *Sequoia gigantea*), some of which are 300 feet high, with a circumference of 120 feet at the base. Lake Tahoe presents beautiful scenery.

Education. — This State has a progressive system of common schools, a Normal School at San Jose [*o-zay′*], several denominational colleges, and a flourishing State University located at Berkeley, near Oakland.

Cities. — In addition to San Francisco, the metropolis, and Sacramento, the capital, the most important places are: —

Cities.	Advantages of Location.	Industries and Characteristics.
Oakland.	On San Francisco Bay, opposite San Francisco.	Place of suburban residence and educational center.
San Jose.	In the fertile Santa Clara Valley.	Manufacturing and trading center.
Stockton.	In the San Joaquin valley.	Center of trade.
Los An′geles.	In the fertile southern section.	The leading place in the vine, orange, and olive country.
Grass Valley.	In the mining region.	Quartz-mining.
Vallejo [*val-yay′ho*].	On San Pablo Bay.	Trading and manufacturing point. Near by, at Mare Island, is a United States Navy-Yard.

☞ Pupils may state the location and anything known regarding the industries of the following places: —

Marysville. Petalu′ma. San Die′go. Nevada. Napa. Visalia. Santa Clara. Santa Rosa. Gilroy Chico. Sono′ma.

NEVADA.

MINING SCENE AND PYRAMID LAKE.

1. Physical Features. — This State is an elevated plateau, with numerous short mountain-ranges. The western part is in the driest belt of land in the United States. The few streams belonging wholly to Nevada flow into salt lakes or sink into sandy deserts. Its alkaline plains are covered with a scattered growth of sage-brush, which grows to the height of from two to four feet.

2. Resources. — Nevada is noted for its silver-mines, which are the richest in the world. It has also a large amount of pasture-land that is excellent for stock-raising.

3. The leading industry is silver-mining. The mines of this State yield one third of all the silver produced in the United States. Stock-raising also is largely followed.

4. Cities. — VIRGINIA CITY is the largest city and chief commercial center. It is situated more than 6,000 feet above the sea-level. CARSON CITY is the capital.

FOR NEVADA CLASSES.

I. The area of this State is 110,700 square miles, or more than one half larger than the whole of New England; yet it has the smallest population of any State in the Union, the number of inhabitants by the census of 1880 being but 62,266.

II. The plateau of Nevada has a mean height of about 4,000 feet. It is traversed by nearly parallel ranges of mountains, rising from 1,600 to 8,000 feet higher, having generally a north and south direction, and separated by valleys from 5 to 20 miles in width. Little rain falls, and irrigation is generally necessary to agriculture. The reason of the dryness of the climate is because nearly all the moisture borne by the rain-clouds blowing from the Pacific Ocean is condensed by the lofty summits of the Sierra Nevada Mountains.

III. Nevada was part of the extensive territory which the United States acquired from Mexico by the treaty of Guadeloupe Hidalgo in 1848. When the boundaries of California were determined, in 1849, Nevada formed a part of Utah Territory, and such it continued until 1861, when it was formed into a separate Territory. In the mean time, in 1859, immense deposits of silver in the Comstock vein were discovered, and so rapid was the increase of the population that in 1864 Nevada was admitted as a State. The State is named from the Sierra Nevada Mountains, meaning "snowy range."

IV. In addition to Virginia City and Carson City, mentioned in the main text, the following are the most important places: Gold Hill, a mining town and next to Virginia City the most populous place in the State; Hamilton, which is the center of the White Pine mining district, and is 8,000 feet above the sea-level; Eure′ka, another mining town in White Pine; Pioche [*pee-ash′*], a flourishing mining town in the southern part of the State; Austin, in the central part; and Reno, Wadsworth, Elko, and Winnemuc′ca, on the line of the Central Pacific Railroad.

OREGON.

MOUNT HOOD, OREGON.

1. Size. — This State is as large as New York and Pennsylvania, but is thinly populated.

Area, 96,030 square miles. Population (1880), 174,768.

2. Physical Features. — Oregon is divided into two sections, — the fertile valley region west of the Cascade Range, and the plateau region to the east.

Note. — To the west of the Cascade Range the long slope down to the broad low valleys of the Pacific coast is a region of great beauty and fertility, and is covered with dense forests of spruce, cedar, and pine. This section has abundant summer rains, with but little snow in winter, though it lies as far north as the northern limit of New Hampshire. The eastern side of the Cascade Range slopes abruptly to the Rocky Mountain plateau, which, being almost rainless, is infertile and nearly devoid of vegetation.

3. The leading industries are (1) agriculture, to which the fertile river-valleys are finely adapted; (2) stock-raising, which is largely engaged in; and (3) cutting timber from the immense pine forests that cover the western slopes of the Cascade Mountains.

4. Cities. — Portland, on the Willam'mette, near its junction with the Columbia, is the commercial center; Salem is the capital.

History. — In 1788 two trading-ships from Boston under Captains Kendrick and Gray visited this coast. The latter discovered the great river of Oregon, which he named Columbia, in honor of Captain Kendrick's ship. In 1811 a settlement, principally with a view of fur-trading, was made by John Jacob Astor at a point still called Astoria. The British set up a claim to this North Pacific territory, and the dispute continued until 1846, when it was agreed that the American possessions should extend as far as the parallel of 49° north latitude. Oregon was organized as a Territory in 1848, and became a State in 1859.

MAP STUDIES.

Utah. — (*Map, page 74.*) 1. What two parallels form the northern boundary? — what parallel the southern boundary? 2. What State on the east? — on the west? 3. What range of mountains in the central part? 4. Describe Great Salt Lake. 5. What rivers flow into it? 6. What head-streams of the Colorado flow through Utah? 7. Where is the capital? — Pro'vo? — Corinne'?

Arizona. — (*Map, page 74.*) 1. Bound this Territory. 2. What is the general character of the surface? 3. Which part is a plateau? 4. What great river forms a western boundary? 5. What large tributary does the Colorado here receive? 6. Where is the capital? — Prescott?

Idaho. — (*Map, page 74.*) 1. What two Territories east? 2. What State and Territory south? 3. What State and Territory west? 4. What spur of the Rocky Mountains in the central part? 5. To what great river are most of the streams tributary? 6. Where is Boise City? — Silver City?

Washington. — (*Map of the United States, p. 27.*) — 1. Bound this State. 2. What great inbreaking of the ocean has it? 3. What is the name of the principal mountain range? 4. Name three peaks. 5. What great river in Washington? 6. State the location of Olympia, — Seattle, — Tacoma.

Alaska. — (*Map of North America, page 22.*) 1. What waters nearly surround it? 2. What is the latitude of Point Barrow? 3. What separates it from Asia? 4. What great river in Alaska? 5. Where is Sitka?

WASHINGTON.

1. Physical Features. — Washington is divided by the Cascade range into an Eastern Plateau region and a western farming and lumbering region.

2. Resources. — The Puget Sound region is covered with immense pine forests, and great quantities of lumber are shipped from the mills around the Sound, which extends inland one hundred and eighty miles, and affords great facilities for commerce.

3. Towns. — Olympia is the capital; Se'attle, Port Townsend, Tacoma, Spokane Falls, and Walla Walla are flourishing places.

THE PACIFIC TERRITORIES.

UTAH.

1. Physical Features. — Utah is divided by the Wahsatch Mountains into two nearly equal parts. The eastern part is a dry and barren desert that belongs to the Colorado Plateau basin. The western part belongs to the Great Basin.

2. Resources. — Utah contains rich veins of silver, which are extensively worked. It also has large copper and coal mines. Agriculture is carried on principally by means of irrigation.

3. Cities. — Salt Lake City is the capital, and the commercial and social center of Utah. It is laid out in large squares, and streams of water from the mountains run through the streets. Ogden, Provo, Corinne, and Brigham are places of some note.

Note, — Utah was the part of the Rocky Mountain region earliest settled by Americans. Its first white population was composed of a religious sect called Mormons, who, under the leadership of Brigham Young, sought refuge in this far western wilderness in 1848. In the following year it was made a Territory.

ARIZONA.

1. Physical Features. — Arizona includes the hottest and driest part of the United States. The northern part is a high plateau, cut through by the stupendous cañon of the Colorado River. The southern part has several mountain ranges and many short disconnected mountains called "lost mountains."

Note. — The Colorado River has worn through the soft strata of sandstone a narrow channel, that in many places is from 2,000 to 3,000 feet deep. The passage through this deep and gloomy cañon is exceedingly dangerous.

2. Resources. — This Territory is rich in mines of silver, copper, and other minerals. Many parts are admirably adapted to stock-raising, and the river bottoms and mountain valleys are well suited to agriculture.

3. Cities. — The chief places are Phœnix, the capital, and Prescott and Tucson, important trading-points.

IDAHO.

1. Description. — Idaho is a mountainous country traversed by numerous western spurs of the Rocky Mountain system.

2. The leading industries are gold-mining and stock-raising. The gold mines are found along the Salmon and Snake rivers, — two branches of the Columbia.

3. Towns. — Boise City is the capital. Florence and Silver City are mining towns.

ALASKA.

The extensive region of Alaska (area about 577,000 square miles) was bought from Russia in 1867 for $7,200,000. Its forests, fur-bearing animals and seal-fisheries constitute the chief wealth of Alaska, and its small population of Aleuts and Indians are engaged in hunting and the fisheries. A garrison is stationed at Sitka, the chief town. There is now a territorial government.

TOPICAL REVIEW AND TEST QUESTIONS ON THE UNITED STATES.

I. QUESTIONS IN TOPOGRAPHY.

Through what States do they extend?

Mountains.	Rocky.	White.
	Sierra Nevada.	Green.
	Coast and Cascade.	Adirondack.
	Alleghany.	Catskill.

In what States are they?

Atlantic Rivers.	Penobscot.	Susquehanna.
	Kennebec.	Potomac.
	Connecticut.	James.
	Hudson.	Savannah.
	Delaware.	Altamaha.

Where do they rise?

Branches of the Mississippi.	Ohio.	White.
	Illinois.	Arkansas.
	Missouri.	Red.

Where do they rise?

Pacific Rivers.	Columbia.	Sacramento.
	Colorado.	Yukon.

Where are they?

Principal Lakes.	Superior.	Erie.
	Huron.	Ontario.
	Michigan.	Great Salt.

On what coast?

Principal Bays and Sounds.	Massachusetts.	Albemarle.
	Long Island.	Pamlico.
	Delaware.	Mobile.
	Chesapeake.	San Francisco.

From the coast of what State?

Principal Capes.	Cod.	Fear.
	Hatteras.	Sable.
	May.	Mendocino.

Where are they?

Ten Largest Cities.	New York.	St. Louis.
	Philadelphia.	Baltimore.
	Brooklyn.	Cincinnati.
	Chicago.	San Francisco.
	Boston.	New Orleans.

In what State?

Ten Second Class Cities.	Cleveland.	Louisville.
	Pittsburgh.	Jersey City.
	Buffalo.	Detroit.
	Washington.	Milwaukee.
	Newark.	Providence.

Bound each.

Six most Populous States.	New York.	Illinois.
	Pennsylvania.	Missouri.
	Ohio.	Indiana.

Bound each.

Six States of Largest Area.	Texas.	Colorado.
	California.	Oregon.
	Nevada.	Minnesota.

II. TRAVELS AND VOYAGES.

☞ **To be answered from an Outline Map at the first recitation, and from memory at the second.**

1. At what ports could you stop on a sea-voyage from Boston along the coast to New Orleans?

2. What capes would you pass?

3. What great peninsula would you double?

4. Through what waters would you pass on a lake-voyage from Chicago to Buffalo?

5. At what cities could you stop on the trip?

6. What cities would you pass on a steamer trip up the Hudson?

7. On a steamboat trip from New Orleans to Pittsburgh what cities would you pass?

8. What States would you pass between?

9. Going up the Missouri River what cities would you pass?

10. What States and Territories would you pass through or by?

11. In going from Pittsburgh to Dubuque by water what States would you pass? What cities on the way?

12. In traveling by rail from Omaha to Utah Territory what States and Territories would you pass through? — from Salt Lake City to San Francisco?

13. What mountains would you cross in going from New York to San Francisco? — what great rivers? What is the distance?

14. In what parts of our country would you travel to find mountain scenery? — to find extensive prairies and large navigable rivers? — to find tribes of Indians?

15. In what parts would you go to find very few cities or towns?

16. Where would you see the greatest number of manufacturing cities and villages?

17. Where would you find the largest and most fertile farms? — where the most extensive lumber-forests?

18. On a steamboat trip, in summer, up the Mississippi to the month of the Ohio, what would you expect to see growing on the plantations along the river? — what growing on the farms along the Ohio River up to Pittsburgh?

19. If you were to sail from Southern Florida to Northern Maine, through how many degrees of latitude would you pass?

20. Through what States and Territories would a wagon-train pass in going over the Plains from St. Joseph (Missouri) to Tucson (Arizona)?

21. A ship laden with ice from Sitka (Alaska) would pass along the coast of what States, or countries, to reach San Francisco?

III. PRODUCTS AND INDUSTRIES.

☞ **To be answered by reference to the Table at the foot of the page and the text on the several States.**

1. Which are the five leading manufacturing States? Which three of these are Atlantic States? In what section are the other two States?

2. In what States would you travel to find places noted for any of the following?

Manufactured Articles.	Cotton goods.	Flour.
	Woolen goods.	Tobacco.
	Boots and shoes.	Agricultural implements.
	Iron machinery.	Pins and buttons.
	Iron-ware.	Yankee notions.

3. What are the five leading mining States? Which two of these are North Central States? Which two are Pacific States?

4. In what States would you travel to find extensively worked mines of the following?

Minerals.	Coal.	Lead.
	Iron.	Copper.
	Gold.	Quicksilver.
	Silver.	Zinc.

5. State from the Physical Map (page 25) the locality of the great cotton-belt of the United States. What are the five principal cotton States? Which of these border on the Gulf of Mexico?

6. What are the five principal tobacco-growing States? Is the tobacco region situated as far south as the cotton-belt? Between what parallels does the great tobacco region lie?

7. What are the five leading wheat States? Which three of these are also leading corn-growing States. By what channel do you suppose wheat is shipped from the Central States to Europe? What is the route of a wheat-ship from San Francisco to Liverpool?

8. What States lead in the production of corn? Draw on the blackboard an outline map of the great corn region.

9. What are the five leading States in the production of hay and potatoes? Which two are Atlantic States? Which three are North Central States?

10. What are the five leading States in dairy-products? Which three are Atlantic States? Which two are North Central States?

11. In what States would you travel to find cultivated on the farms great quantities of the following?

Agricultural Products.	Wheat.	Cotton.
	Corn.	Rice.
	Potatoes.	Sugar.
	Hay.	Apples.
	Tobacco.	Peaches.

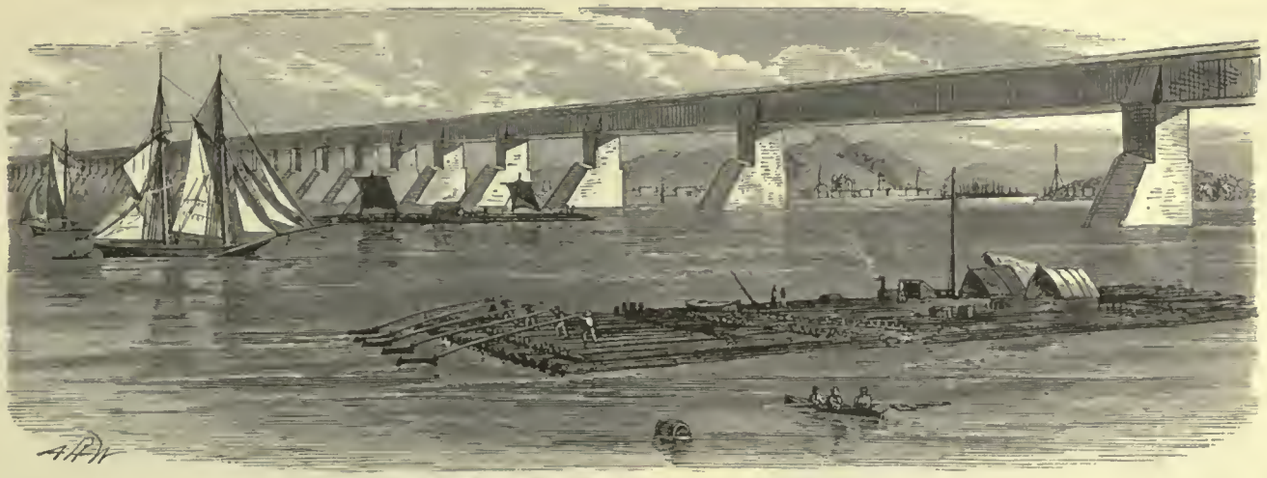
PRODUCTS AND INDUSTRIES OF STATES IN GROUPS. — CENSUS OF 1880.

Leading in Manufactures.	Leading in Cotton.	Leading in Tobacco.	Leading in Wheat.	Leading in Corn.	Leading in Hay and Potatoes.	Leading in Dairy Products.	Leading in Mining.
New York.	Mississippi.	Kentucky.	Illinois.	Illinois.	New York.	New York.	Pennsylvania.
Pennsylvania.	Georgia.	Virginia.	Indiana.	Iowa.	Pennsylvania.	Pennsylvania.	Nevada.
Massachusetts.	Texas.	Pennsylvania.	Ohio.	Missouri.	Illinois.	Ohio.	Ohio.
Ohio.	Alabama.	Ohio.	Michigan.	Indiana.	Michigan.	Illinois.	California.
Missouri.	Arkansas.	Tennessee.	Minnesota.	Ohio.	Ohio.	Iowa.	Michigan.


THE EASTERN PROVINCES OF THE DOMINION OF CANADA WITH NEWFOUNDLAND
SCALE 1 Inch = 175 Miles
Local Time A. M. when Noon on the Meridian of Greenwich
Longitude West from Greenwich
Longitude West East from Washington
LABRADOR
QUEBEC
ONTARIO
NEW BRUNSWICK
NOVA SCOTIA
PRINCE EDWARD I.
CAPE BRETON ISLAND
NEWFOUNDLAND
GULF OF ST. LAWRENCE
ST. LAWRENCE RIVER
ATLANTIC OCEAN
UNITED STATES
MAINE
NEW YORK
PENNSYLVANIA
MASSACHUSETTS
CONN.
OTTAWA
Montreal
Toronto
Kingston
Hamilton
London
FREDERICTON
St. John
HALIFAX
CHARLOTTETOWN
Boston
Portland
Philadelphia
New York
Anticosti I.
L. Mistassinie
James Bay
Lake Superior
Lake Huron
L. Ontario
Lake Erie


MEXICO, CENTRAL AMERICA AND WEST INDIES
SCALE OF MILES
Longitude West from Greenwich
Local Time A. M. when Noon on the Meridian of Washington P. M.
Longitude West from Washington
UNITED STATES
MEXICO
GULF OF MEXICO
PACIFIC OCEAN
ATLANTIC OCEAN
CARIBBEAN SEA
WEST INDIES
BAHAMA ISLANDS
CUBA
HAVANA
JAMAICA
KINGSTON
HAYTI OR SAN DOMINGO
PORTO RICO
CENTRAL AMERICA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
SOUTH AMERICA
Bay of Campeachy
Bay of Honduras
TROPIC OF CANCER
MEXICO
STATES
1 Sonora
2 Chihuahua
3 Coahuila
4 Sinaloa
5 Durango
6 Zacatecas
7 Nuevo Leon
8 Tamaulipas
9 San Luis Potosi
10 Xalisco
11 Aguas Calientes
12 Guanajuato
13 Queretaro
14 Hidalgo
15 Vera Cruz
16 Tlascala
17 Puebla
18 Mexico
19 Michoacan
20 Colima
21 Guerrero
22 Morelos
23 Oaxaca
24 Tabasco
25 Chiapa
26 Campeachy
27 Yucatan
CAPITALS
Ures
Chihuahua
Saltillo
Culiacan
Durango
Zacatecas
Monterey
Victoria
San Luis Potosi
Guadalajara
Aguas Calientes
Guanajuato
Queretaro
Pachuca
Vera Cruz
Tlascala
La Puebla
Toluca
Morelia
Colima
Tixtla
Cuernavaca
Oaxaca
San Juan Bautista
San Cristoval
Campeachy
Merida
TERRITORIES
California
Federal District
CAPITALS
La Paz
Mexico

CANADA AND NEWFOUNDLAND.



VICTORIA TUBULAR BRIDGE ACROSS THE ST. LAWRENCE AT MONTREAL.

DOMINION OF CANADA.

1. **The Dominion of Canada** occupies all the northern part of the American continent, except Alaska and a part of Labrador. Its area is nearly as great as that of the United States.

The Dominion of Canada consists of the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, and British Columbia, together with the District of Keewatin, the Northwest Territory, and the Northeast Territory.

2. **Government.** — "The Dominion," is a semi-independent federation of British provinces. The chief executive officer is the Governor-General, who is appointed by the sovereign of Great Britain. The Legislature, called the Parliament, consists of the House of Commons, the members of which are elected by the people; and the Senate, whose members are appointed by the Governor-General.

OTTAWA, in the Province of Ontario, is the capital of the Dominion.

While the Dominion government regulates all federal matters (as is the case with the general government in our own country), each province has its own local government, consisting of a Legislature, elected by the people, and a lieutenant-governor, appointed by the Dominion government.

3. **Commerce.** — Canada carries on an extensive trade with the United States and England. With the exception of these nations, it has a larger commercial marine than any other country.

MAP STUDIES ON CANADA, MEXICO, CENTRAL AMERICA, AND THE WEST INDIES.

☞ **The Map Studies to be made in connection with the text on each country.**

CANADA.

General. — [*Map of North America, page 22.*] 1. What ocean bounds Canada on the north? — on the east? 2. What ocean and Territory on the west? 3. What country south? 4. Which part of the southern boundary is a *natural* boundary? 5. In what zone is most of Canada situated? 6. What is the character of the northern region? 7. What great internal sea in Canada? 8. What is the largest island on the east coast? — on the west coast? 9. Name four large interior lakes. 10. Describe the Mackenzie River; — the Saskatchewan; — the St. Lawrence.

The Eastern Provinces. — [*Map on opposite page.*] 1. In what direction does the river St. Lawrence flow? 2. What lakes does it drain? 3. Which is the most western of the Eastern Provinces? 4. What river forms the boundary between the Provinces of Ontario and Quebec? 5. On which four of the Great Lakes does the former front? 6. Locate Toronto, the largest city. 7. What lake city of New York and seaport of Maine are in nearly the same latitude as Toronto? 8. Where is Hamilton? — Kingston? — London?

1. What is the northern boundary of the Province of Quebec? 2. What States and what Provinces to the south? 3. Is the greater part of this Province north or south of the St. Lawrence? 4. What three tributaries of the St. Lawrence in this Province? 5. What river drains Lake Champlain into the St. Lawrence? 6. What large island in the Gulf of St. Lawrence? 7. Where is Montreal? — Quebec? 8. Which city is the further south, Montreal or Quebec? 9. Where is St. Johns? — Three Rivers?

1. Bound New Brunswick. 2. What river forms a partial boundary between New Brunswick and Maine? 3. Where is St. John? — Fredericton? 4. Where is the natural and political division of Prince Edward Island? 5. Name the capital.

1. What natural division of land is Nova Scotia? 2. Measure by the scale of miles its length. 3. What bay separates it from New Brunswick? 4. What island northeast forms part of the same Province? 5. Where is Halifax? 6. What gulf west of Newfoundland? 7. What strait north? 8. What cape in the south? 9. In what part is St. John?

MEXICO.

[*Map on opposite page.*] — 1. In what two zones is Mexico? 2. What large river forms a partial boundary between Mexico and the United States? 3. What country southeast of Mexico? 4. What peninsula on the west? 5. What cape at the end of the longest peninsula of Mexico? 6. What mountain range traverses the country? 7. Has Mexico any long rivers? 8. What river flows into the Gulf of California? 9. Describe the location of the city of Mexico; of Puebla [*pweb'la*]; of Matamo'ras; of Vera Cruz; of Acapulco [*pool'ko*].

CENTRAL AMERICA.

1. In what direction does Central America extend? 2. With what country is it connected on the northwest? 3. With what grand division is it connected by the Isthmus of Panama? 4. Name the States (republics) in their order from north to south. 5. Name the States on the Pacific coast. 6. Name the States bordering upon the Caribbean Sea. 7. Which States border on both? 8. In which State is Lake Nicaragua? 9. Where is the city of New Guatemala? — of San Salvador? — of Managua? 10. Where is Truxillo [*tru-heel'yo*]? 11. Where is Belize [*bel-eez'*]?

THE WEST INDIES.

1. What three great West India Islands lie in a line nearly east and west? 2. What sea south of these islands? 3. What island south of Cuba? 4. What is the capital of Cuba? 5. Where is Kingston? 6. In what direction are the Bahamas from Hayti? 7. Where is Matan'zas? 8. Name the strait separating Florida from the West Indies. 9. Which of the groups of the West India Islands extends north of the Tropic of Cancer? 10. Between what parallels are the lesser Antilles included?

The leading imports are cloths, cutlery, and other manufactured articles from Great Britain, and pork, tobacco, and various manufactured articles from the United States. The exports are lumber, wheat, potash, fish, and furs, to England; and lumber, barley, dairy-products, and live-stock, to the United States.

4. Civilization. — In civilization the Dominion ranks with the United States: the people are educated, prosperous, and progressive.

5. Provinces. — A considerable diversity of natural features, productions, industries, etc., marks the several Provinces of the Dominion of Canada. Below is a description of each Province.*

VIEW OF MONTREAL.

REFERENCE TABLE OF CITIES.

Namea.	Population.	Characteristics.
Montreal.	140,000	The largest city in the Dominion. Extensive trade and manufactures. A magnificent iron tubular bridge (the Victoria Bridge), two miles long, spans the St. Lawrence River here.
Quebec.	62,000	The capital of the Province of Quebec, and the principal shipping point for the Lower St. Lawrence. Large lumber-trade. A picturesque old town, with walls and strong fortifications.
Toronto.	86,000	The capital of the Province of Ontario. A commercial and educational center.
St. John.	29,000	The chief city and seaport of New Brunswick.
Halifax.	34,000	The capital, chief city, and seaport of Nova Scotia; also the principal naval station of Great Britain in North America. Carries on ship-building and coal-trade.
Hamilton.	35,000	The second trading and manufacturing city in Ontario.
Charlotte-town.	9,000	The capital of Prince Edward Island. Has considerable commerce.
Victoria.	6,000	On Vancouver Island. The chief city of British Columbia.

Arctic Regions. — The Arctic Regions extend from Davis Strait on the east to Behring Strait on the west, along the shores and in the waters of the Arctic Ocean. They comprise numerous islands, peninsulas, gulfs, bays, sounds, and straits; and are chiefly interesting as having been the scene of numerous brave and determined attempts to find a northwest passage from the Atlantic to the Pacific Ocean.

Northwest Passage. — That a passage from the Atlantic to the Pacific Ocean does exist was definitely proved by Captain McClure (1850–51), who passed from the Pacific through Behring Strait to Baffin Bay and the Atlantic; but the discovery is of no practical advantage to navigation, since the seas are sometimes icebound for years or else obstructed by enormous icebergs.

Arctic Inhabitants. — The sole inhabitants of the dreary Arctic regions are a few wandering Esquimaux, who live on the flesh of the seal and on fish and sea-fowl. The flesh of the seal produces heat in the body, and is the only food that could keep the inhabitants alive during the long cold winters. The Esquimaux travel about on sleds drawn by teams of dogs. Their clothes are made from the skins of the seal. They live in huts built of blocks of snow, — the warmest and most comfortable houses that could be built there. Having no wood or coal, they use the fat of the seal and whale for warming their huts and for cooking their food.

* PROVINCES OF THE DOMINION.

Ontario, lying between the Ottawa River and Lake Superior, is the most important part of Canada. It fronts on the Upper St. Lawrence and on lakes Ontario, Erie, Huron, and Superior. The climate resembles that of the Lake States. Between Montreal and Lake Ontario the St. Lawrence is obstructed by rocks and rapids; but by the aid of locks and side-canals vessels are enabled to pass up to the lake. The Niagara River, which connects lakes Erie and Ontario, is of course not navigable, on account of the great Falls, but communication between the two lakes is effected by means of the Welland Canal.

The southern part of this Province is thickly settled by a population mainly of British and American descent. The northern and northwestern parts are still covered with primeval forests. Agriculture and lumbering are the leading industries.

Quebec is a large Province, occupying both sides of the River St. Lawrence from the Ottawa River to the Gulf of St. Lawrence. The climate is marked by a very cold winter and a dry, hot summer. The valley of the St. Lawrence is in general exceedingly fertile; but the north bank east of the Saguenay, owing to the severity of the temperature, is almost incapable of cultivation.

This Province derives its chief importance from its commercial position, its lumber-trade, and its fisheries. The St. Lawrence, navigable for large ships to Montreal, affords direct communication between the great West and the Atlantic. The river is closed by ice for five months of the year. During this season the ocean outlet for Canadian produce is by way of Portland, Me.

The Province of Quebec is largely peopled by descendants of the original French settlers. They are called *habitans;* and in the country parts many of them speak a corrupt French dialect, and have peculiar manners and customs. The rest of the population are of British descent.

New Brunswick in physical features resembles the State of Maine, which it adjoins. Most of its surface is covered with dense forests. The leading industries are lumbering, ship-building, and the fisheries. The inhabitants are mainly of English and Irish descent.

Nova Scotia comprises the peninsula of Nova Scotia and the adjoining Island of Cape Breton. Being within the influence of the Gulf Stream, it has a climate more equable than that of the inland Provinces. The mining of coal, iron, and gypsum is extensively carried on; and the cod, mackerel, and salmon fisheries rank next to those of Newfoundland. The exports are lumber, dried fish, coal, gypsum, and grindstones.

Prince Edward Island has a generally level surface and a fertile soil. Agriculture is the leading occupation, though ship-building to some extent is carried on.

Manitoba, formerly called the Red River Settlement, lies nearly in the center of North America. It is a prairie country, with a fertile soil well adapted to the growth of wheat and other grains; but the lack of transportation to a market checks enterprise. Of the whole population seven eighths are Indians and half-breeds. A large trade in furs and skins is carried on. Winnipeg is the capital and chief town.

British Columbia is a mountainous country, covered with forests. It has few white inhabitants, but is the home of several tribes of Indians. Gold is found along the Frazer River. Extensive coal-mines are worked on Vancouver Island. New Westminster is the capital.

The District of Kewatin (formed from the Northwest Territory in 1867) extends from the western boundary of Ontario west to the Province of Manitoba and the eastern shore of Lake Winnipegosis, and north to Hudson's Bay. It is under the jurisdiction of the Lieutenant-Governor of Manitoba.

Northwest Territory. — This extensive region was formerly in the possession of a great trading company, called the Hudson's Bay Company; but in 1870, by an Act of the British Parliament, all this immense territory was transferred to the Dominion of Canada for purposes of colonization. The southern part is a fine grain and pasture country.

The forests abound with fur-bearing animals, of which the most valuable are the sable, ermine, mink, marten, and beaver. The Hudson's Bay Company has upwards of fifty "forts," scattered over various parts of the country, for the purpose of collecting furs, which form the chief trade. The population (of about 150,000) consists, for the most part, of half-breeds and Indians.

VIEW OF QUEBEC.

NEWFOUNDLAND.

1. Description. — The Island of Newfoundland forms a British Province separate from the Dominion of Canada.

The government of Newfoundland includes also the coast of Labrador for 700 miles.

2. The climate is cold and severe, owing to the great quantity of ice which is always round the island, brought down by the winds and currents in enormous icebergs from the Arctic Ocean. Fogs also prevail, especially on the Banks, being caused by the cold currents from the north meeting the Gulf Stream.

3. The fisheries form the sole wealth of the island. The cod-fisheries on the Banks of Newfoundland are the greatest and most important fisheries in the world. The whale, salmon, and herring fisheries of Labrador are also important.

St. Johns (23,000), the capital, is the chief commercial station in the islands.

The Banks, as they are called, are elevated plateaus in this part of the ocean, rising far above the surrounding bottom of the sea. They form the favorite feeding-ground of the codfish. The *Grand Bank*, situated to the east and south of the island, extends about 300 miles in length and 200 in breadth. The depth of water on the Banks varies from 150 to over 500 feet.

The cod are found in extraordinary abundance, and their annual capture in this locality for the last 200 years does not appear to have diminished in any degree the vast multitude of their shoals. Thousands of vessels every year repair to the Banks for cod-fishing. From February to April their crews are employed from morning till night in boats containing from two to four men each. Sometimes a good fisherman will catch several hundred in a day. On the shore stages or platforms are erected, where the fish are cleaned, salted, and dried.

GREENLAND AND ICELAND.

1. Danish America is the name usually given to Greenland and Iceland, both these countries being possessions of the kingdom of Denmark.

2. Greenland. — Greenland is a very large island, or possibly several islands joined by ice. It is a great, dreary, barren country, covered with glaciers, and situated so far north as to be uninhabitable except at a few points along the sea-coast.

3. The population, less than 10,000 in all, consists of Esquimaux and a few Danes and Norwegians, who have some trading and shipping posts at New Hernhut, Upernavik [*oo-per'na-vik*], and other points along the coast. The chief exports are eider-down, whale and seal oil, and furs.

4. Iceland. — Iceland is a mountainous island, the greater part of it being a dreary wilderness of lava, thrown out by numerous volcanoes, of which Hecla is the best known. Here also are the famous hot springs called Geysers (*geysa*, to rage).

5. Population. — The island has a small but intelligent population (70,000), mainly engaged in cattle-raising and fishing. The capital is Reykjavik [*rïky-a-vik*].

COD-FISHING ON THE BANKS.

ARCTIC SCENES.

MEXICO, CENTRAL AMERICA, AND THE WEST INDIES.

MEXICO.

1. Situation. — Mexico is situated to the south of the western part of the United States. As a republic lying along the border of our own country, it is of considerable interest to us, both politically and commercially.

AREA, 760,000 square miles, or nearly double the size of all the Atlantic States.

2. Surface. — The Pacific Highland of North America reaches its greatest elevation in Mexico. Two mountain-ranges situated near the opposite coasts extend from northwest to southeast, and are the margins of a great mountain-plateau (from 4,000 to 8,000 feet in altitude), which forms the greater part of the country.

3. Between the mountains and the coast on each side is a belt of lowland, varying from a few miles to one hundred miles in width.

NOTE. — The coast-belt is called the *tierra calien'te*, or hot country; the table-land is called the *tierra templa'da*, or temperate region. There are several volcanic mountains in Mexico, among which is Popocatapetl, above 17,000 feet high.

4. Climate and Vegetation. — Climate and vegetation in Mexico depend almost wholly upon the degree of elevation of the surface. The coast-plains are very hot and unhealthful; they produce the sugar-cane, coffee, indigo, and tropical fruits. The table-land is a region of perpetual spring, and yields wheat and corn, olives and grapes, with other grains and fruits of the temperate region.

5. Resources. — Mexico is rich in gold, silver, quicksilver, and other metals; and the soil is generally fertile. The country is, however, destitute of water-highways from the interior to the coast.

6. Industries. — Agriculture and silver-mining are the principal occupations, but every branch of industry is at the lowest ebb.

Chief Products of Exportation. — Gold, silver, lead, vanilla, sarsaparilla, coffee, sugar, cotton, cochineal, lumber, jalapine.

7. The population (10,000,000) consists of Mexican Indians, who form the majority; of Creoles, or people descended from Spanish parents (only about one tenth of the whole); and of Mestizos, or mixed races. The government is a federal republic, consisting of twenty-seven States.

8. Civilization. — The Mexicans are a civilized but not a progressive people. There are in the country few schools, few railroads, telegraphs, or newspapers; the laws are not well enforced; and the people are generally poor and ignorant.

9. Cities. — The City of Mexico (242,000), the capital and metropolis, is a picturesque city, situated in a valley overlooked by lofty snow-covered mountains. Other important places are: —

Names.	Population.	Characteristics.
Puebla.	77,000	Second city in size. Manufacturing place.
Guadalajara. [*gwa-da-la-ha'ra.*]	93,000	Manufacture of shawls, calico, earthenware, and leather goods.
Guanajuato. [*gwan-na-hwa'to.*]	63,000	Center of a silver-mining region.
Queretaro. [*kay-ray'ta-ro.*]	48,000	Large cotton-manufacture.
Vera Cruz.	14,000	Principal seaport.
Jalapa. [*ha-la'pa.*]	35,000	Beautiful and healthful situation.
Mazatlan.	16,000	Seaport cities on the Pacific coast.
Acapul'co.	8,000	

CENTRAL AMERICA.

1. General Description. — Central America, the most southerly division of North America, is the seat of five independent republics, — Guatemala, Honduras, San Salvador, Nicaragua, and Costa Rica, — and of the small province of British Honduras, or Belize.

States.	Population.	Capital.
Guatema'la.	1,200,000	Guatemala.
Hondu'ras.	350,000	Tegucigalpa.
San Salvador'.	550,000	San Salvador.
Nicara'gua.	350,000	Managua.
Costa Rica.	185,000	San José [*ho-say'*].

2. Physical Features. — The physical features, climate, and productions of Central America are similar to those of Mexico.

3. Importance. — The importance of this country arises (1) from its geographical position on the narrow neck of land between the Atlantic and Pacific oceans; (2) from its abundance of valuable natural products.

4. The industry of Central America is generally in a backward condition; but cacao, coffee, cochineal, caoutchouc, mahogany, logwood, and sarsaparilla are exported.

5. Population. — Three fourths of the people are either Indians or Mestizos. The whites are nearly all of Spanish descent.

British Honduras. — The province of British Honduras, which is geographically included within Central America, belongs to Great Britain, and is attached to the government of Jamaica. Its chief produce is mahogany. The town of Belize is the principal settlement.

THE WEST INDIES.

I. GENERAL DESCRIPTION.

1. Situation. — The West India Islands constitute a great archipelago that stretches in a curvilinear line from Florida to the mouth of the Orinoco River. They include not less than a thousand islands, varying greatly in size.

WEST INDIA PRODUCTS.

2. Their importance arises from the great variety and commercial value of their vegetable products.

3. Divisions. — These islands are divided into the Greater Antilles [*an-teel'*], — Cuba, Hayti [*hay'te*], Jamaica, and Porto Rico [*re'ko*]; the Lesser Antilles; and the Baha'ma Islands.

4. Surface. — Nearly all the islands of the Greater and Lesser Antilles are mountainous, and have great diversity of surface. The Bahama Islands are generally low, and are of coral formation.

5. Climate. — The climate of the West Indies is tropical, but the influence of the surrounding seas, of the high mountain-ranges, and of the trade-winds moderates the intense heat of the torrid zone. The only change of seasons is that from dry to rainy weather. The copious rains and the warm climate of these islands are admirably suited to the growth of sugar-cane, tobacco, and tropical fruits.

6. Productions. — The chief articles of commercial produce are sugar, rum, and molasses, from the sugar-cane; tobacco, which makes the finest of cigars; cotton, coffee, and cacao; indigo and dye-stuffs; ginger and pimento, or allspice; with oranges, bananas, pine-apples, and many other delicious fruits.

7. Government. — Most of the islands of the West Indies are in the possession of European nations, — principally Spain, England, and France; and the white population of each consists principally of settlers from the country to which it belongs.

8. Population. — The population of the West Indies numbers about four millions (one tenth that of the United States), three fourths being negroes.

Historical. — The West Indies were the first part of the New World settled by the Spaniards after the discovery of America by Columbus. The natives of most of the islands were a timid, peaceful race. The Spaniards enslaved them and worked them so hard that they eventually died out. Then the Spaniards brought great numbers of African slaves to these islands, and the Blacks of the West Indies are their descendants. The whole coast of Africa was devastated in order to meet the demand of the New World for slaves. For many years the number shipped for America in the holds of slavers was not less than one hundred thousand annually. Africa was drained of more than forty millions of inhabitants by this traffic.

II. CUBA.

9. Its rank. — Cuba ranks as the largest and most important of the West India Islands. It is about the same size as England or the State of New York. This island was settled by Spaniards, and it still belongs to Spain.

10. Products. — The most important products are sugar, of which Cuba raises more than any other country; and tobacco, which is made into cigars that are greatly esteemed.

11. Cities. — The leading cities are HAVANA (230,000), — the greatest sugar market in the world; and MATAN'ZAS and SANTIA'GO, which are important seaports.

III. PORTO RICO.

12. Porto Rico is a fertile and beautiful island belonging to Spain. Its products are like those of Cuba. SAN JUAN (20,000) is the capital and chief seaport.

SAN DOMINDO SCENE.

IV. HAYTI.

13. General Description. — Hayti (sometimes called San Domingo) ranks as the second island in size. It has a population of 850,000 free negroes, and is the seat of two petty independent republics, Hayti and San Domingo, or the Dominican Republic.

14. Products. — The products of Hayti are the same as those

BAY OF SAMANA IN THE ISLAND OF HAYTI.

of Cuba; it also sends abroad large quantities of ginger. But the great natural resources of the island are poorly developed.

15. Cities. — The leading cities are PORT AU PRINCE (27,000), the capital and chief seaport of the Republic of Hayti; and SAN DOMINGO (15,000), the capital and chief seaport of the Republic of San Domingo.

NOTE. — The Republic of Hayti, occupying the western part of the island, was organized in 1859; the Dominican Republic, in the eastern part, was organized in 1866. Hayti is the island named by Columbus *Hispaniola*, or Little Spain.

V. JAMAICA.

16. Jamaica, the most important of the British West India islands, contributes to commerce large quantities of Jamaica rum and molasses, and most of the pimento or allspice used in the world.

17. Cities. — KINGSTON (35,000), the capital, is the largest city and chief seaport.

REFERENCE TABLE OF MINOR ISLANDS AND GROUPS.

- **Lesser Antilles.**
  - LEEWARD ISLANDS...
    - Most of these islands belong to Great Britain.
    - Santa Cruz belongs to Denmark, and is noted for its rum.
    - St. Thomas and St. John belong to the United States.
    - Guadaloupe belongs to France.
  - WINDWARD ISLANDS.
    - Trinidad is the largest island (English); capital, *Port of Spain*.
    - Barbadoes (English), is a fertile and populous island; capital, *Bridgetown* (19,000).
    - Martinique belongs to France.

The Bahamas. — The islands of this group belong to Great Britain. Out of several hundred, only about twelve are inhabited, and the whole group contains only about 40,000 population. The islands yield dye-wood, salt, and green turtles. *Nassau*, on Providence Island, is the capital. It was one of the islands of this group (supposed to be Watling Island) that Columbus first sighted on his voyage in 1492; he called it San Sal'vador.

The Bermudas. — These islands do not properly form part of the West Indies, being off the east coast of the United States, but they may best be classed with that archipelago. They are British possessions, and are said to number three hundred and fifty islets and rocks, but only five of the number are inhabited.


SOUTH AMERICA
SCALE OF MILES
100 500 1000
10° Latitude = 1 Inch
A.M. Time — Noon on 12 middle Meridian P.M.
Longitude 50 West 45 from 40 Greenwich
Longitude 28 from Washington 13
North Latitude
South Latitude
LENGTH IN HOURS OF LONGEST DAY
TROPIC OF CAPRICORN
EQUATOR
TORRID ZONE
TEMPERATE ZONE
GULF OF MEXICO
CARIBBEAN SEA
WEST INDIES
CENTRAL AMERICA
MEXICAN COAST CURRENT
NORTH EQUATORIAL CURRENT
EQUATORIAL CURRENT
GUINEA CURRENT
PERUVIAN CURRENT
CAPE HORN CURRENT
ANTARCTIC DRIFT
PACIFIC OCEAN
ATLANTIC OCEAN
AFRICA
CAPE VERDE IS.
C. Verde
UNITED STATES OF COLOMBIA
BOGOTA
Cartagena
VENEZUELA
CARACAS
Maracaybo
La Guayra
Angostura
Orinoco R.
GUIANA
GEORGETOWN
PARAMARIBO
CAYENNE
ECUADOR
QUITO
Guayaquil
G. of Guayaquil
GALAPAGOS ISLES (To Ecuador)
Cape Blanco
C. Parina
PERU
LIMA
Callao
CHINCHA IS.
Arequipa
BRAZIL
Amazon R.
Mouth of Amazon R.
Para
Maranham
Cape St. Roque
FERNANDO DE NORONHA I.
Natal
Pernambuco
Cape St. Augustin
Bahia
RIO JANEIRO
Cape Frio
San Paulo
TRINIDAD I. (To Brazil)
ABROLHOS IS.
BOLIVIA
LA PAZ
SUCRE
Potosi
Lake Titicaca
PARAGUAY
ASUNCION
URUGUAY
MONTE VIDEO
R. de la Plata
Cape S. Antonio
ARGENTINE REPUBLIC
BUENOS AYRES
Rosario
Cordova
Mendoza
Corrientes
CHILI
SANTIAGO
Valparaiso
Antofagasta
Concepcion
Valdivia
CHILOE I.
ST. FELIX IS.
JUAN FERNANDEZ IS. (To Chili)
PATAGONIA
San Matias Gulf
Bay of St. George
WELLINGTON IS.
Strait of Magellan
DESOLATION I.
TIERRA DEL FUEGO
STATEN I.
Cape Horn
FALKLAND ISLANDS
SOUTH SHETLAND
Ship Channel through MAGELLAN STRAIT
WESTERN PART OF SOUTH AMERICA
SCALE OF MILES
100 200 300 400
10 Lat. — 1¼ Inches

SOUTH AMERICA.

PHYSICAL MAP OF SOUTH AMERICA.

VIEW ON THE RIVER AMAZO

THE EMPIRE OF BRAZIL.

1. Extent. — The Empire of Brazil is the largest and most important country of South America. Its area is nearly as great as that of the United States or of all Europe.

AREA, 3,250,000 square miles.

2. Physical Features. — This country consists of two sections nearly equal in extent. The northern part is a vast plain watered by the Amazon and its tributaries, and covered with extensive forests; this is the region of the *selvas*. The southern part is a table-land traversed by low mountain-ranges that form the watershed between the Amazon and the Plata rivers.

3. Resources. — In the richness and variety of its vegetation Brazil surpasses all other countries. This natural wealth is the result of its tropical climate and copious rains.

In its forests are found the cocoa, sago, and many other kinds of palms; mahogany, rosewood, and dye-woods; caoutchouc, cinchona, and cacao; while under cultivation flourish coffee, sugar, cotton, rice, manioc, bananas, and various other kinds of tropical plants.

Its mines yield gold, silver, iron, and copper, with diamonds and other precious stones.

Its long line of sea-coast and numerous navigable rivers afford great commercial facilities.

4. Industries. — Agriculture and stock-raising are the chief occupations. The staple productions for export are coffee, of which it supplies three fourths of the whole quantity used in the world; and sugar, in the production of which it is second only to Cuba.

Large numbers of people are engaged in collecting and preparing the various forest-products and in working the rich gold and

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PHYSICAL GEOGRAPHY.

☞ **To draw the Map of South America, see section on Map-Drawing, page 132.**

I. POSITION, SIZE, AND SHAPE.

Map Study. — 1. What is the latitude of Cape Gallinas [*gi'nas*]? 2. Of Cape Horn? 3. How many degrees between the two? 4. What is the longitude of Cape St. Roque [*roak*]? 5. Of Cape Blanco? 6. How many degrees between the two? 7. Where does the Equator cross South America? 8. What meridian crosses it near the center? 9. What isthmus connects South America with North America? *Ans.* Of Panama. 10. Bound South America. 11. What is its general shape?

1. Situation. — South America is the southern half of the New World, and is connected with North America by the long, narrow Isthmus of Panama.

NOTE. — It lies between the parallels of 12° north and 55° south latitude, and between the meridians of 35° and 81° west longitude (Greenwich).

2. Shape. — Beginning at the Isthmus of Panama, this grand division gradually widens toward the Equator, a little south of which it bulges out to its greatest width, about 3,000 miles; south of the Tropic of Capricorn it grows narrower and narrower. Its general shape is triangular.

II. OUTLINE AND COAST.

Map Study. — 1. Compare the Physical Map of South America with that of North America, and state which grand division has the more irregular outline. 2. Which is the most northern cape? 3. The most eastern? 4. What island north of Venezuela? 5. Are there any great inbreakings of the sea between Cape Gallinas and Cape St. Roque? 6. What capes between Cape St. Roque and Cape Horn? 7. Which one is near the Tropic of Capricorn? 8. What bay between Cape St. Roque and Cape Horn? 9. What strait separates the mainland from Tierra del Fuego [*te-ayr'ah del foo-ay'go*]? 10. Where is Cape Horn? 11. What is the principal inbreaking of the sea on the western coast of South America? 12. Which is the most western cape? 13. What two capes are in nearly the same latitude? 14. What islands east of Patagonia? 15. What islands west of Chili? — west of the coast of Peru?

3. Outline. — Compared with North America, the outline of this grand division is quite regular.

III. SURFACE.

Map Study. — 1. In what direction does the chief mountain system extend? 2. In what countries are the following peaks of the Andes: Aconca'gua? — Illampu? — Chimbora'zo? — Cotopax'i? 3. What mountain-ranges in Brazil? 4. What mountain-range south of Venezuela? 5. On the Physical Map, point out the Andes mountain system; — the Brazilian ranges; — the Parime Mountains. 6. What three great river-plains of South America?

4. Chief Axis. — The Andes mountain system, bordering the western coast and traversing the whole length of South America, forms the main mountain axis of this grand division. These mountains have a breadth of from 200 to 300 miles, and consist mainly of two parallel ranges enclosing narrow table-lands and mountain-valleys.

NOTE. — The loftiest peaks of the Andes reach an elevation of nearly 25,000 feet. That of Illampu in Bolivia (24,812) is the highest peak in the entire system. The most noted volcanic peaks are Chimborazo and Cotopaxi in Ecuador, and Aconcagua in Chili. The whole Andes region is subject to terrible earthquakes, which frequently destroy entire cities.

5. Brazilian Highland. — This region consists of a broad plateau, with an average elevation of only about 2,500 feet, ridged by ranges which rise to a height of from 4,000 to 6,000 feet. The Brazilian Mountains bear the same relation to the Andes that the Alleghanies in North America bear to the Rocky Mountains.

6. Guiana Highland. — Guiana is traversed by a rugged mountain region that forms the watershed between the basins of the Amazon and Orino'co rivers.

7. Plains. — These three mountain systems are separated by three great river-valleys or plains, — the plains of the Orinoco, of the Amazon, and of the Plata.

The plains of the Orinoco are called *llanos*, and are level and grassy; those of the Amazon are covered with dense forests, and

are called *selvas;* the treeless plains of the Plata are called *pampas.* These are covered with tall pampas-grass.

IV. RIVERS AND LAKES.

Map Study. — 1. What are the three great rivers of South America? 2. Into what ocean do all the great rivers flow, and why? 3. Describe the course of the Orinoco. 4. What are the main tributaries of the Amazon? 5. What are the principal constituents of the Rio de la Plata? 6. What river enters the Caribbean Sea? 7. What lake in Venezuela? 8. Where is Lake Titicaca [*te-te-kah'kah*]?

8. Great Rivers. — South America possesses the most extensive river system on the globe. The three great rivers are the Amazon, the Plata, and the Orinoco. From the fact that the long slope of South America is from the Andes toward the east, all rivers flow in that direction and empty into the Atlantic Oc

The Amazon (3,750 miles long), the largest river in the world, rises Andes, receives eight tributaries each over 1,000 miles long, and flows i Atlantic Ocean near the Equator. It drains a mountain region 2,000 m length, and is navigable to the foot of the Andes.

The Plata (2,300 miles long), formed by the confluence of the U and the Parana' rivers, rises in the Brazilian Highland, and flows sou into the Atlantic, forming a great estuary. It has a basin nearly as that of the Mississippi..

NOTE.—The name Plata, or Rio de la Plata, belongs properly only to the broad estu Parana.

The Orinoco (1,550 miles long) rises in the mountains of Guiana, tributaries from the Andes, and flows in a northerly direction i Atlantic. It has a deep, navigable channel nearly to its source, and ject to sudden overflows, which cause extensive inundations.

9. Minor Streams. — The three most important minor riv the San Francisco, Magdalena, and Rio Negro. The stream tying into the Pacific Ocean are mere mountain torrents.

10. Lakes. — The largest of the South American lakes i Maracay'bo in Venezuela. The most remarkable is Lake T situated on the high plateau of Bolivia, nearly 13,000 feet ab sea-level. It is at the highest elevation of any lake on the

V. CLIMATE, VEGETATION, ETC.

11. Climate. — South America has two climatic regions, r the tropical region and the temperate region. These are mined partly by latitude and partly by altitude.

12. The tropical region embraces all that part which is in the torrid zone and in the lowlands, — three fourths of America. This section has copious rains, supplied by the rain-winds from the Atlantic Ocean.

13. The temperate region comprises that part which, tho the torrid zone, has a great altitude, together with the narrow southern part, except the extreme south, which is quite cold. The western slope of the Andes in Peru, Bolivia, and Chili is a rainless region.

14. Vegetation. — Owing to its combination of both heat and moisture, South America has a more luxuriant vegetation than any other part of the globe. It is divided into two plant-regions, the tropical and the temperate. The leading characteristics of each are: —

MAP STUDIES ON THE

☞ Each country to be taken in connection with the descriptive text.

Brazil.—1. Bound it. 2. In what zone is the greater part? 3. Describe the largest river. 4. In what latitude is the mouth of the river? 5. What rivers form partial boundaries of Brazil? 6. What is the general direction of the chains of the Brazilian Mountain system? 7. Near what tropic is Rio Janeiro? 8. Locate Bahia [*bah-ee'ah*],— Pernambuco [*boo'ko*].

Guiana. — 1. What mountains west of British Guiana? 2. Bound Dutch Guiana. 3. What country east and south of French Guiana? 4. Give the capital of each colony.

Venezuela. — 1. Bound it. 2. What great river traverses it. 3. Name its principal mountain-chain. 4. What lake and gulf in the northwestern part? 5. What is the capital? 6. Locate Cumana',— La Guayra [*gui'rah*].

States of the Andes. — 1. What political division of North America joins Colombia on the northwest? 2. What is the general direction of the Isthmus of Panama? 3. Where is Cape Gallinas? 4. What mountains in Colombia? 5. What is the chief river of Colombia? 6. What is the relative situation of Panama and Aspinwall? 7. Locate Bogota',— Cartage'na.

1. Bound Ecuador. 2. What gulf in the southern part? 3. Most of the streams is the capital? 6. Locate Guayaquil [*gui-ah-keel'*], — Cuenca [*kwen'kah*].

1. Bound Peru. 2. Does the greater part belong to the Andes region or to the Central plain? 3. What great river has its head-waters in the Peruvian Andes? 4. What is the capital? 5. Locate Arequipa, — Cuzco [*koos'ko*].

1. Bound Bolivia. 2. Its small sea-coast is crossed by what circle? 3. Of what two great rivers are its streams tributaries? 4. Has it a greater or less proportion of plain country than Peru? 5. What is the capital? 6. Locate La Paz, — Cochabam'ba.

1. Bound Chili. 2. What islands off the coast? 3. Between what parallels is Chili? 4. What is the longitude of part of the eastern boundary? 5. Is it east or west of the meridian of New York?

1. Bound the Argentine Republic. 2. Name its largest rivers. 3. What two capes on the coast? 4. Where is Buenos Ayres [*bon'us ay'riz*]? 5. Where is Mendo'za? 6. Cor'dova?

Minor Countries. — 1. Bound Uruguay, and name its capital. 2. Bound Paraguay, and name its capital. 3. In what zone is Patagonia? 4. What does the Strait of Magellan separate?

VIEW ON THE RIVER AMAZON.

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1. Extent. — The Empire of Brazil is the largest and most important country of South America. Its area is nearly as great as that of the United States or of all Europe.

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2. Physical Features. — This country consists of two sections nearly equal in extent. The northern part is a vast plain watered by the Amazon and its tributaries, and covered with extensive forests; this is the region of the *selvas*. The southern part is a table-land traversed by low mountain-ranges that form the watershed between the Amazon and the Plata rivers.

3. Resources. — In the richness and variety of its vegetation Brazil surpasses all other countries. This natural wealth is the result of its tropical climate and copious rains.

In its forests are found the cocoa, sago, and many other kinds of palms; mahogany, rosewood, and dye-woods; caoutchouc, cinchona, and cacao; while under cultivation flourish coffee, sugar, cotton, rice, manioc, bananas, and various other kinds of tropical plants.

Its mines yield gold, silver, iron, and copper, with diamonds and other precious stones.

Its long line of sea-coast and numerous navigable rivers afford great commercial facilities.

4. Industries. — Agriculture and stock-raising are the chief occupations. The staple productions for export are coffee, of which it supplies three fourths of the whole quantity used in the world; and sugar, in the production of which it is second only to Cuba.

Large numbers of people are engaged in collecting and preparing the various forest-products and in working the rich gold and diamond mines.

Another important occupation is that of herding cattle and horses on the great plains.

5. Trade with us. — With the United States Brazil has a large trade, which consists in exchanging its products for flour, leather, cotton cloth, and other kinds of manufactured articles.

6. Population, etc. — The population (10,000,000) is composed of whites of Portuguese descent, of large numbers of negroes formerly slaves, and of Indian and mixed races. The government is a limited monarchy, under the rule of an Emperor. The religion is the Roman Catholic.

7. Civilization. — In civilization Brazil is the most enlightened and progressive of the South American states.

8. Cities. — RIO JANEIRO [*ja-nay'ro*], the capital (275,000), is the largest and most important city in South America. It stands on a magnificent bay which forms one of the finest harbors in the world. BAHIA, PERNAMBU'CO, and PARA' rank next in importance.

GUIANA.

1. Divisions. — Guia'na comprises three colonies, belonging respectively to Great Britain, Holland, and France.

2. Climate. — It has a hot climate, abundant rains, and a luxuriant tropical vegetation.

3. Products. — In addition to the common tropical products of Brazil, it produces pepper, cloves, cinnamon, and nutmegs, with vanilla and the cacao-tree.

4. People. — The population is composed of blacks who work on the plantations, native Indians, and a few thousand white traders and planters from Great Britain, France, and Holland.

5. Towns. — GEORGETOWN (40,000) is the capital and chief seat of trade of British Guiana; PARAMAR'IBO (25,000) is the capital of Dutch Guiana; and CAYENNE is the capital of French Guiana.

VENEZUELA.

1. Physical Features. — Venezue'la consists of vast grassy plains, or *llanos*, watered by the Orinoco and its numerous tributaries. In the south is a highland region. The climate is tropical, and subject to great extremes of drought and moisture. The Orinoco overflows its banks annually.

NOTE. — Venezuela means *little Venice*, and the country was so called by the Spaniards on seeing some Indian villages, which, being built on piles in Lake Maracay'bo, had somewhat the appearance of Venice.

2. Industries. — The *llanos* are the feeding-grounds of immense herds of cattle, horses, and sheep; and stock-raising is the chief occupation of the people.

In various parts of the country coffee, sugar, cotton, cacao, indigo, and tobacco are cultivated; these form, with hides, horses, and tallow, the principal exports.

3. Population, etc. — Its population (2,000,000) consists of whites of Spanish descent, Indians, and mixed races. The government is a republic, and the religion Roman Catholic.

4. Cities. — CARAC'AS (50,000) is the capital and commercial center. MARACAYBO also has an extensive trade.

THE STATES OF THE ANDES.

1. Divisions. — The Andes region is occupied by six republics, — Colombia, Ecuador′, Peru, Bolivia, Chili, and the Argentine Republic.

2. Physical Features. — These countries are grouped together because they have in common certain marked physical features. The Andes chains intersect them north and south, so that these countries lie on both slopes, with the exception of Chili, which lies entirely on the western slope, and the Argentine Republic, which lies entirely on the eastern.

The plateau and mountain section of the Andes is from 100 to 250 miles wide. The western slope and Pacific coast plain form a comparatively narrow strip, from 50 to 100 miles wide; the eastern slope has a long and gradual descent into the great Central Plain of South America.

3. Climate. — The climate of these countries is thus divided: (1.) The hot and unhealthy climate of the lowlands on each side of the Andes. (2.) The temperate and spring-like climate of the mountain-valleys and table-lands, which have a moderate elevation of from 5,000 to 12,000 feet. (3.) The cold and wintry climate above 12,000 feet. The latter is found on the lofty peaks of the Andes, which shoot up into the region of eternal snow and ice.

CROSSING THE ANDES.

4. Characteristics.—The Andes region presents three zones, each marked by its own characteristics of animal and vegetable life: (1.) The lowlands, which have the tropical products and the animals of Brazil. (2.) The table-lands and the mountain-valleys, where maize and potatoes are the food-products, where the forest-trees are the cinchona, the pine, and the oak, and where the few wild animals are almost limited to the llama among quadrupeds and the condor among birds. (3.) The cold, bleak, and elevated mountain region, where the vegetation is limited to shrubs and mosses.

5. The internal trade of all these states is much impeded by the want of roads. Goods are generally conveyed across the mountains upon the backs of mules and llamas.

NOTE. — The llama, which belongs to the order of *Ruminantia*, is confined to the declivities of the Andes, where it is used as a beast of burden, and supplies some of the purposes of the camel of the Old World, though very inferior to that animal in size, strength, and intelligence.

6. People. — The population of all these countries consists of whites of Spanish descent, of native Indians, and of various mixed breeds. The mixed races and the Indians are generally uneducated and unprogressive. The governments are all republics, and the prevailing religion is Roman Catholic.

THE REPUBLICS IN DETAIL.

1. The United States of Colombia consists of nine States united in a confederation.

The principal exports are tobacco, gold, coffee, dye-wood, hides, caoutchouc, and Peruvian bark.

BOGOTA′ (50,000) is the capital and largest city. CARTAGE′NA is the chief seaport.

2. Ecuador exports cacao, cotton, straw hats, and Peruvian bark. QUITO [*ke′to*], the capital (80,000), is the chief commercial metropolis. GUAYAQUIL′ is the principal seaport.

NOTE. — Ecuador (a name taken from the Spanish form of the word *equator*) lies along the Pacific coast for several degrees on each side of the Equator. Nearly under this line are the two great volcanoes of Cotopaxi and Chimborazo. The best-peopled district is the plateau of Quito, which is nearly two miles above the sea-level. The city of Quito is situated on this plateau, and is one of the highest cities of the globe; it is nearly under the line of the Equator, and stands 9,520 feet above the level of the sea. Within sight of eleven summits of the Andes, which are covered with snow the year round, it enjoys a constant spring. The Galapagos Islands, on the line of the Equator, five hundred miles from the coast, belong to Ecuador. They are noted for their peculiar plants and animals.

3. Peru exports guano, the most valuable item in Peruvian commerce; also saltpeter, copper, limited quantities of ore from its once immensely rich silver mines; hides; wool and hair from the Peruvian sheep; a few gums and drugs, and small amounts of borax and cotton. LIMA (150,000) is the capital of Peru, and the largest city west of the Andes. CALLAO [*kal-yä′o*] is its seaport.

NOTE. — Peru is one of the most interesting countries of South America, being the earliest part of South America conquered by the Spaniards under Pizarro. At the time of the conquest it was inhabited by a partly civilized race. The ancient Peruvians had built many large cities and some great temples; Cuzco, their capital, contained the great Temple of the Sun, which was built of immense blocks of stone, and richly covered with plates of gold and silver. They had also built costly roads in the mountains to all parts of the empire, and over these their great armies marched. The Spaniards made slaves of the Indians, whom they compelled to work in the mines.

4. Bolivia includes in its western part the highest plateaus and mountain-ridges of the Andes system; the eastern slope spreads out into a plain belonging to the basins of the Amazon and the Plata.

The lowlands yield the tropical products of Brazil, the mountain-forests produce the cinchona-tree, and the upper slopes are used as the pasture-grounds of sheep and llamas.

LA PAZ (25,000) is the capital, largest city and commercial centre. SUCRE [*soo′kry*] is the old capital.

5. Chili is the most progressive of the Spanish American republics. In climate it is the counterpart of California, only that the periods of the two seasons are reversed.

STREET SCENE IN VALPARAISO.

Its natural wealth consists in its copper-mines, valuable forests, productive soil, and temperate climate. The principal exports are wheat, hides, and copper.

SANTIAGO (150,000) is the capital and largest city. VALPARAISO is the chief seaport and commercial center.

The Araucanians, a semi-civilized tribe of Indians, inhabit a large tract in Central and Southern Chili, and are practically independent.

6. **The Argentine Republic** occupies a great plain, or *pampas* region, drained by the main streams which form the Plata; on the west it rises into the Chilian Andes.

Vast herds of cattle and horses constitute the wealth of this country. Its exports are horse and ox hides, horse-hair, horns, wool, tallow, dried beef, and furs.

LASSOING CATTLE ON THE PAMPAS.

BUENOS AYRES (290,000), the capital, is the chief commercial city of this portion of South America, being the outport for the produce of the Plata basin.

Patagonia, the southern portion of South America, is a comparatively barren country, inhabited mainly by native Indian tribes, which subsist by hunting wild cattle, the guanaco, and the emu. Patagonia is a part of the Argentine Republic, except the narrow tract of country at the western base of the Patagonian Andes which belongs to Chili.

PARAGUAY AND URUGUAY.

1. **Paraguay** is a fertile country admirably fitted to yield the products both of the tropical and temperate regions of South America; but it has been greatly injured by bad government.

The most characteristic product of this country is *yerbe maté*, or maté-shrub, the leaves of which are prepared as a tea that is largely used in South America. This forms the leading export.

The capital and chief place of Paraguay is ASUNCION.

2. **Uruguay** is a small republic south of Brazil, and bordering on the Atlantic. The people are mainly engaged in stock-raising. Its exports are hides, wool, and tallow.

MONTEVID'EO is the capital and chief city.

ISLANDS OF SOUTH AMERICA.

Tierra del Fuego comprehends a number of islands lying to the south of Patagonia. They are under a stormy, sunless sky, and their mountainous surface is covered with gloomy forests. The Fuegians who inhabit these islands are half-naked savages, very low in the scale of civilization. These islands belong in part to Chili and in part to the Argentine Republic.

Cape Horn Island, or Cape Horn, as it is commonly called, is a precipitous rock forming the southernmost of the Tierra del Fuego Islands. Sailing vessels in circumnavigating the southern extremity of South America usually double Cape Horn. Steamers, however, often pass through the *Strait of Magellan*, which divides the island of Tierra del Fuego from the mainland: it is a winding channel of nearly 400 miles in length, with a breadth varying from 20 to less than 5 miles. The Tierra del Fuego Islands belong to Chili.

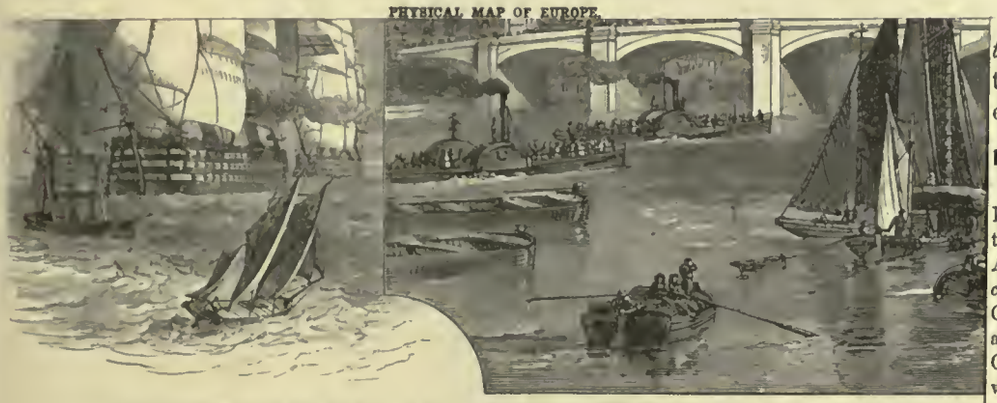
The Falkland Islands, which belong to Great Britain, yield Tussac grass, and support large numbers of wild pigs and rabbits. Whaling-ships and other vessels passing around Cape Horn occasionally visit *Port Stanley*.

TOPICAL REVIEW OF SOUTH AMERICA.

Countries.	Area.	Population.	Name of Capital.	Name of Largest City.	Population of Largest City.	Form of Government, etc.
	sq. miles.					
Brazil.	3,219,000	12,000,000	Rio Janeiro.	Rio Janeiro.	275,000	Limited monarchy under an emperor.
British Guiana.	178,000	350,000	.....	Georgetown.	40,000	Colonial.
French Guiana.				Cayenne.	10,000	
Dutch Guiana.				Paramaribo.	25,000	
Venezuela.	440,000	2,075,000	Caracas.	Caracas.	50,000	Republic, like that of the United States.
Colombia.	320,000	3,000,000	Bogota.	Bogota.	50,000	Republic " " " "
Ecuador.	250,000	950,000	Quito.	Quito.	80,000	Republic " " " "
Peru.	425,000	3,000,000	Lima.	Lima.	150,000	Republic " " " "
Bolivia.	500,000	2,300,000	La Paz.	La Paz.	25,000	Republic " " " "
Chili.	210,000	2,225,000	Santiago.	Santiago.	150,000	Republic " " " "
Argentine Republic.	1,095,000	2,500,000	Buenos Ayres.	Buenos Ayres.	290,000	Republic " " " "
Paraguay.	90,000	300,000	Asuncion.	Asuncion.	50,000	Republic " " " "
Uruguay.	70,000	440,000	Montevideo.	Montevideo.	75,000	Republic " " " "


EUROPE
AND PART OF
WESTERN ASIA
SCALE OF MILES
100 300 500
5° Latitude = 1 Inch
LENGTH IN HOURS OF LONGEST DAY
North Latitude
A.M. 11 Local Time when NOON on the Meridian 1 of Greenwich from East Longitude
East Longitude 5 Local Time P.M. when Noon on the Meridian of Washington
ARCTIC OCEAN
ATLANTIC OCEAN
MEDITERRANEAN SEA
BLACK SEA
CASPIAN SEA
NORTH SEA OR GERMAN OCEAN
BAY OF BISCAY
ADRIATIC SEA
ARCTIC CIRCLE
SIBERIA
URAL MOUNTAINS
RUSSIA
PERSIA
ARABIA
MESOPOTAMIA
SYRIAN DESERT
TURKEY
AUSTRIA
GERMANY
FRANCE
SPAIN
PORTUGAL
ITALY
BRITISH ISLES
ICELAND
SWEDEN
NORWAY
DENMARK
ALGERIA
TUNIS
MOROCCO
LONDON
PARIS
ROME
MADRID
LISBON
BERLIN
VIENNA
ST. PETERSBURG
MOSCOW
WARSAW
CONSTANTINOPLE
Naples
Marseilles
Barcelona
Amsterdam
Hamburg
Glasgow
Odessa
Sevastopol
Jerusalem
Damascus
Aleppo

EUROPE.



PHYSICAL MAP OF EUROPE.

GREAT BRITAIN AND IRELAND.

1. British Isles. — The British Isles consist of Great Britain and Ireland, together with numerous small adjacent islands. The island of Great Britain comprises England proper, Wales, and Scotland; and these countries, together with Ireland, constitute "The United Kingdom of Great Britain and Ireland."

2. British Empire. — The name BRITISH EMPIRE is applied to the Kingdom of Great Britain and Ireland and its numerous colonies and possessions in various parts of the world. One sixth of the entire human race, scattered over nearly one sixth of the globe, is under British rule.

NOTE. — Area of the British Empire: about 8,623,000 square miles. Population: about 200,000,000.

PHYSICAL GEOGRAPHY.

☞ **To draw the Map of Europe, see section on Map-Drawing, page 133.**

I. POSITION, SIZE, AND SHAPE.

Map Study. — 1. What ocean north of Europe? 2. What ocean west? 3. What seas and what mountain range in the south? 4. What mountain range, river, and sea form the eastern boundary? 5. What meridian near the western coast of the British Isles? 6. With what meridian does the Ural Mountain range generally coincide? 7. Between 10° west long. and 60° east long. are how many degrees? 8. The length of a degree of longitude measured on the parallel of 50° is about 38½ miles: what, then, is approximately the extent of Europe from east to west? 9. What is the latitude of North Cape? — of Cape Matapan'? 10. The extent of Europe from north to south (nearly 37 degrees) is about what number of miles? 11. In what zone is most of Europe? 12. What parts of what countries are in the Arctic Zone? 13. What grand division on the east? — on the south?

1. Extent. — Europe is the smallest of the grand divisions, its area being little greater than that of the United States. It measures about 2,500 miles from north to south, and nearly 3,500 miles in its greatest extent east and west.

2. Nations. — Of the five grand divisions, Europe contains the greatest number of highly civilized nations. The reason of this is because it is situated in the temperate zone, has great natural resources and facilities for commerce, and is peopled mainly by the progressive Caucasian race.

3. Situation. — Although loosely called a *continent*, Europe is really a western peninsula of the Eastern Continent, Asia being the main continental mass.

II. OUTLINE.

Map Study. — 1. The following *inland seas* belong to Europe: the White Sea and the Baltic Sea in the north; the Mediterranean, Sea of Mar'mora, Black Sea, and Sea of Az'ov in the south: describe each of these seas. 2. The *coast waters* on the Atlantic sea-front are: the North Sea, or German Ocean, the Strait of Dover, the English Channel, and the Bay of Biscay: describe each. 3. Where is the Caspian Sea? 4. Is it a *sea* proper, or a lake? 5. What waters connect the Baltic Sea with the North Sea? 6. What name is given to the northern part of the Baltic? 7. What names are given to the two eastern inbreakings of the Baltic? 8. What large peninsula between the Baltic and Atlantic? 9. What sea between the British Isles and the continental part of Europe? 10. What bay west of France? 11. What peninsula at the southwestern extremity of Europe? 12. What strait connects the Mediterranean Sea with the Atlantic Ocean? 13. The Mediterranean includes the following inbreakings: the Gulf of the Lion, Gulf of Gen'oa, Adriatic Sea (with the gulfs of Taranto and Venice), and the Ægean Sea: describe the situation of each. 14. What peninsula west of the Adriatic Sea? 15. What peninsula between the Adriatic, Ægean, and the Black seas? 16. What small sea between the Archipelago and the Black Sea? 17. What strait connects the Sea of Marmora with the Archipelago? — with the Black Sea? 18. What peninsula southwest of the Sea of Azov? 19. Where are the following capes: North Cape? — the Naze? — Cape Clear? — Or'tegal? — Finisterre [*fin-is-tair'*]? — St. Vincent? — Passaro? — Matapan? 20. What two large islands off the west coast of Europe? 21. Where are the Balearic [*bal-e-ar'ic*] Isles? 22. Name the largest four islands in the Mediterranean. 23. In what direction do most of the peninsulas of Europe project?

4. The outline is exceedingly irregular, being marked by numerous projections of the land and inbreakings of the sea.

5. The principal projections of land are the peninsulas of Norway and Sweden, Denmark, Spain and Portugal, Italy, and Greece.

6. The principal inbreakings of the ocean are the White, Baltic, and North seas, the Bay of Biscay, and the Mediterranean Sea, with its various subdivisions.

7. Coast-line. — These projections and inbreakings give to Europe an extent of coast-line which in proportion to its area is much greater than that of any other grand division.

Map Study. — 1. Which part of Europe is mountainous? 2. What mountains extend round the north of Italy, and divide that country from France, Switzerland, and Germany? 3. On the Physical Map point to the Alps, — to their eastern continuation, the Balkan Mountains. 4. What is the nature of the surface in the three southern peninsulas of Europe? 5. What is the general direction of the Spanish ranges? 6. What mountain-chain forms the backbone of Italy? 7. What chain traverses Turkey and Greece? 8. What range northwest of the Black Sea? 9. On the Physical Map point to the Carpathian Mountains. 10. What range south of the lower course of the Danube? 11. What countries are separated by the Pyrenees? 12. Where is Mount Etna? — Mount Vesuvius?

7. Resources. —
als, its productive
good harbors and
situation for the c
of the wealth and

8. Industrial Cer
divided into two
Flamborough Hea
tricts, are all the
southwest of this
culture is the lead

9. Manufactures
has rendered that

III. SURFACE.

8. Surface. — As regards surface, Europe presents two distinct regions: (1) A GREAT PLAIN, in the northeast; (2) a HIGHLAND REGION, in the southwest. The latter may be called High Europe and the former Low Europe.

NOTE. — A diagonal line of mountain-ranges extending from southeast to northwest (Cau'casus, Carpathians, and the mountains of Central Germany) forms the dividing line between the mountainous and the level portions of Europe.

9. Surface and Civilization. — The Great Plain is mainly occupied by Russia, though it extends westward so as to include Northern Germany, Holland, Denmark, and part of Belgium. Southwestern, or High Europe, with its varied surface of hi... and mountain defile, forms the territory of the ... progressive nations. The mountain-ridges, whil... boundaries, do not prevent mutual intercourse ... nations.

10. Mountain Systems. — The mountains of ... classed under two general divisions: (1) the ... SECONDARY HIGHLANDS.

11. The main axis is formed by the Alps, whi... Gulf of Genoa in a curve around Northern Ita... the Adriatic. The Balkan Mountains, a direct ... Dinaric Alps, prolong the main axis eastward t...

NOTE. — The Alps average over two miles in height; and ... elevation in Europe, has a height of 15,780 feet. All thei... ered with perpetual snow.

Connected with the Alpine system are the ... of the southern peninsulas, — namely, the Pyr... Ap'ennines, and the Balkan range.

The Pyrenees send four principal branches ... Spain. The Apennines stretch from the Alps ... length of Italy.

12. The secondary highland forms a broad ou... tains comprising the Carpathian and Sudet'ic m... Erzgebirge [*ertz'gay-bir-gay*] and the Bohemia... form one chain, extending 1,200 miles in length ... in Hungary to the Danube in Bavaria.

13. Detached Mountains. — In addition to the main axis and the secondary highland there are several detached ranges, as the mountains of France and the Scandinavian Mountains. The highest elevations of the Great Plain are the Valdai [*vahl'dī*] Hills; these form the watershed of the Russian rivers, but have an elevation of little over 1,000 feet. The Ural and Caucasus ranges are boundary mountains.

IV. RIVERS AND LAKES.

Map Study. — **1.** Describe the Volga. **2.** What large river of Russia flows into the Black Sea? **3.** What river of Russia flows into the White Sea? **4.** A great river which flows into the Black Sea rises in the Alps north of Switzerland, and takes an easterly course through Germany, Austria, and between Roumania and Bulgaria: what is its name? **5.** Name three important tributaries which the Danube receives. **6.** An important river that empties into the North Sea rises in the central Alps, in Switzerland, and flows northward through Germany and Holland: what is its name? **7.** One of the great rivers of France takes a southerly course, flowing into the Gulf of the Lion: what is its name and where does it rise? **8.** The largest river of Italy rises in the Alps and flows into the Adriatic: what is its name, and what is its general direction? **9.** What large river enters the English Channel? **10.** Describe the Vis'tula, — the Oder, — the Elbe, — the Seine [*sane*], — the Loire [*lwahr*], — the Tagus, — the Thames. **11.** On the Physical Map trace the course of the Volga, — Danube, — Rhine, — Po, — Loire. **12.** What large lakes in the Baltic region of Russia? **13.** What two lakes in Sweden? **14.** Is Europe as rich in lakes as North America?

14. River Divisions. — Every part of Europe is well watered by streams, most of them navigable for long distances inland. The European rivers may be classed under two divisions, — those of High Europe and those of the Great Plain.

15. Rivers of High Europe. — The Alps form the main watershed of High Europe; and here rise four of the most important rivers of this section: the Danube, Rhine, Rhone, and Po.

The Danube (1,800 miles long) is the second of the European rivers; it is the channel of the internal trade of Southern Germany, Austria, and Turkey.

The Rhine (880 miles long), which rises in the central Alps and flows into the North Sea, is navigable for steamers to Basle [*bahl*]; it is celebrated both for its picturesque scenery and for the many large cities on its banks.

Southern Zone.	1. Portugal, Spain, Italy, Greece; 2. Southern France; 3. Turkey.	Marked by a short winter and a long summer.	The olive, orange, lemon, fig, etc.
Central Zone.	1. Middle and Northern France; 2. British Isles; 3. Denmark; 4. Southern Norway and Sweden; 5. Germany; 6. Holland; 7. Belgium; 8. Switzerland; 9. Austria; 10. Southern Russia.	Marked by the four seasons, with a gradual transition from one to the other.	The cereals, root-crops, garden and orchard products, flax, hemp, etc.
Northern Zone.	1. Northern Norway and Sweden; 2. Lapland; 3. Northern Russia.	Marked by short summers and long and severe winters.	Only scanty vegetation.

VI. RACES.

I. The nations of Europe comprise four stocks or races: 1. The *Celtic*. 2. The *Germanic*, or *Teutonic*. 3. The *Græco-Roman*. 4. The *Slavic*, or *Slavonian*.

1. The chief representatives of the Celtic race are the French, Irish, Highland Scotch, Welsh, and Belgians.

2. The chief representatives of the Germanic, or Teutonic, race are the English, Scotch, Germans, Germanic population of Austria, Dutch, Swedes, Norwegians, and Danes.

3. The chief representatives of the Græco-Roman race are the Italians and the Greeks, with a few offshoots, such as the Wallachians.

4. The chief representatives of the Slavic race are the Russians and the Slavic population of Austria and the Turkish provinces.

II. The Turks, Hungarians, Lapps, and Finns are all Mongolians.

GREAT BRITAIN AND IRELAND.

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2. British Empire. — The name BRITISH EMPIRE is applied to the Kingdom of Great Britain and Ireland and its numerous colonies and possessions in various parts of the world. One sixth of the entire human race, scattered over nearly one sixth of the globe, is under British rule.

NOTE. — Area of the British Empire: about 8,623,000 square miles. Population: about 200,000,000.

3. Why interesting. — Great Britain is to us the most interesting country of Europe, because the United States was settled principally by the English, because we have more commerce with Great Britain than with any other nation, and because a majority of our people belong to the same race and speak the same language as the English people.

4. Government. — The government is a hereditary limited monarchy. The laws are made by Parliament, which is composed of the House of Lords and the House of Commons. The members of the former body hold their seats by right of birth; the members of the latter are elected as representatives of the various counties and towns of the United Kingdom.

I. ENGLAND.

5. Its Rank. — England is the largest, most populous, and most important division of the United Kingdom.

6. Physical Features. — In area it is a little larger than the State of New York. The western section is generally rugged and hilly, while the eastern and larger part consists of gentle elevations, broad river-vales, or wide, open plains. The climate of England is moist and temperate, owing to the influence of the ocean and of the Gulf Stream.

7. Resources. — Its vast deposits of coal, iron, and other minerals, its productive soil, its extent of sea-coast, its great number of good harbors and navigable bays and river-mouths, and its central situation for the commerce of the world, are the principal sources of the wealth and power of England.

8. Industrial Centers. — Industrially considered, England may be divided into two sections, by a line joining Portland Bill and Flamborough Head. Northwest of this, in the mountainous districts, are all the mines and all the great manufacturing centers; southwest of this is a region of plains and slopes, in which agriculture is the leading pursuit.

9. Manufactures. — England's immense supply of coal and iron has rendered that country, since the invention of the steam-engine and steam machinery, the greatest of manufacturing countries. The chief manufactures are those of cotton, wool, silk, iron, leather, and earthenware.

Cotton goods are manufactured almost entirely in the great towns situated on the Lancashire and Cheshire coal-fields, Manchester being the center of this industry. The number of cotton-factories exceeds 2,000, and the number of hands employed is over 500,000.

Woolen goods are manufactured chiefly in Yorkshire, Leeds being the center of this important and varied industry.

Silk goods are manufactured in Coventry, Manchester, and London.

Iron is smelted more or less on all the great coal-fields, but principally in the vicinity of Staffordshire. The chief towns for the manufacture of hardware, iron machinery, and cutlery are Birmingham and Sheffield.

10. Agriculture. — Great attention is paid to scientific agriculture, and the surface of the country appears as though finished by the landscape-gardener. The principal crops are wheat, oats, barley, potatoes, hops, and garden and orchard products.

The agricultural produce, though considerable in amount, is not sufficient to feed the population, and the deficiency has to be yearly supplied by the importation of breadstuffs from abroad.

Great attention is given to producing the finest breeds of horses, sheep, and cattle.

WINDSOR CASTLE.

11. Commerce. — Commercially, England ranks as the foremost of countries.

Its trade consists largely in exchanging manufactured goods for cotton, wool, and other raw material, and for food-staples and articles of luxury.

To carry on this vast exchange, 40,000 vessels, manned by 300,000 sailors, are employed.

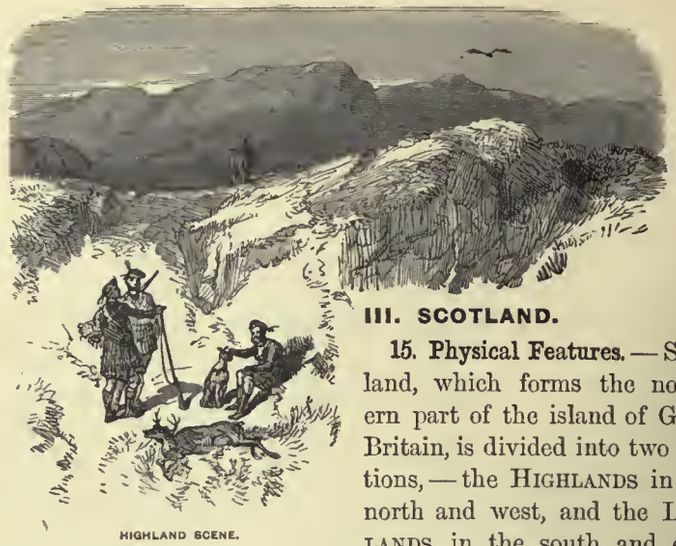
12. London, the capital of England, and the metropolis of the British Empire, is the largest and wealthiest city on the globe, and is the moneyed center of the world's commerce. Its population is nearly five millions.

Windsor Castle has for many centuries been the favorite residence of the kings and queens of England. It stands on a high hill, and commands a beautiful view of the Thames River and the surrounding country.

II. WALES.

13. Description. — The Principality of Wales is a mountain district west of England. It is rich in mines of copper, iron, and coal.

14. Its Industry. — Mining is the principal occupation, and the centers of this industry are MERTHYR-TYDVIL and SWANSEA, which are the chief cities of Wales.



HIGHLAND SCENE.

III. SCOTLAND.

15. Physical Features. — Scotland, which forms the northern part of the island of Great Britain, is divided into two sections, — the HIGHLANDS in the north and west, and the LOWLANDS in the south and east. The Highlands are in general rugged and mountainous; the Lowlands are diversified, — the basins of the Forth and the Clyde being a plain, and the southern section a hill country.

16. The leading industries are (1) manufacturing, (2) agriculture, (3) the fisheries.

Manufactures. — Coal and iron are found in large quantities in the neighborhood of Glasgow, and from this fact has arisen an extensive manufacturing interest. The chief articles made are cotton, woolen, and linen goods, hardware, machinery, glass-ware, and earthenware.

Agriculture. — Farming is confined to the lowlands, and is carried on with great skill. The grains chiefly cultivated are oats, rye, and barley. Immense numbers of sheep and cattle are fed on the moors and highlands.

Fisheries. — The Scottish fisheries are very important: salmon abound in most of the rivers and herring and other fish on the coasts.

17. Glasgow, the largest city and the chief manufacturing and commercial center of Scotland, ranks as the third seaport of Great Britain. It is celebrated for its iron and cotton manufactures. On the Clyde, near Glasgow, are extensive establishments for building iron vessels.

18. Scottish Isles. — The ISLANDS of Scotland form three groups, — the Orkney Islands, the Hebrides [*heb'ri-des*], and the Shetland Islands. Most of these are rocky, rugged, and picturesque, and are inhabited by hardy fishermen.

NOTE. — There is a striking difference between the people of the Highlands and those of the Lowlands. The Highlanders are descendants of the native race of Britain, and speak a Celtic language called Gaelic. The inhabitants of the Lowlands belong to the same race as the English, and speak the English language.

MAP STUDIES ON THE BRITISH ISLES.

General. — 1. Between what two parallels and what two meridians do the British Isles lie? 2. What is the longitude of Greenwich, reckoning from Washington as prime meridian? 3. What separates England from France? 4. What is the latitude of London?

England. — 1. Bound England. 2. What waters separate it from Ireland? 3. What estuary (*firth*) between England and Scotland on the west coast? 4. What part of England is drained by the Thames River? 5. What rivers flow into Bristol Channel? 6. On what river is Liverpool? 7. Describe the Tyne, — the Humber — the Ouse, — the Avon. 8. What mountains form a partial boundary between England and Scotland? 9. Which part of England is mountainous? 10. Name any ranges. 11. What coast-island in the southern part? 12. What two large islands in the Irish Sea? 13. Where is London? 14. Where is Liverpool? 15. What city about 30 miles east of Liverpool? 16. Where is Sheffield? — Birmingham? — Bristol? — Newcastle? — Oxford?

Wales. — 1. Bound Wales. 2. What bay on the west? 3. What channel south? 4. What mountain-chain occupies most of Wales? 5. Name a peak. 6. What island is separated from Wales by Menai Strait? 7. Where is Mer'thyr Tyd'vil? — Swansea [*swan'sy*]? — Cardiff?

Scotland. — 1. Bound Scotland. 2. What separates it from Ireland? 3. What is the general character of the coast? 4. Name the most important estuaries (*firths*) on the east coast; — on the west coast? 5. What group of islands west? — north? 6. What mountain-range toward the central part of Scotland? 7. Where is Ben Lomond? — Ben Nevis? 8. Name the Highland lakes (*lochs*). 9. Where is the river Clyde? — the Tweed? 10. Locate Edinburgh; — Glasgow; — Aberdeen'; — Dundee'.

Ireland. — 1. What waters divide Ireland from the island of Great Britain? 2. Which is nearer the United States, Ireland or England? 3. Where is Donegal' Bay? 4. What bay in the east-central part? 5. Into what does the Shannon flow? 6. Where is Cape Clear? 7. Bantry Bay? 8. Galway Bay? 9. What two lakes in the north of Ireland? 10. Where is Limerick? — Dublin? — Cork? — Belfast? 11. Valentia Island is the terminus of one of the Atlantic cables: where is that island? 12. Where is Queenstown?


GREAT BRITAIN
AND
IRELAND
SCALE OF MILES
1° Latitude = 1 Inch
SHETLAND ISLES AND ORKNEY IS.
Same Scale as Map
ORKNEY ISLES
Local Time when Noon at 12 Greenwich
West Longitude 0 East Longitude
Space Longitude East from Washington
Local Time when Noon at Washington
ATLANTIC OCEAN
NORTH SEA OR GERMAN OCEAN
IRISH SEA
ST. GEORGE'S CHANNEL
NORTH CHANNEL
ENGLISH CHANNEL
STRAIT OF DOVER
BRISTOL CHANNEL
CARDIGAN BAY
SCOTLAND
ENGLAND
WALES
IRELAND
FRANCE
HEBRIDES OR WESTERN ISLES
THE MINCH
LITTLE MINCH
ISLE OF MAN
CHANNEL ISLES
SCILLY ISLES
MERIDIAN OF GREENWICH
NORTH TEMPERATE ZONE
LENGTH IN HOURS 17 OF LONGEST DAY
Edinburgh
Glasgow
Aberdeen
Dundee
Belfast
Dublin
Cork
Liverpool
Manchester
Leeds
Sheffield
Hull
Newcastle
Birmingham
Bristol
London
Cardiff
Merthyr Tydvil
Paris

IV. IRELAND.

19. Extent. — Ireland is a beautiful and fertile island, about the size of the State of Maine.

AREA, 32,500 square miles.

20. Physical Features. — The surface is mountainous or hilly along the sea-coast, while the interior is a level or undulating plain, with extensive peat-bogs. The climate is mild and pleasant, and on account of the abundance of rain and the freshness of the grass and foliage, Ireland is often called the "Emerald Isle."

NOTE. — One of the most remarkable natural curiosities in Ireland is the *Giant's Causeway*, on the northern coast. It is composed of huge columns of basalt, which project more than 1,000 feet into the sea. The *Lakes of Killarney*, in the southern part, are celebrated for their picturesque beauty.

21. Resources. — Coal occurs in many parts of Ireland, but it is inferior to the English coal, and is comparatively little worked. Peat, which is dug from the bogs, is the fuel used by the laboring population. Iron is found in many places, but, owing to the scarcity of coal, it is little mined. The fisheries around the Irish coast are naturally of the highest value, but they are comparatively neglected.

22. Political Divisions. — Politically it is divided into four provinces, — Ulster, Leinster, Munster, and Connaught, — representing four ancient kingdoms, and these are subdivided into thirty-two counties.

23. Agriculture. — Ireland is chiefly a grazing country, cattle-raising and dairy-farming constituting the most characteristic pursuits of its population in general. Oats form the largest grain-crop. Potatoes take the next place in value and form a principal article of food. Flax is largely grown in Ulster, to supply the demand of the linen manufacturers.

24. Manufactures. — Of manufactures, linen takes the first rank; the manufacture of cotton and woolen fabrics is also carried on, and lace is extensively made.

25. The exports consist chiefly of live-stock, agricultural produce, and the productions of the loom.

26. Population. — Ireland is less populous now than at a former period. It has about five and a half millions of inhabitants, but in 1841 it had over eight millions.

27. Education. — In Ireland elementary instruction is furnished by a numerous body of schools, under the direction of a Board of National Education.

28. Cities. — There are four cities with a population of 50,000 or upwards. These are DUBLIN (338,000), the metropolis, a beautiful city and a seat of culture; BELFAST, the center of the linen manufacture and trade; CORK, noted for its splendid harbor, in which is Queenstown; and LIMERICK, a manufacturing city.

REFERENCE TABLE OF THE PRINCIPAL BRITISH COLONIES.

In Europe	Gibraltar. Malta.	**In America**	Dominion of Canada. Newfoundland. British Honduras. Jamaica. Trinidad. Barbadoes. The Bahamas. The Bermudas. British Guiana. Falkland Islands.
In Asia	Hindostan. Burmah. Ceylon. Hong-Kong. Aden. Singapore.		
In Africa	Cape Colony. Sierra Leone. Gold Coast. Natal. St. Helena. Mauritius.	**In Oceania**	Australia. Tasmania. New Zealand.

REFERENCE TABLE OF THE LARGEST CITIES IN GREAT BRITAIN AND IRELAND.

Names.	Population.	Characteristics.
London.	4,765,000	(See text.)
Manchester.	393,000	In the center of the Lancashire coal-fields, is the chief cotton manufacturing city on the globe; its manufactures of machinery, carpets, and silk are also very extensive.
Liverpool.	552,000	Ranks in commerce as the second city, and is the chief seaport for the American trade; its magnificent docks extend many miles, and contain the ships of every nation.
Birmingham.	400,000	In the Staffordshire coal-field and the richest iron district, is the greatest city of the world for the manufacture of engines, machinery, and hardware.
Leeds.	309,000	In the Yorkshire coal-field, is the greatest woolen manufacturing city; it also makes thread, glass-ware, steam-engines, and machinery.
Sheffield.	285,000	Is noted for its manufacture of cutlery, steel and plated ware, and heavy iron and brass castings.
Bristol.	206,000	Is an important manufacturing and commercial city.
Nottingham.	112,000	Is the center of the lace and hosiery manufacture and trade.
Bradford.	180,000	Is the center of the manufacture of worsted dress-goods.
Newcastle.	145,000	In the center of a rich coal district, has a great coal-trade, extensive iron ship-building, and manufactories of glass, iron-ware, and chemicals.
Hull.	161,000	Is an important seaport.
Portsmouth.	128,000	Is the grand naval arsenal of the kingdom.
Stoke-upon-Trent	115,000	Is noted for the manufacture of china-ware and earthenware.
Wolverhampton.	165,000	Is largely engaged in the manufacture of hardware.
Sunderland.	125,000	Is largely engaged in the coal-trade.
Brighton.	107,000	Is a famous watering-place.
Leicester.	122,000	Is a great center for the manufacture of woolen stockings.
Cambridge. **Oxford.**	35,000 each.	Are famous for their universities, — the seats of the higher education in England.
Greenwich.	50,000	Is famous for its observatory.
WALES.		
Merthyr-Tydvil.	49,000	Is the leading commercial city of Wales, and is largely engaged in the iron manufacture.
Swansea.	70,000	Is largely engaged in copper-smelting and in the iron manufacture.
SCOTLAND.		
Glasgow.	511,000	Is the largest city in Scotland, and also one of the largest cities in the United Kingdom. It is the principal seat of the Scottish iron and cotton manufactures, carries on extensive iron ship-building, and varied manufactures.
Edinburgh.	228,000	Is the literary capital of Scotland.
Dundee.	142,000	Is an important seaport, and is largely engaged in the manufacture of linen goods.
Aberdeen.	105,000	Is the principal town in the north of Scotland, and is noted for its ship-building and varied manufactures.
Greenock.	70,000	Is an important seaport, connected with Glasgow.
Paisley.	55,000	Is engaged in making calicoes, thread, shawls, and fancy goods.
Leith.	45,000	Is the seaport through which Edinburgh carries on its trade.
IRELAND.		
Dublin.	338,000	The metropolis of Ireland, is a beautiful city and seat of culture. Has extensive porter-breweries.
Belfast.	175,000	Is the chief seat of the linen manufacture and trade.
Cork.	78,000	Is noted for its fine harbor, and is largely engaged in ship-building and the manufacture of machinery, engines, etc.
Limerick.	50,000	Is largely engaged in trade and manufacturing linen, cotton, and woolen goods, paper, etc.
Waterford.	30,000	Is a great seat of the cross-channel trade to England, and exports large quantities of live-stock and agricultural produce.
Londonderry.	25,000	Is a place of considerable trade.

FRANCE.

1. Its Rank. — France is one of the oldest, most powerful, and most highly civilized nations of Europe.

AREA, 204,000 square miles. POPULATION, 37,500,000.

2. Extent. — In area France is somewhat larger than California, but not so large as Texas.

3. Surface. — The eastern part is hilly and mountainous; the western part consists of three valleys sloping to the Atlantic, and bordering on the three rivers, the Seine, the Loire, and the Garonne. The valley of the Rhone, in the eastern part, opens southward to the Mediterranean.

4. Climate and Vegetation. — The climate varies from cool-temperate in the north to warm-temperate in the south. In passing from the English Channel to the Mediterranean Sea the character of the vegetation shows the gradual rise of temperature. The north is the land of wheat, the center the land of the vine, and the south the land of the olive.

5. Advantages. — France has many natural advantages, among which are: (1) a generally fertile soil; (2) extensive forests; (3) abundance of coal and iron; and (4) a situation on the Atlantic and the Mediterranean highly favorable to commerce.

6. The leading industries are agriculture, manufacturing, and commerce.

7. Agriculture. — About three fifths of the population are engaged in agricultural occupations, and about one half of the whole country is under the plough. The principal objects of cultivation are: In the northern section grains and root-crops, with hemp and flax; in the central and southern sections maize and the vine and olive, together with the mulberry-tree, on the leaves of which the silk-worm feeds.

A VINTAGE SCENE.

The Vineyards. — The cultivation of the vine forms an important and distinctive feature in French agriculture. The vineyards cover about 5,000,000 acres. They are most numerous in the region adjacent to the course of the Garonne, and extend thence across the country in a southeast direction to the shores of the Mediterranean. The famous Champagne vineyards are in the valley of the Marne.

Map Study. — (*Map of Europe, page 92; also Central Europe, page 100.*) 1. What are the boundaries of France? 2. Which are *natural* boundaries? 3. France lies between the parallels of 43° and 50° north latitude: which of the Atlantic seaboard States in our own country lie in the same latitude? (*See Map of the United States.*) 4. What separates France from England? 5. Measure by the scale of miles the distance from Calais to Dover. (*See Map of the British Isles, page 97.*) 6. What is the name of the greatest inbreaking of the Atlantic Ocean? 7. What gulf in the south? 8. Which part of France is mountainous? 9. Name some of the principal ranges. 10. What mountains between France and Italy? — between France and Spain? 11. Describe the course of the Seine. — of the Loire, — of the Garonne'. 12. What large river flows into the Mediterranean? 13. Where is Paris? 14. What seaport on the Mediterranean east of the mouth of the Rhone? 15. On what river is Bordeaux [*bor-do'*]? 16. On what river is Nantes [*nant*]? 17. What seaport at the mouth of the river on which Paris is situated? 18. Locate Lyons, — St. Etienne [*ay-tyen'*], — Toulouse', — Brest, — Nice [*neece*].

8. Manufactures. — In the extent and value of her manufacturing industry France ranks second only to Great Britain.

The leading manufactures are those of: 1. *Wine*, of which France produces more than any other country, — from 1,500,000,000 to 2,000,000,000 gallons annually (value $350,000,000), and brandy, of which large quantities are distilled. 2. *Silks and satins*, in the manufacture of which it surpasses all other countries. 3. *Broadcloths and cassimeres* of the finest quality. 4. *Articles of taste and fashion*, such as jewelry, watches, ribbons, laces, shawls, gloves, hats and bonnets, artificial flowers, porcelain, perfumery, etc. In the making of all these France leads the world.

9. Commerce. — The foreign commerce of France consists principally of the importation of raw material and tropical productions, and the exportation of manufactured articles and the produce of her vineyards.

10. Education. — In literature, science, and art France has long been distinguished; but until recently the education of the great body of the French people was almost entirely neglected. Now, however, an organized system of popular instruction is in operation under the control of the government.

11. Government. — During the present century many revolutions resulting in changes in the form of government have occurred in France. At present the government is a provisional Republic.

12. Cities. — PARIS (2,225,000) is second only to London in wealth and trade. It is the most beautiful and attractive of cities, and is the world's center of modern art, fashion, and pleasure, as London is of commerce and of business. It is distinguished for its magnificent public buildings, public gardens, and places of amusement, and for its great libraries, museums, art-galleries, and scientific schools, as also for the manufacture and sale of articles of art, ornament, and fashion.

In addition to Paris the most important cities are: —

Names.	Population.	Characteristics.
Lyons.	375,000	Is the second city in rank, and the chief seat for the manufacture of silks, satins, and velvets; over 100,000 persons are here employed in this industry.
Marseilles.	360,000	Is the greatest seaport, and has varied manufactures and extensive trade in silks, wines, brandies, etc.
Bordeaux.	221,000	Is the center of the red wine trade.
Lille.	178,000	Makes cotton, linen, and woolen goods, beet-root sugar, etc.
Toulouse.	140,000	Has extensive steel-works and woolen-mills.
Nantes.	120,000	Noted for ship-building, manufactures, and commerce.
St. Etienne.	126,000	In the midst of a rich coal region; makes cutlery and hardware; — the Birmingham of France.
Rouen.	105,000	Makes cotton goods; — the Manchester of France.
Toulon.	80,000	Is the great naval dockyard of France.
Havre.	92,000	Is the seaport of Paris and Rouen.
Brest.	70,000	Important naval stations.
Cherbourg.	40,000	

Foreign Possessions. — The principal foreign possessions are: 1. Algeria, in Africa. 2. French Guiana. 3. Martinique and Guadaloupe, in the West India Islands. 4. The Marquesas Islands and New Caledonia, in Polynesia, and Corsica, in the Mediterranean.


CENTRAL EUROPE
SCALE OF MILES
10 50 100
1½° Latitude = 1 Inch
Noon
Local Time when Noon on the Meridian of Greenwich
Longitude East from Greenwich
Longitude in Time P.M.
Noon on the Meridian of Washington
Longitude East from Washington
The GERMAN EMPIRE consists of Prussia, Saxony, Bavaria, Wurtemburg, Baden, and the following Smaller States, the positions of which are indicated by the figures annexed.
1 Elsass Lothringen
2 Anhalt........D.
3 Brunswick..........D.
4 Bremen.........F.C.
5 Hamburg.........F.C.
6 Hesse Darmstadt G.D.
7 Lippe Detmold......P.
8 Lippe Schaumburg..P.
9 Lubeck..........F.C.
10 Mecklenburg Schwerin G.D.
11 " Strelitz G.D.
12 Oldenburg............G.D.
13 Reuss Greiz.............P.
14 " Schletz...........P.
15 Saxe Altenburg ....D.
16 " Coburg-Gotha......D.
17 " Meiningen.........D.
18 " Weimar....... G.D.
19 Schwartz Rudolstadt....P.
20 Schwartzburg Sonderhausen............P.
21 Waldeck.................P.
22 Hohenzollern belongs to the King of Prussia
NORTH OR GERMAN OCEAN
BALTIC SEA
MEDITERRANEAN SEA
ADRIATIC SEA
GULF OF VENICE
GULF OF GENOA
GULF OF THE LION
ENGLISH CHANNEL
GERMAN EMPIRE
AUSTRO-HUNGARIAN MONARCHY
DENMARK
SWEDEN
HOLLAND
BELGIUM
FRANCE
SWITZERLAND
ITALY
RUSSIA
RUSSIAN POLAND
BOHEMIA
MORAVIA
HUNGARY
LOMBARDY
BAVARIA
BERLIN
PARIS
VIENNA
MUNICH
Hamburg
Bremen
Hanover
Dresden
Leipsic
Breslau
Frankfort
Cologne
Strasburg
Stuttgart
Prague
Amsterdam
THE HAGUE
BRUSSELS
Antwerp
COPENHAGEN
WARSAW
BUDA PESTH
ROME
Florence
Venice
Milan
Turin
Genoa
Trieste
Marseilles
Lyons
Geneva
BERNE
NORTH TEMPERATE ZONE
LENGTH OF LONGEST DAY IN HOURS

THE CASTLED RHINE.

THE GERMAN EMPIRE.

1. Its Composition. — Politically the German Empire (established in 1871) consists of twenty-six States. The chief of these are the Kingdom of Prussia — which embraces two thirds of the area of Germany and a majority of its population — and the three kingdoms of Bavaria, Saxony, and Würtemberg. The other twenty-two States are small in extent, and are variously called grand duchies, duchies, principalities, etc.

The King of Prussia has the title of German Emperor.

NOTE. — Each State in the Empire has its own ruler (king, prince, etc.) and its own legislature, but in all general matters the imperial government has authority somewhat similar to that of the federal government in our own country. Each State sends representatives to the imperial parliament, called the Reichstag.

2. Extent. — The area of Germany is nearly the same as that of France; its population is about the same as that of the United States.

AREA, 212,000 square miles. POPULATION, 45,250,000.

3. Physical Features. — The northern part of Germany belongs to the great European plain, the southern part rises into rugged mountains enclosing numerous valleys. The country is remarkably well watered, having over fifty navigable rivers. It has a sea-coast bordering on the North and the Baltic seas.

4. Resources. — The natural wealth of Germany is found in (1) its productive soil in the plains and valleys; (2) its extensive forests in the mountain regions; and (3) its rich supply of iron, coal, copper, zinc, and other minerals.

5. The leading industries are agriculture, manufacturing, mining, and commerce.

Map Study. — 1. Bound the German Empire. 2. What two seas on the north? 3. How do France and Germany compare as regards sea-coast? 4. Which part is mountainous? 5. What is the character of the northern and eastern parts? 6. Name the boundary mountains on the south. 7. What mountains west of the Rhine? 8. In what direction do most of the rivers of Germany flow? 9. Name three important rivers flowing into the North Sea. 10. Name two important rivers flowing into the Baltic. 11. What great river flowing eastward takes its rise in the southern part? 12. Which part of Germany is occupied by Prussia? 13. Where is Saxony? — Bavaria? — Würtemberg? 14. What divisions of Germany border on the Rhine? 15. Where is Berlin? 16. By what river has Hamburg an outlet into the North Sea? 17. Name two seaports on the Baltic. 18. In what State is Munich? — Dresden? — Stuttgart? 19. On which bank of the Rhine is Cologne? — Dusseldorf? 20. Name a city in Alsace.

Agriculture. — Tilling the soil forms the occupation of three fourths of the German people. The principal crops are rye (the grain most used by the people), wheat, oats, and potatoes; the vine grows in the Rhine provinces, and tobacco, flax, hemp, and beet-root are cultivated in many districts.

Manufactures. — In manufactures Germany is behind England and France; but various branches of manufacturing industry, as the making of woolen, linen, and leather goods, of wine and beer, and of paper, glass-ware, etc., are very extensively carried on.

Commerce. — Germany has considerable foreign commerce, largely with the United States and England. Wheat, wines, wool, and manufactures are the principal exports. The chief seaports are Hamburg and Bremen.

6. Education. — In education Germany is the foremost country in Europe. It has a fine system of public schools, and education is compulsory. The numerous universities are the largest and most complete in the world.

7. Cities. — BERLIN (1,125,000), the largest city, is the political and literary capital of the German Empire. The cities next in importance are: —

Names.	Population.	Characteristics.
Hamburg.	410,000	One of the "Free Cities," is the chief seaport and commercial metropolis of Germany; numerous lines of steamers connect it with New York.
Breslau.	272,000	Is the greatest wool market of Europe, and has extensive trade and manufactures.
Dresden.	220,000	Is the capital of Saxony, and the center of the coal and iron interest of that kingdom; it has extensive glass and porcelain works, and is noted for its art-galleries.
Munich.	230,000	Is the capital of Bavaria, and is noted for its university, its fine art-gallery, etc.
Cologne.	145,000	Is the chief commercial city of the Rhine provinces, and has manufactories and distilleries.
Königsberg.	140,000	Is the chief commercial city of Eastern Prussia, and carries on a large export trade in agricultural produce.
Magdeburg.	137,000	Carries on extensive trade.
Leipsic.	140,000	Is noted for its fair, its great book-trade, and its university.
Hanover.	122,000	Is the chief city of the Kingdom of Hanover, and was its capital until that kingdom became a part of Prussia in 1866.
Dantzic.	108,000	Is, from its situation on the Baltic, a great grain port; it has also extensive manufactures.
Frankfort-on-the-Main.	149,000	Is the center of the inland trade of Germany, and has great annual trading-fairs.
Bremen.	112,000	Ranks next to Hamburg in commerce.
Stuttgart.	112,000	The capital of Würtemberg, is beautifully situated, and is renowned for its art and culture.
Strasburg.	104,000	Was won from France in the war of 1870–71; it is famous for its cathedral.

THE AUSTRIAN EMPIRE.

1. Its Composition. — The Austrian Empire, or Austro-Hungarian Monarchy (its official designation since 1868), consists of two main divisions, — Austria proper and the Kingdom of Hungary, together with a number of other states and provinces under the rule of the Emperor of Austria.

The States. — The Austro-Hungarian Monarchy is made up of,—1. The German States, in the west and northwest, including one third of the Empire. 2. The Hungarian States, including Hungary, Transylvania, and some parts farther south, comprising nearly one-half of the Empire. 3. The Polish States to the north of the Carpathian Mountains, including about one sixth of the Empire. To these may be added Crotia, Bosnia, and Herzegovina, which have lately been put under the protection of Austria by the results of the war between Russia and Turkey and the decision of the Berlin Conference.

2. Extent. — Its area is greater than that of Germany or France, and its population less.

AREA, 265,000 square miles. POPULATION, 40,000,000.

3. Surface. — Three fourths of the Austrian Territory is mountainous. The three principal chains of mountains, each of them sending out many branches, are :—

1. **The Alps** (under various names), occupying nearly the entire southern belt of the German Provinces, as well as Illyria and Dalmatia.
2. **The Carpathians**, along the whole northern boundary of Hungary.
3. **The Bohemian Forest**, Ore Mountains (*Erzgebirge*), and Giant Mountains (*Riesengebirge*), enclosing the plain of Bohemia.

The three principal plains are the great plain of Hungary, formed by the Danube, the plain of Bohemia, drained by the Elbe, and the plain of Gallicia, drained by the Dniester.

4. Resources. — The natural wealth of this country consists of its extensive fertile plains, favorable to agriculture and pasturage, its great forests, and its rich mining resources.

5. The leading industries are agriculture, mining, and manufacturing.

Agriculture. — Wheat, maize, and other cereals, together with the vine, flax, hemp, and tobacco, are largely grown. The plains east of the Danube support great herds of horses, cattle, and sheep.

Mining. — Platina excepted, all metals abound in Austria, — gold, silver, quicksilver, copper, tin, lead, and iron. Coal-beds of vast extent are found. Of rock-salt there is a bed several hundred miles in length in Gallicia, of which only a small portion is worked at a gigantic mine named Wieliczka [*we-litch'ka*], near Cracow.

Manufactures. — Austria has recently been making rapid advances in manufacturing. The principal manufactures are cotton, linen, and woolen goods, iron-ware, chemical preparations, and glass-ware. Hungary produces more wine than any other country except France.

6. Commerce. — As Austria has but little sea-coast her foreign trade is limited. The only important seaport is Trieste. The Danube is the great channel for internal trade.

MAP STUDIES.

Austria. — (*Map of Central Europe, page 100.*) 1. Bound Austria. 2. What are the principal mountain-ranges? 3. How has Austria an outlet to the Atlantic Ocean? 4. Describe the course of the Danube. 5. What are its chief tributaries? 6. What is the principal river of Bohemia? 7. In which State is Lake Ba'laton? 8. Where is Hungary? — Bohemia? — Tyrol? 9. Where is Vienna, the capital? 10. Where is Szegedin [*seg-ed-in'*]? — Pesth? — Prague? — Trieste [*tree-est'*]?

Russia in Europe. — (*Map of Europe, page 92.*) 1. Bound Russia. 2. Between what parallels and what meridians is it included? 3. In which zone is the greater part? 4. What mountain-range forms part of the eastern boundary? 5. What is the name given to the chief heights in the interior? 6. What relation between the rivers of Russia and these hills? 7. Name the principal rivers which enter the Black Sea, — the Caspian, — the Baltic, — the White Sea. 8. What and where is the capital of Russia? 9. Where is Moscow? 10. Name the principal ports on the Baltic, — on the Black Sea, — on the Caspian.

7. Population. — The people of the various parts of the Austrian Empire differ widely in race, language, ideas, manners, and religion.

NOTE. — About one half of the population belong to the Slavonic race and one fifth to the Germanic ; one sixth are Magyars, and the rest are made up of Roumanians, Jews, Gypsies, Greeks, etc. The number of languages and dialects spoken in Austria exceeds twenty, but German and Hungarian are the official languages. More than three fourths of the population are Roman Catholics.

8. Cities. — VIENNA (1,105,000), the capital of the monarchy, is an important manufacturing and commercial center, and the finest city of Central Europe. The cities next in importance are :—

Names.	Population.	Characteristics.
Pesth. (*with Buda.*)	360,000	Is the chief commercial city of Hungary; it is connected by a suspension-bridge with Buda.
Prague.	162,000	Is the largest and most commercial city of Bohemia, of which, while an independent kingdom, it was the capital.
Trieste.	144,000	Is a commercial and manufacturing city, and the only great seaport.
Lemberg.	110,000	Is the trading center of Gallicia.
Grätz.	98,000	Has flourishing manufactures and an extensive trade.
Brünn.	85,000	Is noted for its extensive woolen and other manufactures.
Szegedin.	50,000	Is, next to Pesth, the most important commercial city of Hungary.
Cracow.	66,000	Is one of the famous old cities of independent Poland.

RUSSIA IN EUROPE.

1. Its Rank. — Russia is the most extensive of empires, including one half of Europe and one third of Asia. It is about twice the size, and has nearly double the population, of the United States.

TRAVELING IN RUSSIA.

NOTE. — AREA of the entire Empire, 8,200,000 square miles ; of European Russia, 2,180,000 square miles. POPULATION of the entire Empire, 85,000,000 ; of European Russia, 75,000,000.

2. Physical Features. — The surface of European Russia is a vast plain, broken only by a slight central elevation (the Valdai Hills), which forms the watershed of the Russian river system. The rivers are the largest in Europe.

Northern Russia consists mainly of immense moss-covered plains, marshy in summer and frozen in winter, with extensive forests in its southern districts; Central Russia improves progressively toward the south, where there is much fertile land; Southern Russia consists of broad treeless plains, or *steppes*.

The climate is marked by extremes of temperature, the summers being short and hot, while in the north the winter is eight months long and the cold most intense.

3. Resources. — The natural wealth of Russia consists in her great extent of grain-growing soil, the advantages for cattle-raising presented by her grassy steppes, her vast forests, and her rich mines of iron, copper, platina, etc.

4. The leading industries are agriculture and commerce, which are of prime importance, and manufacturing, which is of secondary importance.

Agriculture. — The grain most extensively used is rye, and the black bread made of it is the common food of the peasantry.

The most fertile district is the Ukraine, in the basin of the Dnieper; wheat is the great crop of this part.

Hemp and flax are peculiarly adapted to the Russian soil and climate, and immense quantities of both are grown all over the country.

Over the southern plains range multitudes of cattle, sheep, and horses.

Commerce. — The commerce is large and increasing. The chief exports are wheat, wool, flax, tallow, hemp, timber, potash, hides, furs, iron. Russian commerce is chiefly with England and the United States, but with China there is also a great overland trade, the principal item in which is tea.

The principal ports are St. Petersburg and Riga [*re'ga*] on the Baltic, and Odes'sa on the Black Sea.

The inland trade is carried on mainly at great annual fairs; that at Nijni Novgorod [*nezh'ne nov-go-rod'*] is the largest in the world.

Manufactures. — The only articles in the manufacture of which Russia can successfully compete with other countries are leather, soap, sail-cloth, cordage, and tar. For all of these she has the raw material within herself.

5. Population, etc. — The Russians belong to the Slavic race, one of the main branches of the Caucasian stock. The government is an absolute monarchy, under an emperor called the Czar (a corruption of the word Cæsar), who is head both of church and state. The established religion is that of the Greek Church.

Civilization. — Russia, during the present century, has had a number of very able Czars; and as the Czar is all-powerful, these rulers have been able to advance the country very much. At the present time numerous railroads are in process of building, education and literature are taking root, and there is a stir of real life and progress in Russia.

6. Cities. — St. Petersburg (900,000), the capital, situated on a number of small islands in the Neva, is the metropolis and chief commercial city of the Empire. The other leading cities are: —

Names.	Population.	Characteristics.
Moscow.	611,000	Is one of the oldest cities of Russia, and formerly the capital; a great manufacturing and trading center.
Warsaw.	337,000	Was the capital of Poland when that kingdom existed; is now the metropolis of Polish Russia.
Odessa.	184,000	Is the southern emporium of Russian commerce, and chief seaport on the Black Sea.
Kichinev'.	103,000	Is an important entrepôt for the Black Sea trade.
Riga.	103,000	Has a fine harbor, and exports great quantities of grain, hemp, flax, and lumber.
Saratov.	95,000	Is the principal point of transit trade for the Caspian Basin.
Wilna.	80,000	Is inhabited mainly by Jews, and is the scene of a great annual fair.
Kasan'.	85,000	Is an important entrepôt for transit trade with Asia.
Kiev.	130,000	Is the scene of one of the great commercial fairs.
Cronstadt.	47,000	Is the seaport of St. Petersburg, and the great naval station of Russia.

SWEDEN AND NORWAY.

1. Situation. — Sweden and Norway, which are distinct though adjoining countries, form a single government, — the Kingdom of Sweden and Norway. Sweden occupies the eastern and Norway the western part of the large peninsula called Scandinavia.

2. Physical Features. — This peninsula is intersected throughout its whole length by the Scandinavian Mountains, which separate Norway and Sweden. The Atlantic coast is indented by innumerable inlets called *fiords*. The winters are very cold, and the ground is covered with snow for about six months in the year; the summers are short and hot.

3. Resources. — The most valuable among the natural productions of Scandinavia are found in its mines, its forests, and its fisheries.

4. Mining. — Iron and copper are abundant in both countries, and mining is a leading industry.

NORTH CAPE, — THE MOST NORTHERN CAPE IN EUROPE.

5. Lumbering. — The extensive forests of pine and fir furnish an inexhaustible supply of timber, which is largely exported.

6. The Fisheries. — The seas, rivers, and lakes swarm with fish, and the fisheries of the Lofo'den Islands supply a large part of the food of the peasantry, besides great quantities of fish that are salted and dried for export to Southern Europe.

7. Agriculture. — Only a small part of the soil either in Sweden or Norway is under cultivation; still, in Sweden a surplus of grain is raised. Norway does not produce grain enough for her own use.

8. Cities. — Stockholm (175,000), the largest city in Sweden, is the capital of the united kingdoms. Göteburg is an important manufacturing and commercial point. Christiania, on the Skager-rack, is the capital of Norway.

Lapps and Finns. — The Laplanders and Finns, who belong to the Mongol race, dwell in the extreme northern part of the Scandinavian peninsula. Their chief wealth is the reindeer, which supplies them with food, clothing, and many useful articles.

DENMARK.

1. Description. — Denmark consists of the peninsula of Jutland and of the adjacent islands at the entrance of the Baltic, the largest being Zealand and Fünen.

2. Industries. — Denmark is mainly an agricultural and grazing country, but many Danes are engaged in the fisheries or in a seafaring life.

3. Population, etc. — The people of Denmark are of Teutonic origin, consisting of Danes, Germans, and Angles. The government is a limited monarchy, and the established religion is Lutheran.

4. Cities. — Copenhagen (235,000), on the island of Zealand, is the capital and chief commercial city. It is also noted for its great university and fine museum. O'dense, on the island of Fünen, ranks second in importance.

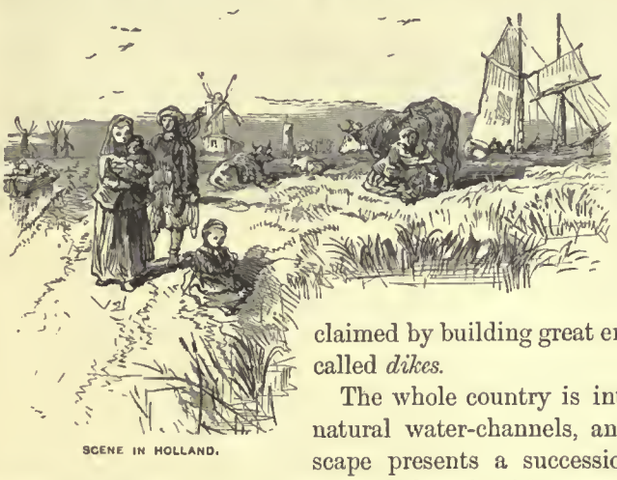
MAP STUDIES.

Sweden and Norway. — (*Central Europe, page 100.*) 1. Bound the Scandinavian peninsula. 2. Between what parallels is it included? 3. What is the most northern cape of Norway? 4. Where is the body of water called the Skager-rack? — Cattegat? 5. What mountains between Norway and Sweden? 6. Which is the larger country, — Norway or Sweden? 7. The drainage of Sweden is mainly into what bodies of water? 8. Why has Norway no large rivers? 9. Name the capitals. 10. Where are the Lofoden Islands?

Denmark. — (*Map of Europe, page 92.*) 1. Of what natural division does most of Denmark consist? 2. What bodies of water nearly surround it? 3. What countries south? 4. Name the three principal islands. 5. What is the character of the surface, — mountainous or level? 6. On which island is the capital? 7. Where is Odense?

NETHERLANDS.

1. Description. — The Kingdom of the Netherlands, formerly called Holland, occupies a region of low country along the shore of the North Sea. Much of the land which was formerly overflowed by the ocean at high tide has been reclaimed by building great embankments called *dikes*.



SCENE IN HOLLAND.

The whole country is intersected by natural water-channels, and the landscape presents a succession of green meadows, separated by water and dotted with windmills.

2. Industries. — Farming and dairying, the fisheries, manufacturing and commerce, are the leading occupations of the thrifty Hollanders.

Dairying. — Owing to the moistness of the climate, which keeps the grass fresh and sweet for grazing, the making of dairy products is a leading pursuit, and great quantities of butter and cheese are exported.

The fisheries are still largely carried on, though this industry is less important than formerly.

Manufactures. — The principal manufactures are linen, woolen goods, leather, gin, and cheese.

Commerce. — Holland has fine commercial facilities, arising from its position at the mouth of the Rhine and its harbors on the North Sea. The internal trade is carried on mainly by means of canals, which run through the principal streets of the cities and extend in a network over the whole country. The foreign commerce is very large.

3. Population, etc. — The people of Holland belong to the Teutonic race, and the word Dutch, the name by which they are known, signifies *Teutonic*. The government is a limited monarchy, and the religion Protestant. Education is universal.

4. Cities. — AMSTERDAM (325,000) is the chief commercial city of Holland. ROTTERDAM is the second city in population and trade. THE HAGUE [*haig*] is the seat of government.

Foreign Possessions. — The principal foreign possessions are: In the East Indies, Java and most of the Molucˈcas, with parts of Sumaˈtra, Borneo, and Celˈebes; in the West Indies, Curaçoa [*cure-ah-soˈah*] and St. Eustatius; in South America, Dutch Guiana. These possessions, especially those in the East Indies, have greatly promoted the commerce of Holland, which has a carrying trade inferior only to that of Great Britain.

MAP STUDIES.

Holland. — (*Central Europe, page 100.*) 1. Bound Holland. 2. What is the nature of the surface? 3. What inbreaking of the sea in the northern part? 4. What great German river flows through Holland to the sea? 5. What names does the Rhine here take? 6. What name does the Meuse here take? 7. Locate Amsterdam, — Rotterdam, — The Hague.

Belgium. — (*Central Europe, page 100.*) 1. Bound Belgium. 2. Where is its water-front? 3. What two rivers traverse it? 4. In which part of the kingdom is Brussels? 5. Name a seaport. 6. On what river is Liege?

Switzerland. — (*Map of Central Europe, page 100.*) 1. Bound Switzerland. 2. Has it any sea-coast? 3. Is there any other nation in Europe that has no sea-coast? 4. What is the character of the surface? 5. What mountains occupy most of it? 6. What range on the west? 7. Name the two principal lakes. 8. What two great rivers have their source in Switzerland? 9. Locate Geneva, — Berne, — Basle.

BELGIUM.

1. Physical Features. — The western part of Belgium, watered by the Scheldt [*skelt*] and its tributaries, is a continuation of the flats of Holland; the inland half drained by the Meuse is hilly and well wooded.

2. Industries. — Belgium has rich mines of coal and iron, which are extensively worked; hence it is naturally a manufacturing country. The leading articles of manufacture are iron machinery, glass-ware, woolens, linens, laces, and carpets. Agriculture is in a high state of perfection: the chief staples are grain, flax, hops, and root-crops.

3. Population, etc. — The Belgians are in race, language, and character, as well as in position, intermediate between the Dutch and the French: they are of mixed Teutonic and Celtic blood.

NOTE. — The French language is spoken by the higher classes; Flemish, resembling Dutch, and the Walloon, a corrupt French, are the dialects of the common people. The government is a limited monarchy, and the religion Roman Catholic.

4. Cities. — The chief cities are BRUSSELS (400,000), the capital, noted for its manufacture of laces, carpets, etc.; ANTWERP, the commercial metropolis; GHENT, a manufacturing city; LIEGE [*leej*], which has extensive coal-mines and iron-works; and BRUˈGES, an important manufacturing and commercial point.

SWITZERLAND.

PASS OF THE GREAT ST. BERNARD.

1. Surface. — The surface of Switzerland is more varied than that of any other country of Europe. The southern part is occupied by various ridges of the Alps, while on the western side are the Jura Mountains, separated from the Alps by an elevated plain. Between the mountain-ranges are numerous deep and narrow valleys.

2. Scenery. — Switzerland is a country of majestic, snow-capped mountains, beautiful waterfalls, wonderful glaciers, and picturesque

landscapes and lakes, — forming altogether the sublimest scenery in Europe.

Peaks and Passes. — The most famous *peaks* of the Alps are Mount St. Gothard, the Simplon, Mont Cervin (or the Matterhorn), Mont Cenis, the Finster-Aarhorn, and the Jungfrau ; each is above two miles high. Mont Blanc, the monarch of the Alps (15,780 feet high), is not in Switzerland, but in Savoy, which belongs to France.

The *passes* over the mountains lie in many cases at a great elevation. The most celebrated are the pass of the Great St. Bernard, on the crest of which is a famous convent, or hospice ; the Simplon ; and the pass of Mont Cenis. Through the last-named, as also through Mt. St. Gothard, railroad tunnels have been cut.

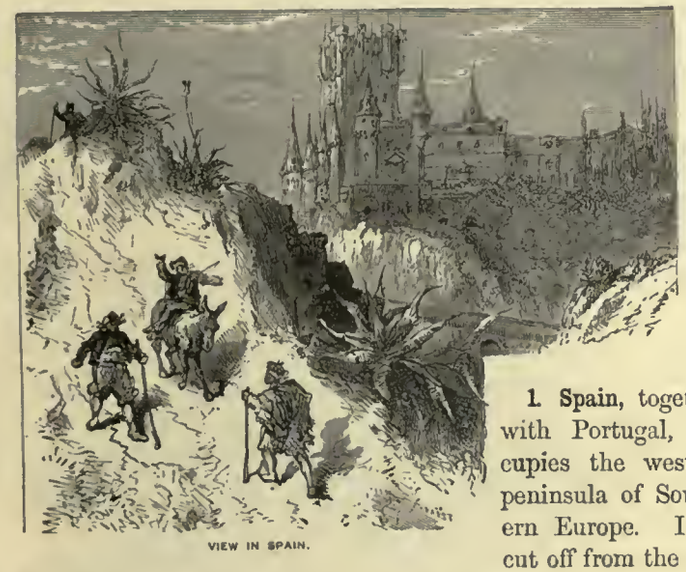
3. Industries. — This mountainous country does not produce food enough for home consumption. Grain and the vine are cultivated in the lower valleys, but stock-raising and dairying give employment to the majority of the inhabitants.

The numerous rapid mountain-streams afford cheap and abundant water-power. The chief manufactures are cottons, woolens, linens, silks, watches, jewelry, and wood-carvings.

4. Population, etc. — The Swiss belong mainly to the Germanic race, and speak the German language. There is, however, a large Celtic and Latin population, speaking French or Italian. The government is a federal republic, comprising 22 small cantons. More than half the people are Protestants ; the rest Roman Catholics.

5. Cities. — The principal cities are GENEVA (70,000), ZURICH, and BASLE [*bahl*], which are manufacturing and commercial points. BERNE is the capital of the Confederation.

SPAIN.



VIEW IN SPAIN.

1. Spain, together with Portugal, occupies the western peninsula of Southern Europe. It is cut off from the rest of Europe by the mountain-wall of the Pyrenees.

2. Physical Features. — The physical features of Spain are a great central plateau, crossed and divided by numerous mountain-chains, or *Sierras,* and a narrow belt of lowland along the coasts of the Atlantic and the Mediterranean. The climate, except on the seaboard, is dry ; the central table-land is subject to great extremes of temperature.

3. Resources. — Spain is rich in metals, particularly in iron, lead, and quicksilver, of which latter it contains one of the richest mines in the world. It has a fertile soil, and its southern climate adapts it to the growth of the vine, olive, orange, and fig.

4. Industries. — On the table-lands are pastured great herds of sheep, which produce large quantities of fine merino wool. The mulberry is extensively cultivated, and more silk is produced than in any other country of Europe, except Italy. The vine is largely cultivated for making raisins and wine (sherry). The valleys and the coast-belt have a sub-tropical climate, and produce the orange, lemon, fig, and olive.

5. The chief exports are sherry wine, wool, metals, fruits and dried fruits, silk, leather, and cork.

6. Civilization. — In the sixteenth century Spain was the greatest nation in Europe ; but owing to the effect of a long period of bad government it has sunk to the position of a second-rate power, and is neither progressive nor highly civilized.

7. Cities. — MADRID (398,000) is the capital. The other most important cities are given in the following table : —

Names.	Population.	Characteristics.
Barcelona.	250,000	Is the chief seat of manufactures and commerce.
Cor'deva.	160,000	Manufactures goat-skin leather.
Seville'.	134,000	Has extensive manufactures of tobacco ; noted for fine oranges.
Valencia.	143,000	Has extensive manufactories of silk and linen.
Mal'aga.	118,000	Is noted for its dried fruits, sweet wines, and iron manufactures.
Murcia.	118,000	Is an important interior center of commerce.
Grana'da.	76,000	An ancient Moorish city, containing the Alhambra.
Saragossa.	86,000	Is the capital of the province of Aragon.
Cadiz.	65,000	Is an important seaport on the Atlantic.
Valladolid'.	55,000	Has large trade.

The foreign possessions of Spain are : the Balearic Isles, in the Mediterranean ; Ceuta, in Africa, opposite Gibraltar ; Fernando Po and Annabon, off the coast of Guinea ; the Canary Isles, in the Atlantic ; Cuba, Porto Rico, and Pinos, which are West India Islands ; and the Philippines, Ladrones, and Carolinas, in the Pacific.

Gibraltar, on a rock of the same name, belongs to the English, who have held it since 1704. This rocky fortress commands the entrance to the Mediterranean.

MAP STUDIES.

Spain. — (*Map of Europe, page 92.*) 1. Bound Spain. 2. Where is Cape Ortegal, — Cape Finisterre, — St. Vincent ? 3. What is the general character of the surface ? 4. Name some of the mountain-ranges (*Sierras*). 5. What three rivers of Spain flow into the Atlantic ? 6. Describe the course of the Ebro. 7. In which part is Madrid ? 8. Locate Barcelo'na, — Seville, — Cadiz, — Gibraltar.

Portugal. — (*Map of Europe, page 92.*) 1. Bound Portugal. 2. What is the general character of the surface ? 3. What three rivers flowing from Spain traverse Portugal ? 4. Where is Lisbon ? 5. What seaport at the mouth of the Douro ?

PORTUGAL.

1. Physical Features. — Portugal, occupying the western part of the Iberian peninsula, is a mountainous country, sloping toward the Atlantic. Its valleys contain the lower courses of several rivers which rise in Spain. The climate is warm, and not subject to extremes.

2. Industries. — The leading pursuit is the culture of the vine, from which port-wine is produced, and of the olive and semi-tropical fruits, such as oranges, lemons, and figs.

3. Population, etc. — The Portuguese belong to the same race as the Spanish, to whom they are closely allied in language, character, and religion. The government is a monarchy.

4. Cities. — LISBON (233,000) is the capital. OPOR'TO is the chief seat of the trade in port-wine, to which it gives its name.

Islands. — The island possessions of Portugal include the Madeira Isles (capital, Funchal), which yield superior wine ; the Azores, which produce fine oranges ; and the Cape Verde Islands.

ST. PETER'S, AT ROME.

ITALY.

1. Situation and Extent. — Italy occupies the central of the three peninsulas of Southern Europe, together with a continental part extending as far north as the Alps, and several islands in the Mediterranean Sea. It is about double the size of New England.

AREA, 114,400 square miles. POPULATION, 28,500,000.

2. Physical Features. — The surface features of Italy are, — the Continental Plain in the north, drained by the river Po; the long narrow peninsula, of which the Apennines form the backbone; Insular Italy, comprising Sicily, Sardinia, and the adjacent islets.

3. Islands. — Sicily is noted for its fertility and for the volcano of Etna. Sardinia forms part of the state of Sardinia. Elba was the scene of Napoleon's first banishment. The Lipari Isles contain the volcano of Stromboli.

4. Advantages. — The natural advantages possessed by Italy are a fertile soil finely adapted to the growth of semi-tropical productions, its extensive fisheries, valuable minerals, and admirable situation for commerce.

5. The leading industries are agriculture, manufacturing, and the fisheries.

6. Agriculture. — Wheat and the vine, olive, and mulberry are extensively cultivated throughout Italy. Oranges, lemons, figs, and other semi-tropical fruits flourish in the southern part.

NOTE. — The chestnut-tree abounds in the forests of the Apennines, and the sweet nut forms an important article of food. *Macaroni*, made from wheat flour, is a national dish.

Map Study. — (*Map of Europe, page 92.*) 1. Of what natural division does the greater part of Italy consist? 2. What is the shape of the peninsula? 3. What natural boundary to the north? 4. What sea to the east? — to the west? 5. What is the latitude of the city of Rome? Is this farther north or farther south than New York City? 6. What large gulf in the northeastern part? 7. What large gulf in the southeastern part? 8. What waters are joined by the Strait of Otranto? 9. What mountain-chain traverses the peninsula? 10. Where is Mount Vesuvius? 11. What is the longest river, and into what does it flow? 12. Describe the course of the Arno, — of the Tiber. 13. What two large islands belong to Italy? 14. What large island belongs to France? 15. Locate Rome, — Naples, — Turin, — Florence, — Venice, — Genoa.

7. Manufactures. — The silk manufactures of Italy are the most important in Europe, and are one of the great sources of national wealth. Of the other manufactures, those of earthenware, straw goods, artificial flowers, and macaroni are of special importance.

8. The coast fishery employs large numbers of Italians. Tunny and anchovies are caught in immense quantities, and the latter are exported to all parts of the world.

9. Rome (300,000), the capital of Italy, is often called the "Eternal City." It was founded over twenty-five hundred years ago, and was for a thousand years the capital of the Roman Power. Every part of Rome contains remains of temples, baths, tombs, arches, and columns that excite admiration no less by their massiveness than by the beauty of their design. Art-students from all parts of the world visit it.

ST. PETER'S. — The church of St. Peter's is the most beautiful building in the world. The greatest part of it was designed by the famous sculptor Michael Angelo, who erected its immense dome (450 feet high to the top of the cross).

National Characteristics. — The Italians are the purest representatives of the Latin race, and their language comes directly from the Latin. They cannot be ranked as a very progressive people; but since they obtained their national liberty and unity important changes have been taking place, and they now have free schools and a free press. The people are generally industrious, frugal, and temperate, but excitable and passionate. They excel in the fine arts, — music, painting, and sculpture. Their religion is Roman Catholic, and Rome is the world's center of the Catholic Church.

10. Cities. — In addition to Rome the largest cities are: —

Names.	Population.	Characteristics.
Naples.	493,000	Is the largest city, and is situated on the beautiful Bay of Naples; noted for the manufacture of macaroni and vermicelli; near by is the volcano of Vesuvius.
Milan.	321,000	Is the chief city of Lombardy, and is noted for its silk manufactures.
Turin.	253,000	Is famous for its museums and works of art.
Palermo.	245,000	Is the largest city in Sicily.
Genoa.	180,000	Is an important commercial city.
Venice.	135,000	Is built on a hundred small islands, and is intersected by canals.
Florence.	170,000	A brilliant city, and a center of literature and art.
Bologna.	125,000	Has art-galleries and some manufactures.

San Marino. — San Marino, a petty mountain republic, containing about 10,000 inhabitants, is an independent state.

GREECE.

1. Physical Features. — Greece occupies the most eastern of the three Mediterranean peninsulas, and presents three physical divisions: 1. Continental Greece. 2. The Morea, or Peninsular Greece. 3. Insular Greece, or the islands and groups of islands belonging to this kingdom. The surface is generally mountainous, and the country has no navigable rivers. The climate is mild and sunny, like that of Italy.

2. Past and Present. — Five hundred years before the birth of Christ Greece was the most civilized of nations. Its republics were famous for their illustrious soldiers, artists, philosophers, poets, and historians. But now Greece is a small and weak kingdom, infested by bandits, and its people generally are neither educated nor industrious.

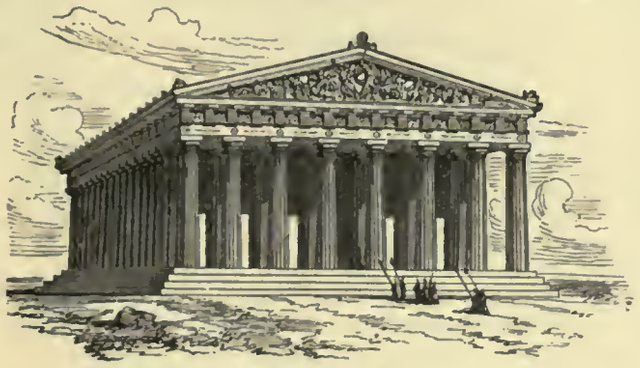
3. Industries. — A large part of the population are engaged in raising sheep and goats in the mountain districts; but agriculture is carried on in the rudest manner. In the "Isles of Greece" multitudes of sailors are trained.

The leading exports are olive-oil, silk, honey, tobacco, currants, and other fruits.

4. Government, etc. — For several centuries previous to 1821 Greece was a part of the Turkish Empire; the Greeks then revolted, and after a long struggle succeeded, with the assistance of the European powers, in establishing their independence. Greece is now a monarchy.

5. Cities. — ATHENS (63,000) is the capital and chief city. It is the residence of the king and court, has important educational institutions, and is a place of active local trade. Its seaport is the Piræus.

Names.	Population.	Characteristics.
Syra.	21,000	Is the chief commercial depot in the island of Syra.
Patras'.	26,000	Is noted for its extensive currant trade.
Zan'te.	16,000	Is the chief city of the island of Zante, the most important of the Ionian Isles.
Corfu.	17,000	Is the capital of the Ionian Isles.

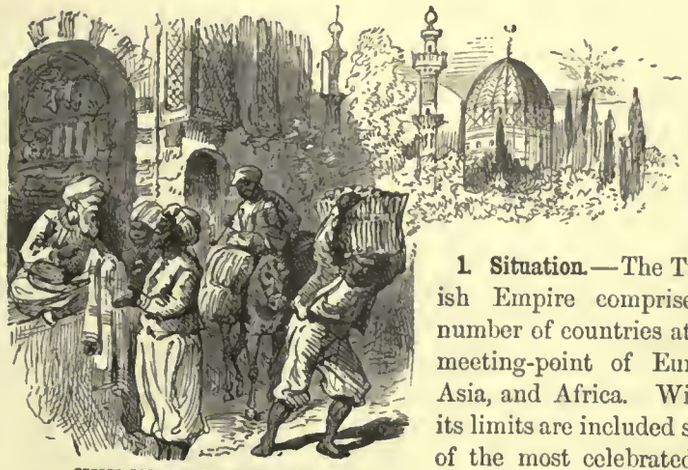


THE PARTHENON RESTORED.

NOTE. — In the time of the glory of Greece Athens was the center of art and learning. It contained magnificent works of architecture, the ruins of which still exist. The most beautiful building was the Parthenon, which stood on the Acropolis, a considerable elevation in the city.

Map Study. — (*Map of Europe, page 92.*) 1. What country north of Greece? 2. Which part is a peninsula? 3. What is the most southern cape of Greece? 4. What is the name of the island-studded sea to the east? 5. Name the largest island. 6. What group west? 7. What large island south of Greece? 8. What and where is the capital? 9. Where was ancient Sparta? — Corinth? 10. Locate Patras, — Corfu, — Zan'te.

TURKEY IN EUROPE.



STREET SCENE IN CONSTANTINOPLE.

1. Situation. — The Turkish Empire comprises a number of countries at the meeting-point of Europe, Asia, and Africa. Within its limits are included some of the most celebrated regions of the Old World.

NOTE. — The Empire of the Turks is properly an Asiatic power, with a little territory in Europe and in Africa, and its capital at Constantinople.

2. Physical Features. — European Turkey comprises the region from the Danubian Principalities southward to Greece.

3. Industries. — Valuable crops of maize, millet, and tobacco are raised; and the cotton-plant and olive-tree flourish. The raising of cattle and sheep is, however, a more general industry.

The Turks are not a manufacturing people, though they produce fine cotton and silk goods, and leather of a superior quality. The commerce is considerable, but is mostly in the hands of foreigners. The chief exports are wool, tobacco, cotton, dried fruits, carpets, leather, horses, cattle, and hides.

4. Race, etc. — The Turks belong to the Mongolian type, and came from Asia in the fifteenth century; they are the ruling race, though they constitute but a small part of the population, — the majority of the people being Slavonians, Greeks, etc. The government is an absolute monarchy, and the emperor is styled the *Sultan*. The religion of the Turks is the Mohammedan.

NOTE. — The Asiatic element appears markedly in the domestic arrangements of the wealthier Turks. They appropriate to their women certain apartments, which no stranger may enter. Turkey is the only part of Europe where the women, on going out, muffle up their faces so as to conceal all but their eyes, and where men walk about in loose, flowing robes and sit cross-legged.

5. Cities. — CONSTANTINOPLE (600,000), the capital, on the Bosphorus, is one of the most finely situated of cities. ADRIANO'PLE is the center of the silk, cotton, and wool manufactures. SALONI'KA is the second seaport in importance, and the center of the cotton and leather manufactures.

Bulgaria and East Roumelia, till the Berlin treaty (1878), formed parts of the Turkish Empire, but are now independent in internal organization, though they must pay tribute to the Sultan of Turkey.

ROUMANIA, SERVIA, AND MONTENEGRO.

Roumania, Servia, and Montenegro were, till 1878, parts of the Turkish Empire, but are now independent sovereignties.

Map Study. — (*Map of Europe, page 92.*) 1. Bound Turkey. 2. On what sea has it a water-front? 3. What connects the Sea of Marmora with the Ægean Sea? — with the Black Sea? 4. What are the principal mountain-chains? 5. Which is the greatest river of Turkey? 6. Describe its course. 7. What are the two largest streams entering the Archipelago? 8. Where is Constantinople? 9. What seaport on the Gulf of Salonica? 10. Locate Adrianople, — Bukharest', — Belgrade'.

TOPICAL REVIEW OF EUROPE.

I. RESOURCES.

The following table presents an arrangement of the leading European countries with reference to the main elements of *natural wealth* and advantages for civilization : —

Iron.....England, Russia, France, Sweden, and Belgium.
Coal.....England, Belgium, and France.
Forests.....Russia, Sweden and Norway, Germany, and Austria.
Fisheries.....Great Britain, Sweden and Norway, Denmark, Holland, France, and Italy.
Farm Soil.....Russia, Germany, France, Italy, Belgium, and Holland.
Seaports.....Great Britain, France, Holland, Denmark, and Italy.
Climate (semi-tropical)..Spain and Portugal, France (south), Italy, Greece, and Turkey (south). } *Wine and Oil Countries.*
Climate (temperate).....France (north), Great Britain, Holland, Belgium, Denmark, Switzerland, Germany, Austria, Russia (south), and Turkey (north). } *Grain and Grazing Countries.*

II. PURSUITS.

The following table presents an arrangement of the chief European nations according to their leading industries, agricultural, manufacturing, and commercial : —

Agricultural Countries.....Russia, Germany, Austria, Italy, Spain, Holland, and Belgium.
Manufacturing Countries...Great Britain, France, Belgium, and Switzerland.
Commercial Countries.....Great Britain, France, Russia, Holland, and Germany.

III. OUR COMMERCIAL RELATIONS.

To Europe the United States sends mainly the great staples, cotton, wheat, corn, and tobacco ; together with pork and bacon, gold and silver. From the various European countries we receive a great variety of natural products and manufactured articles. The following table shows our leading European imports : —

England.....Cotton and woolen goods, hardware, and various articles of use.
France.....Silks, broadcloth, laces, ribbons, wines and brandies, and various articles of luxury.
Germany.....Musical instruments, linens, woolen goods, wine and beer.
Austria.....Fine glassware, leather goods, fruits, and wine.
Russia.....Flax, hemp, leather, cordage, and iron.
Sweden.....Iron.
Holland.....Linen, cheese, gin, and herrings.
Belgium.....Lace, thread, carpets, and glass.
Switzerland...Watches, cheese, and wood carvings.
Spain.....Olive oil, sherry wine, oranges, figs, raisins, and cork.
Portugal.....Port wine, lemons, and cork.
Italy.....Olive-oil, lemons, marble, cameos, rags, and coral.
Greece.....Currants, figs, and olive-oil.
Turkey.....Opium, tobacco, raisins, figs, sponge, and carpets.

IV. RELICION.

The leading religions of Europe are : Catholicity, in its two forms, the Latin or Roman Catholic Church and the Greek Catholic Church ; and Protestantism in its various forms.

The Roman Catholic Countries are France, Spain, Portugal, Italy, Austria, Belgium, and Ireland.

The Greek Catholic Countries are Russia, Greece, and the Turkish Provinces.

The Protestant Countries are England and Scotland, Germany (greater part), Holland, Sweden and Norway, Denmark, Switzerland (greater part).

V. POLITICAL SUMMARY.

According to their importance the nations of Europe may be divided into three classes : (1) The "First-Rate" Powers ; (2) the Second-Rate Powers ; (3) the Minor Powers.

The Five "First-Rate" Powers are Great Britain, Germany, France, Russia, and Austria.

The Four Second-Rate Powers are Italy, Spain, Sweden and Norway, and Turkey.

All the other nations are classed politically as Minor Powers. The petty republics of Andorra and San Marino are of no political importance.

Names.	Area.	Population.	Capitals.	Largest City and Population.	Form of Government, etc.
	sq. miles.				
Great Britain and Ireland.	121,600	35,250,000	London.	London (4,765,000).	Constitutional monarchy ; legislature called Parliament, — House of Lords, and House of Commons.
France.	204,000	37,500,000	Paris.	Paris (2,225,000).	Republic, under a president ; legislature called Corps Legislatif, — a Senate and Chamber of Deputies.
Germany.	208,000	45,200,000	Berlin.	Berlin (1,125,000).	Constitutional monarchy, under an emperor ; legislature called the Reichstag.
Austro-Hungary.	264,000	39,000,000	Vienna.	Vienna (1,105,000).	Constitutional monarchy, under an emperor.
Russia.	2,000,000	75,000,000	St. Petersburg.	St. Petersburg (900,000).	Absolute monarchy, under an emperor called the Czar.
Sweden and Norway.	293,800	6,500,000	Stockholm.	Stockholm (175,000).	Constitutional monarchy ; legislature called the Diet ; in Norway the Storthing.
Holland.	12,700	4,000,000	The Hague.	Amsterdam (325,000).	Constitutional monarchy ; legislature called the States-General.
Belgium.	11,300	5,350,000	Brussels.	Brussels (400,000).	Constitutional monarchy, legislature of two Chambers.
Denmark.	21,600	2,000,000	Copenhagen.	Copenhagen (235,000).	Constitutional monarchy, with provincial legislatures.
Switzerland.	16,000	2,850,000	Berne.	Zurich (76,000).	Republic, under a president ; legislature consisting of a Senate and a National Council.
Spain.	193,000	16,250,000	Madrid.	Madrid (398,000).	Monarchy ; legislature called the Cortes.
Portugal.	34,500	4,500,000	Lisbon.	Lisbon (223,000).	Constitutional monarchy ; legislature called the Cortes.
Italy.	114,300	28,500,000	Rome.	Naples (453,000).	Constitutional monarchy ; legislature called Chamber of Deputies.
Greece.	25,000	2,000,000	Athens.	Athens (63,000).	Constitutional monarchy ; legislature consisting of a Senate and Chamber of Deputies.
Turkey in Europe and tributary States.	94,600	7,200,000	Constantinople.	Constantinople (600,000).	Absolute despotism, under an emperor called the Sultan. But the tributary states are semi-independent.
Roumania.	48,300	5,300,000	Bucharest.	Bucharest (178,000).	Constitutional monarchy ; legislature of two Chambers.
Servia.	20,800	1,700,000	Belgrade.	Belgrade (27,000).	Constitutional monarchy ; legislature called the Skoupchtina.
Montenegro.	3,550	250,000	Cettinge.	Podgorica (5,000).	Monarchy, under a prince called the Hospodar.

ASIA.

PHYSICAL MAP OF ASIA.

PHYSICAL GEOGRAPHY.

☞ **To draw the Map of Asia, see section on Map-Drawing, page 133.**

1. **Extent.** — Asia is the largest of the grand divisions, comprising one third of the land surface of the globe.

2. **Situation.** — It forms the main continental mass of the Eastern Continent, — Europe and Africa being merely great peninsulas.

3. **Outline.** — The coast is deeply indented on every side, though not penetrated by seas, bays, and gulfs to the same degree as Europe.

4. **Surface.** — In Asia are the loftiest mountain-chains and the most elevated plateaus on the globe. The great mass of Central Asia, comprising four fifths of the whole, consists of high plateaus, intersected and bounded by mountain-ranges, some of whose peaks rise to a height of five miles.

From the central plateaus the country descends by a series of slopes to the vast plain of Siberia on the north, the plains of China on the east, and to the great peninsulas on the south.

5. **Mountain Systems.** — The nucleus of the mountain systems is to the west of China, on an elevated table-land called by the Orientals "the roof of the world." The principal mountain-chains radiating from this center are divided into four groups: (1) the Altai system; (2) the Hindoo Koosh; (3) the Himalayas; (4) the Armenian group.

6. **The Altai System** separates the great northern plain of Siberia from the steppes of Mongolia and Mantchooria.

7. **The Hindoo Koosh** separates the great desert of Gobi from China and Thibet, and divides the steppes of Turkestan from the table-land of Persia.

8. **The Himalayas,** from the extreme western point, where the Indus cuts through it to the Brahmapootra, measure 2,000 miles in length, with an average breadth of nearly 200 miles. In the middle of the range rises the stupendous peak of Mt. Everest (or

Gaurisankar), 29,002 feet above the sea-level, with several others of little less elevation.

NOTE.—The summit of Mount Illampu in Bolivia, believed to be the highest peak of the Andes, is 24,812 feet: it is therefore nearly a mile below the summit of Mount Everest.

9. The Armenian Group, of which Mount Ararat is the culminating point, lies in parallel folds at the head of the peninsula of Asia Minor, between the Caspian, the Black, and the Mediterranean seas.

10. Plateaus. — The principal plateaus are: Thibet, from 15,000 to 16,000 feet in altitude; [*go'be*]; Iran (Persia), Asia M

11. Rivers. — The rivers of largest on the globe. They a tems, or groups, and all rise i central table-lands of the cont

Flowing north into the Arctic Ocean.
- YENES
- LENA.
- OBI.

Flowing east into the Pacific Ocean.
- YANG-
- HOANG
- AMOOR

Flowing south into arms of the Indian Ocean.
- CAMBO
- IRAWA
- BRAHM
- GANGE
- INDUS.
- TIGRIS.
- EUPHR

12. Climate, etc. — The clim is subject to great extremes of is not modified to so great an of the ocean.

Asia is divided into three zo southern or tropical, the midd cold. The principal characte following table:—

Countries.		Climate.	Vegetation.
Southern Zone.	The Southern peninsulas, — Arabia, India, Farther India, and part of China.	Tropical.	Rice, cotton, sugar-cane, and tropical fruits; the poppy (opium) and spices; the palm and bamboo.
Central Zone..	1. The vast plateau region, including most of China. 2. Turkestan. 3. Afghanistan. 4. Persia. 5. Turkey.	Marked by the four seasons with regular changes from one to the other.	Tea, wheat, oats, barley, rye, and the fruits of the temperate zone. Forest trees: oak, pine, etc.
Northern Zone.	1. The greater part of Siberia. 2. Kamchatka.	Marked by long cold winters and short	Only scanty vegetation.

Russia, France, Sweden, and Belgium.
Belgium, and France.
veden and Norway, Germany, and Austria.
ain, Sweden and Norway, Denmark, Holland, and Italy.
rmany, France, Italy, Belgium, and Holland.
ain, France, Holland, Denmark, and Italy.
Portugal, France (south), Italy, and Turkey (south). — *Wine and Oil Countries.*
orth), Great Britain, Holland, , Denmark, Switzerland, Ger- Austria, Russia (south), and Tur- rth). — *Grain and Grazing Countries.*

an arrangement of the chief European ; industries, agricultural, manufacturing,

, Germany, Austria, Italy, Spain, Holland, Belgium.
Britain, France, Belgium, and Switzerland.
Britain, France, Russia, Holland, and Germany.

LATIONS.

sends mainly the great staples, cotton, r with pork and bacon, gold and silver. tries we receive a great variety of natu- ticles. The following table shows our

ods, hardware, and various articles of use.
es, ribbons, wines and brandies, and various

Holland.....Linen, cheese, gin, and herrings.
Belgium.....Lace, thread, carpets, and glass.
Switzerland...Watches, cheese, and wood carvings.
Spain.....Olive oil, sherry wine, oranges, figs, raisins, and cork.
Portugal.....Port wine, lemons, and cork.
Italy.....Olive-oil, lemons, marble, cameos, rags, and coral.
Greece.....Currants, figs, and olive-oil.
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All the other nations are classed politically as Minor Powers. The petty republics of Andorra and San Marino are of no political importance.

Population.	Capitals.	Largest City and Population.	Form of Government, etc.
35,250,000	London.	London (4,765,000).	Constitutional monarchy; legislature called Parliament, — House of Lords, and House of Commons.
37,500,000	Paris.	Paris (2,225,000).	Republic, under a president; legislature called Corps Legislatif, — a Senate and Chamber of Deputies.
45,200,000	Berlin.	Berlin (1,125,000).	Constitutional monarchy, under an emperor; legislature called the Reichstag.
39,000,000	Vienna.	Vienna (1,105,000).	Constitutional monarchy, under an emperor.
75,000,000	St. Petersburg.	St. Petersburg (900,000).	Absolute monarchy, under an emperor called the Czar.
6,500,000	Stockholm.	Stockholm (175,000).	Constitutional monarchy; legislature called the Diet; in Norway the Storthing.
4,000,000	The Hague.	Amsterdam (325,000).	Constitutional monarchy; legislature called the States-General.
5,350,000	Brussels.	Brussels (400,000).	Constitutional monarchy, legislature of two Chambers.
2,000,000	Copenhagen.	Copenhagen (235,000).	Constitutional monarchy, with provincial legislatures.
2,850,000	Berne.	Zurich (76,000).	Republic, under a president; legislature consisting of a Senate and a National Council.
16,250,000	Madrid.	Madrid (398,000).	Monarchy; legislature called the Cortes.
4,500,000	Lisbon.	Lisbon (223,000).	Constitutional monarchy; legislature called the Cortes.

Situation and Extent. — 1. Be 2. Between what two meridians? *An* 180° east longitude (Greenwich). 3. V the east? 5. What ocean on the soutl 7. How much of Europe lies to the no

Outline. — 1. What is the characte four great inbreakings of the ocean 3. What large peninsula west of Beri Okhotsk' Sea? 5. What group of 6. Where is the peninsula of Co-re'a great peninsulas in the south of A India? 9. Where is the Arabian Se

Mountains. — 1. Which part of A tains between India and Thibet? 3. Mountains; — the Altai chain. 4. What is the name of the eastern continuation of the Altai chain? 5. What ranges partly traverse the desert of Gobi? 6. What mountains in the peninsula of India? 7. What two ranges form partial boundaries between Asia and Europe? 8. Where is Mt. Ararat? — Mt. Everest?

Lakes. — 1. What great lake, called a sea, north of Persia? 2. Describe Aral Sea. 3. Where is Lake Balkhash? 4. What large lake in Siberia?

Rivers. — 1. What three large rivers flow into the Aretic Ocean? 2. Describe the course of the Amoor River. 3. What are the two principal rivers of China? 4. What are the rivers of Indo-China? 5. Where does the Ganges rise? 6. What city in the Delta of the Ganges? 5. On which coast is Bombay? 6. What city in Ceylon?

1. What two countries between India and Persia? 2. Where is Kelat? — Cabool? 3. What country north of Afghanistan'? 4. Name two cities in this country.

1. Bound Persia. 2. Where is its capital? 3. Bound Arabia? 4. What two countries in the southern part of Arabia? 5. Where is Mecca? — Mocha? — Muscat?

1. Name the prineipal countries within the boundaries of Turkey in Asia. 2. What city on the lower course of the Euphrates? 3. What ancient city in Syria? 4. Name a seaport on the Black Sea. 5. Where is Smyrna?


ASIA
SCALE OF MILES
100
500
1000
10 Latitude = 1 Inch
ATLANTIC OCEAN
ARCTIC OCEAN
NORTH SEA
GREENLAND
IRELAND
ENGLAND
NORWAY
SWEDEN
FRANCE
BALTIC SEA
AUSTRO-HUNGARIAN MONARCHY
RUSSIA
RUSSIAN EMPIRE
SIBERIA
NOVA ZEMBLA
KARA SEA
BLACK SEA
CASPIAN SEA
TURKEY
CYPRUS
Beyrout
Jerusalem
ARABIA
Medina
Mecca
Wahabites
Dahna Desert
HADRAMAUT
YEMEN
RED SEA
EGYPT
AFRICA
Aden
GULF OF ADEN
Strait of Bab el Mandeb
SOCOTRA I.
C. Guardafui
MUSCAT
Gulf of Oman
PERSIAN GULF
Strait of Ormus
TROPIC OF CANCER
PERSIA
Tabreez
TEHERAN
Bushire
Meshed
Herat
AFGHANISTAN
Kandahar
BELOOCHISTAN
KELAT
TURKESTAN
KHIVA
BOKHARA
Tashkend
KHOKAND
EASTERN TURKESTAN
THIBET
PLATEAU
LASSA
HIMALAYA MTS.
HINDOSTAN
Delhi
Benares
Patna
CALCUTTA
Bombay
Hyderabad
Madras
Pondicherry
GOA
MALABAR COAST
LACCADIVE IS.
MALDIVE IS.
CEYLON
Kandy
Colombo
Point de Galle
C. Comorin
Palk Strait
G. of Cutch
G. of Cambay
ARABIAN SEA
BAY OF BENGAL
ANDAMAN IS.
Pt. Blair
Gulf of Martaban
BURMAH
MANDALAY
ASSAM
SIAM
BANGKOK
ANAM
HUE
Saigon
C. Cambodia
GULF OF SIAM
MALAY PEN.
PENANG
Malacca
Singapore
Cape Romania
Acheen Head
SUMATRA
JAVA
JAVA SEA
Batavia
SUNDA ISLANDS
BORNEO
CELEBES
CELEBES SEA
Banda Sea
Flores Sea
TIMOR
AUSTRALIA
PHILIPPINE ISLES
LUZON
MINDANAO
SULU SEA
SOUTH CHINA SEA
Hong Kong (To Gr. Brit.)
Canton
Foochow
FORMOSA
Shanghai
PEKING
Tien-tsin
CHINESE EMPIRE
MONGOLIA
Desert of Gobi
MANCHURIA
COREA
YUNNAN
YELLOW SEA
EAST CHINA SEA
JAPAN
JAPAN SEA
Yokohama
NIPHON
KIUSHIU
SHIKOKU
OKHOTSK SEA
SAGHALIEN
KURILE ISLANDS
KAMCHATKA
C. Lopatka
BERING SEA
ALEUTIAN ISLANDS
Bering Strait
ST. LAWRENCE I.
ST. MATTHEW I.
NORTH AMERICA
ALASKA
NEW SIBERIA ISLANDS
C. North East
ARCTIC CIRCLE
Tomsk
Omsk
Barnaul
Tobolsk
Irkutsk
Lena R.
Obi R.
Yenisei R.
Amoor R.
INDIAN OCEAN
MALABAR CURRENT
EQUATOR
EQUATORIAL CURRENT
PACIFIC OCEAN
Longitude in Space
from Washington
Longitude in Time
Noon on the Meridian
of Washington
P.M.
and
MIDNIGHT
Local Time
A.M.
North Latitude
Longitude West
from Washington
Space Longitude from the Meridian of Greenwich
Time Longitude from the Meridian of Greenwich
Midnight
East
West
Local Time
12 LENGTH OF LONGEST DAY 13

CHINESE EMPIRE.

1. Situation and Extent. — The Chinese Empire occupies the middle-eastern part of Asia, — an area larger than the whole of Europe. It has a population of over 400 millions, or about one third of the inhabitants of the globe.

2. Divisions. — This immense territory includes two parts: (1) China Proper, which, though constituting only about one third of the area, contains nearly all the population of the empire; (2) the subject countries, comprising Chinese Tartary, Thibet, and Corea.

3. Inhabitants. — The inhabitants of the Chinese Empire all belong to the Mongolian race, though they present considerable difference of appearance in the several parts of the empire.

THE GREAT WALL OF CHINA.

Customs. — The Chinese have many peculiar manners and customs. Their written language is the same all over the empire, but they speak a variety of dialects, and the people of one province cannot understand those of another. The men shave a part of the head instead of the face, and wear their hair in a long *queue*, or pig-tail. They take off their shoes instead of their hats when they enter a house. They eat with two small sticks instead of with knives and forks. In a Chinese book you begin at the last page and read backward to the first. In school Chinese scholars recite with their backs turned to the teacher, and they study by reading aloud at the top of their voices. They educate the boys, but not the girls. They use very little tobacco, but smoke opium and chew the betel-nut. The place of honor is on the left hand instead of the right. A Chinaman shakes his own hand instead of that of his friend.

Chinese Wall. — The Great Wall of China, the most gigantic work of defense ever erected by man, was built before the Christian era, and was intended as a bulwark against the invasions of the Tartars. It has a length of about 1,500 miles, and a height of from 15 to 30 feet.

I. CHINA PROPER.

4. Physical Features. — China Proper presents a very varied surface, but, generally speaking, it consists of the broad plains or basins of the Hoang-ho (*Yellow River*) and the Yang-tse-Kiang (*Son of the Ocean*) rivers, together with an extensive highland and mountainous region in the south and west.

5. Resources. — The fertile soil of the alluvial plains, the valuable mines of iron, copper, and coal, and the facilities for communication afforded by the great navigable rivers, form the principal natural advantages of this country.

6. The leading industries are (1) agriculture, comprising the production of rice and millet for food, and of tea and silk for domestic use and export; (2) manufactures, which are mainly confined to silks, shawls, porcelain, and carved ivory.

Tea. — The tea-plant is an evergreen shrub growing five or six feet high; the leaves are gathered and dried in shallow pans placed over charcoal fires. Tea has been used in China as a drink from time immemorial. It was introduced into Europe about two hundred years ago, and has become a universal beverage.

Silk. — This is a great article of export. The art of rearing silk-worms and of unraveling the threads of cocoons was first practiced by the Chinese. From China the silk culture extended to Hindostan, thence to Greece, next to Italy, France, and Spain, and finally to California, completing the circuit of the land surface of the globe. Silk is a common article of dress in China for men as well as for women. Chinese silk is all woven in hand-looms.

7. Commerce. — The internal trade is immense, and is carried on by means of the great rivers and long canals; the foreign commerce is limited chiefly to exporting tea, silk, rice, nankeen, etc.

8. Civilization. — The civilization of China was already flourishing at a time when the Christian nations had no existence. With the exception of the steam-engine and the electric telegraph there is scarcely any great invention of modern times which has not been in use among the Chinese for many centuries. Still, they cannot be regarded as a progressive people, and their conceit prevents their learning new ideas. It is but recently that China has been opened to the world.

9. Cities. — PEKING (1,650,000), the capital of the empire, is in the northern part of China. It is an unpaved and undrained city, with dirty, narrow streets, and low, mean houses. The next most important places are: —

Names.	Population.	Characteristics.
Soo-Chow.	800,000	Is a beautiful interior city on the Yang-tse-Kiang; has large manufactures and extensive trade.
Canton.	1,600,000	Is the greatest commercial port of Eastern Asia, and is largely engaged in shipping tea, silk, and other products and manufactures.
Kin-te-Ching.	1,000,000	Is largely engaged in the manufacture of porcelain-ware.
Chang-Sha.	1,000,000	Is the chief center of the silk manufacture.
Amoy.	88,000	Is the port of Chang-Sha.
Foo-Chow.	630,000	Is the center of one of the tea districts.
Nankin.	150,000	Has important manufactures and extensive commerce.
Ningpo.	260,000	Is a seaport engaged in exporting Chinese products.
Shanghai.	275,000	Is the greatest mart for tea and silk.
Hong-Kong.	125,000	On a small island of the same name, belongs to Great Britain, and is the chief seat of British commerce.

II. SUBJECT COUNTRIES.

10. Chinese Tartary, consisting of Soougaria, Mongolia, and Mantchooria, occupies the great central table-land of Asia. It is thinly peopled by wandering tribes of Mongol Tartars, living under various chiefs and paying tribute to the Emperor of China.

11. Thibet occupies a lofty plateau, the greater part of which is so cold as to be almost barren. In the lower valleys are grassy steppes on which vast herds of sheep and mountain-goats are raised.

This country is the chief seat of the worship of Buddha, who is supposed to live in the person of the high-priest, called the Grand Lama. LASSA (60,000) is the capital.

12. Corea is a country of which little is known, as its inhabitants are exceedingly jealous of intercourse with strangers. Along the coast it is fertile, and a considerable trade in rice, cotton, furs, and rock-salt is carried on with Japan. Corea has its own government, but pays tribute to China.

NOTE. — The island of Formosa belongs to China. It is fertile, and yields great quantities of rice, sugar, camphor, and jute. Hainan Island also belongs to China.

THE EMPIRE OF JAPAN.

SCENE IN YEDDO.

1. The Empire of Japan consists of a group of islands situated eastward of Asia.

Resemblance to Great Britain. — The Japanese Islands have the same relation to Asia that the British Isles bear to Europe. They are in nearly the same latitude as the British Isles, have nearly the same area and population, and have a similar climate.

2. **Physical Features.** — The Japanese Islands are mountainous and contain numerous volcanoes. The mountains are covered with a luxuriant growth of forest trees, and the islands are characterized by the richness of their verdure.

3. **Industries.** — Agriculture and horticulture are skillfully carried on. Rice and tea are the chief crops.

The fisheries are very important, fish being the principal food.

Various mechanical arts are skillfully practiced.

The chief exports are tea and silk, lacquered-ware, bronzes, and wood-carvings.

4. **Civilization.** — The Japanese are the most highly civilized and the most progressive of the Mongolian race. They are now rapidly introducing railroads, telegraphs, and improved machinery of all kinds, and have established public and scientific schools under the instruction of European and American teachers.

5. **Cities.** — TOKIO (formerly called Yeddo) is the capital of the empire and the center of the inland and domestic trade of Japan. It has over a million of inhabitants. The next most important places are:—

Names.	Population.	Characteristics.
Mia'ko (or *Kioto*).	230,000	Is the literary center of Japan; it has also extensive manufactories.
Osa'ka.	200,000	Is a seaport and commercial center; it is open to foreign trade.
Kagesi'ma.	150,000	Are important seaports in the island of Kiusiu, the most southerly of the Japan Islands.
Nagasa'ki.	47,000	
Yokoha'ma.	67,000	A city of recent growth, is the port of Yeddo, and the chief seat of trade with the Japanese capital; it is the principal residence of the foreign merchants.

Historical. — Japan, like China, kept itself aloof for ages from other nations. Some trade was allowed with China and with the Dutch in one port, but the government studiously kept the common people from any intercourse with foreigners. In 1854 the United States sent a large naval expedition, under command of Commodore Perry, who induced the Japanese government to make a treaty by which the ports of Simoda and Hakodadi were opened for trade, and by which United States consuls were allowed to reside in Japan. A little later similar privileges were allowed to England, France, and Russia.

INDO-CHINA.

1. **Situation.** — Indo-China, the Eastern Peninsula of Southern Asia, extends from the Bay of Bengal to the China Sea.

2. **The Countries.** — Within this region are comprehended three distinct countries, — the empire of Burmah, the kingdom of Siam, and the empire of Anam'. The population of the first is about three millions, of the second about five millions, and of the third about thirteen millions. In race and religion the people are closely related to the Chinese.

NOTE. — In addition to these countries are British Burmah; Lower Cochin China, a dependency of France; and Cambodia, a small native kingdom under French protection. Yunan, which was formerly a province of China, is now independent.

3. **Climate and Productions.** — The climate is hot, moist, and often unhealthy in the low grounds. The vegetable productions are of great luxuriance and the highest value.

4. **The industry** is chiefly agricultural. Rice, sugar, the mulberry-tree, cotton, indigo, and tobacco are largely grown: rice is the principal article of food. These countries are rich in gold, tin, copper, lead, and zinc; mining is carried on to a considerable extent.

5. **Commerce.** — The principal exports are rice, tobacco, sugar, and spices.

French Possessions. — The southern part of Cochin China, including the town and province of Saigon [*si-gon'*], with the mouths of the great river Mekong, belongs to France, and considerable progress has been made by the French in developing the resources of this region.

6. **Cities.** — The principal cities of Indo-China are: —

Names.	Population.	Characteristics.
Bankok.	500,000	Is the capital of Siam, and the largest city of Indo-China.
Saigon.	100,000	Is the chief seat of French power in Indo-China.
Manda'lay.	90,000	Is the capital of Burmah.
Hué.	50,000	Is the capital of Anam.

BRITISH ASIA.

1. **Divisions.** — The British possessions in Asia include British India, the island of Ceylon, British Burmah, and the "Straits Settlements."

Native States. — The parts of India that are not under British rule comprise various native states. These belong to two classes: The Independent States, now reduced to three, namely Cashmere, Nepal', and Bootan'; and a considerable number of "Protected States," which are under various forms of native sovereignty, the ruler bearing in most cases the title of Rajah.

I. BRITISH INDIA.

2. **Situation.** — India occupies the great central peninsula of tropical Asia and the region northward to the Himalaya Mountains, comprising an area nearly half as large as that of the United States.

3. **Inhabitants.** — It is inhabited by nearly two hundred millions of people, most of whom are Hindoos. About half of this region, comprising three fourths of the population, is under British rule.

4. Physical Features. — In the north is the great mountain barrier of the Himalaya Mountains; their highest elevation is Mount Everest, the loftiest summit on the globe. To the south of these are the extensive plains of the Ganges and the Indus; still farther south is the table-land of the Deccan, bounded on the eastern and the western sides by the Ghauts.

The climate of India, except in the elevated Himalaya regions, is strictly tropical, with two seasons, the wet and the dry.

5. Resources. — The principal natural advantages of this region are: (1) its moist tropical climate and the fertile soil of its great river-basins, which admirably adapt it to the growth of the most valuable vegetable productions; (2) its vast forests of teak, cocoa, bamboo, banyan, and various palms; and (3) its extensive deposits of coal and iron, which are of far greater value than the gold and gems for which India is traditionally celebrated.

MOUNT EVEREST, IN THE HIMALAYAS.

6. The leading industry is agriculture. The great staples are rice, which is the principal article of food, and cotton, jute, silk, opium, and indigo, which are raised for export.

Cotton. — In cotton-raising India ranks next to the United States.

Jute. — This is a fibrous plant, like hemp and flax; it is used in making gunny-bags, and is also mixed with silk to make cheap satins.

Silk. — Large quantities of raw silk are sent to England to be spun and woven.

Opium. — Vast quantities of this article are exported to China, where opium-smoking is the besetting vice of the people.

Indigo. — Most of the indigo of commerce is exported from India.

7. Manufactures. — Fine silk and cotton fabrics, with shawls and various articles of ornamental attire, constitute the chief products of Indian manufacturing skill.

8. Commerce. — The import of manufactured goods (principally from England) and the export of raw produce — chiefly cotton, opium, indigo, and rice — are the distinguishing features of Indian commerce.

The recent introduction of railroads has greatly aided in developing the inland trade.

9. Cities. — The chief cities of British India are: —

Names.	Population.	Characteristics.
Bombay'.	775,000	Is a great commercial city, and the chief seaport for the French and the English lines of steamers, by way of the Suez Canal.
Calcutta.	683,000	Ranks commercially as the chief city of India; it has extensive manufactures, and is the residence of the British governor-general.
Madras'.	406,000	Is the chief city on the southeast coast.
Lucknow.	260,000	Is the capital of the province of Oude; has large river trade.
Patna.	170,000	On the Ganges; has an extensive trade in opium, rice, etc.
Del'hi.	173,000	Is the ancient capital of India.
Bena'res.	200,000	Is the sacred city of the Brahmins, and the old Hindoo capital.

Population — The Hindoos, though of a brown complexion, belong to the Caucasian race. The common people are poor, ignorant, and superstitious. Only the wealthier classes are educated, and women are not educated at all. The British maintain their power by a standing army made up mostly of natives, or Sepoys, commanded by English officers. Brahminism is the prevailing religion, but there are many Buddhists and some Mohammedans and Parsees. The sacred books of the Brahminic religion, called the Vedas, were written at least 2,500 years before the Christian era.

II. CEYLON.

10. Description. — This large and productive island is governed apart from India as a British colony. It has upwards of two million inhabitants. The most characteristic productions are the cinnamon-plant and the cocoa-palm. Coffee is largely grown.

11. Cities. — Colom'bo (100,000) is the capital and chief commercial emporium of Ceylon. Point de Galle is the principal seaport.

III. BRITISH BURMAH.

12. Description. — British Burmah, the name given the British possessions in the Eastern Peninsula, comprises the provinces of Aracan', Pegu', and Tenas'serim. It is under the administration of the general government of India.

13. Products. — In physical features and productions this country resembles British India.

14. Rangoon, on the Irawaddy, is the largest and most commercial city of British Burmah.

IV. THE STRAITS SETTLEMENTS.

15. Description. — The Straits Settlements comprise the three distinct territories of Penang' Island, Malacca, and Singapore', and form a separate British colony.

The possession of these three stations gives Britain the complete command of the passage to China by the Strait of Malacca.

16. The chief exports are cloves, mace, sago, and gutta-percha.

17. Singapore, on the island of that name, is a flourishing seat of trade, — one of the great marts of East Asiatic commerce.

ASIATIC RUSSIA.

1. Divisions. — The Russian possessions in Asia comprise the extensive country of Siberia, with Trans-Caucasia, and Soongaria.

I. SIBERIA.

2. Physical Features. — This immense country, larger in area than Europe, occupies the whole of the great northern plain of Asia. It consists almost entirely of steppes and marshes, across which the Obi, Yenesei [*yen-e-say'e*], and Lena rivers wind their

sluggish way to the Arctic Ocean. The climate is very cold, except in the southern part, and winter reigns more than half the year.

3. Resources. — Except in the valleys of the Upper Yenesei and Lena and the Lower Amoor, the soil of Siberia does not admit of cultivation. This region, however, has numerous animals whose furs are valuable, as the seal and the ermine; its waters abound in fish; and the rich mines yield gold, silver, copper, platina, and iron. There is a large overland tea-trade with China.

4. People. — Of the population of about three millions three fourths consist of Mongolian tribes, savage and degraded, while Russian exiles and their descendants, together with Russian troops and officials, constitute the remainder.

5. Cities. — TOBOLSK', TOMSK, and IRKUTSK are the chief places. KIACHTA [*ke-ak'ta*] is the center of trade with China.

II. TRANS-CAUCASIA.

6. Description. — Trans-Caucasia is the name given to that part of the Russian Empire which lies south of the main ridge of the Caucasus range, — the dividing line between Asia and Europe. It is a mountain region. The Caucasus Mountain chain rises above the snow-line, and Elburz' is its highest summit. In the southern part, on the border of Persia and Turkey, is Mount Ararat, over 17,000 feet high.

7. Productions. — Agriculture is the chief branch of industry; the principal productions are the vine, the mulberry, and the cotton-plant.

8. Population. — The inhabitants (numbering about three millions) comprise people of various races, — Georgians, Circassians, Armenians, etc. The majority belong to the Christian Church.

TIFLIS [*tif-lees'*] is the chief city.

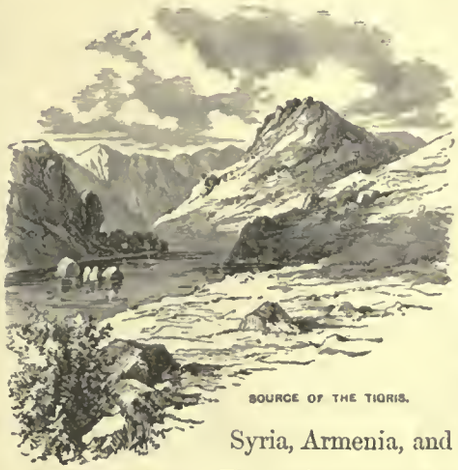
III. RUSSIAN TURKESTAN.

9. Russian Turkestan includes all the more recent additions to the rapidly growing dominion of Russia in Asia.

This region lying between the Caspian Sea and the Chinese Empire, is politically and commercially important as commanding the grand route of the caravan-trade between China and Western Asia.

MOUNT ARARAT.

TURKEY IN ASIA.



SOURCE OF THE TIGRIS.

1. Situation. — Asiatic Turkey comprises the western part of Asia, and includes the seat of many ancient nations, among which are Phœnicia, the Holy Land, the States of Asia Minor, Assyria, Babylonia, and Chaldea.

2. Divisions. — Under modern Turkish rule, this region is divided into four provinces: Asia Minor, Syria, Armenia, and Mesopotamia (Al Jezi'reh).

3. Population. — The various races are separated from one another by language and religion. The majority are Mohammedans, — mainly Turks in Asia Minor, and Arabs in the provinces to the south; the Christians are mostly Greeks and Armenians.

4. Industries. — Though the soil is highly productive, agriculture is little practiced, except near large towns, owing to the country's being infested with bands of robbers.

Wandering tribes, possessing large flocks and herds, inhabit the central table-land of the Syrian desert.

The manufactures of silk, cotton, and leather are of considerable importance, but, generally speaking, there is a great stagnation of industry and enterprise. The chief exports are opium, tobacco, attar-of-roses, figs, dates, silk, and leather.

5. The Political Divisions are shown in the following table: —

Provinces.	Cities.	Characteristics.
Asia Minor.	Smyrna (150,000). Brusa (60,000).	Asia Minor is a mountain peninsula, with fertile valleys.
Syria.	Damascus (150,000). Bey'rout (70,000). Jerusalem (28,000).	Syria includes Palestine, or the Holy Land, and Phœnicia.
Armenia.	Erzeroum' (60,000).	Armenia, a pastoral country, consists chiefly of elevated table-lands and mountains.
Al Jezireh.	Basra (50,000). Mosul (40,000). Bagdad (40,000).	Mesopotamia (Al Jezireh) was the seat of the Assyrian and Babylonian empires; but much of the country is now a desert.

MINOR ASIATIC COUNTRIES.

I. TURKESTAN.

1. Description. — Turkestan is an extensive country containing vast sandy wastes, and inhabited by a few millions of Tartar Mongols, who are either wandering tribes or divided into petty states, called *khanats*.

2. Divisions. — The three most important of the khanats are: Bokhara, whose capital city, BOKHA'RA, is, from its caravan-trade, one of the most important points of Central Asia; Khiva, capital KHIVA; and Kokand', with KOKAND as its chief trading-point. The different khanats of this region are under Russian control and constitute a part of Russian Turkestan.

II. KASHGARIA.

3. Kashgaria, or Eastern Turkestan, formerly an independent government, is now a province of China.

It contains much fertile land, and the grain and fruits of the temperate zone are easily raised.

Yarkand′ and Kashgar′ are the chief commercial centers.

III. AFGHANISTAN′ AND BELOOCHISTAN′.

4. Description. — Both these countries occupy a high plateau, traversed by mountain-ridges. The fertile parts comprise several khanats, inhabited by a settled population; but the majority of the people consists of fierce, wandering, and warlike tribes, who depend for subsistence mainly on their herds of horses, goats, asses, and camels.

5. Cities. — HERAT′, on the caravan route from Persia to India, is a large city of Afghanistan, CABOOL′ is the capital. KELAT is the capital of Beloochistan.

IV. PERSIA.

6. Physical Features. — The greater part of Persia is a plateau, marked by sandy and salt deserts; but along the Persian Gulf and the Caspian Sea is a lowland region.

7. Industries. — Of its population of five millions, about one third are wandering shepherds; the remainder are a tolerably civilized people, who are engaged in agriculture and manufactures.

The chief exports are silks, shawls, carpets, pearls, rose-water, and assafœtida.

8. Civilization. — Considerable progress has recently been made in civilization in Persia: railroads and telegraphs have been introduced, and efforts to promote education have been made.

The government is a monarchy, under a ruler called the Shah, and is less despotic in its administration than the other Asiatic governments.

9. Cities. — TEHERAN′ (200,000) is the capital. TABREEZ (120,000) is the commercial center. BUSHIRE [*boo-sheer′*] is the chief seaport.

AN ARAB SHEIKH.

V. ARABIA.

10. Physical Features. — The peninsula of Arabia is mostly a desert plateau, hemmed in from the seas by mountain-ranges all along its sea-front. The only fertile parts of Arabia are in the small oases and in the valleys of the hilly region lying between the sandy coast-belt and the dry plateau of the interior.

11. Government. — Arabia has no central government. It is divided into the pasture-ranges of numerous Bedouin tribes, each of which has its own petty *sheikh*, or chief.

A strip along the coast of the Red Sea, including Mecca and Medina, belongs to Turkey. In the southern part are two organized native states, called Oman and Yemen.

12. Industries. — The industry of the Arabs is pastoral and commercial. The traffic which passes through the country is considerable, and is carried on by means of caravans, — that is, companies of persons who associate together for mutual protection in crossing the wilderness, consisting of merchants, guides, soldiers, and pilgrims. The camel is uniformly employed as a beast of burden.

13. Cities. — MUSCAT is the capital of Oman, SANA is the capital of Yem′en, and MO′CHA, famous for its coffee, is its chief seaport.

NOTE. — The Arabs are devout believers in the Mohammedan religion. The founder of this widespread religion was Mohammed, the great religious teacher of the Arabs, who lived in the sixth century, and wrote his doctrines in the *Koran*, the sacred book of his followers. He was born at Mecca, and all "true believers" are enjoined to visit the place at least once in their lives. Caravans of pilgrims from all parts of Arabia, from Eastern Asia, and from Northern Africa resort each year to Mecca for the purpose of combining trade with religion.

THE INDIAN ARCHIPELAGO.

1. Situation.—Malaysia, or the East Indian Archipelago, includes all those islands which lie between Southeastern Asia and Australia. They are situated entirely within the tropics.

2. Islands and Groups. — These islands are grouped as follows: —

1. **The Sunda Islands,** comprising the southernmost *string* of islands, and including Sumatra, Java, Timor, and the adjacent isles eastward to the Arroo Islands.

2. **The Philippine Islands,** comprising the group in the northern part of the Archipelago, and including Luzon and Mindanao as the largest islands.

3. **Borneo, Celebes,** and the **Moluccas** are the three principal islands in a group between the Philippines and the Sunda Islands.

3. Physical Features.—These islands are all mountainous, abounding in active and extinct volcanoes, and are subject to frequent earthquakes. Great heat and moisture, the former tempered by the sea-breezes, are the characteristics of the climate, and consequently the vegetation is varied and luxuriant.

4. Divisions. — The Dutch claim the sovereignty over the greater portion of the Archipelago; the whole of the Moluccas, Java, and Sumba′wa, with parts of Sumatra, Celebes, Borneo, and Timor, are in their possession. The Philippines belong to Spain, and a part of Timor to the Portuguese. The tribes occupying the interior of Borneo, Sumatra, and other of the large islands are independent.

5. Plants and Animals. — The forest trees yield a variety of valuable woods, such as ebony, teak, sandalwood, etc., and of useful gums, of which india-rubber and gutta-percha are the most important. Among food-plants are the cocoa and sago palms, and the banana, arum, yam, and mango. Among the wild animals are the elephant, tiger, rhinoceros, buffalo, orang-outang, monkeys, and birds of gorgeous plumage.

6. Exports. — Java exports great quantities of coffee and rice; the Moluccas supply the world with nutmegs, cloves, and other spices; Sumatra furnishes india-rubber and gutta-percha; and the Philippines produce sugar, hemp, and tobacco. Diamonds are found in Borneo, and gold, tin, and copper are widely distributed.

7. People. — Numerous savage tribes, of whom little is known, occupy the interior of these islands, but Malays dwell in the towns and villages near the coast. The latter are of a brown color, with lank hair; they wear little clothing, live chiefly on rice, fruits, and fish, and dwell in bamboo houses, perched on pillars to raise them above the water. All classes smoke tobacco and chew the betel-

nut. They delight in the water, their canoes and boats being to them what the camel is to the Arab or the dog to the Esquimaux. Many obtain a livelihood by piracy.

Historical. — Early in the 17th century (1602) the Dutch East India Company was organized for the purpose of monopolizing the trade of the East India Islands. This company soon grew rich and powerful out of their enormous profits. The Dutch fitted out fleets of armed merchantmen that defied the Malay pirates, and contended successfully with the navy of Spain. The prosperity of Holland reached its highest point, and Amsterdam, Antwerp, the Hague, and other ports were thronged with the ships of all nations. The Dutch supplied the world with spices, cloves, nutmegs, camphor, sugar, coffee, rice, indigo, cotton, dyes, drugs, and cabinet woods. Other European nations also engaged in profitable traffic with this bountiful region of the earth, which to this day is a great center of interest in the commerce of all nations.

IMPORTANT ISLANDS.

1. **Sumatra,** which is one thousand miles long and two hundred miles broad, contains a number of independent native states. The greater portion of the coast region belongs to the Dutch. The Malay inhabitants are divided into numerous tribes that speak different dialects of one common tongue.

2. **Java** is the most populous and important island of the Archipelago, and is the chief seat of Dutch power in the East. It is celebrated for its immense production of coffee. BATAVIA (100,000), the capital, is the largest city in the Archipelago.

NOTE. — No island exceeds Java in the abundance and variety of its eatable fruits and vegetables. It has one hundred varieties of rice, and flowers, shrubs, and ornamental trees without number. Java is noted for the upas-tree which yields a deadly poison, for its huge, poisonous nettles, for its numerous tree-ferns, and for its singular *rafflesias*. The rafflesia is a parasitical plant, consisting of nothing but a flower, the bud of which is as large as a cabbage, and the full-blown red flower three feet in diameter. This magnificent flower has the smell of carrion.

3. **Borneo,** the largest island of the Indian Archipelago, ranks in size next to Australia, Greenland, and New Guinea. Both the Dutch and English have settlements on the coast. This island is covered with dense forests. Among the vegetable products are the *mangosteen* and the *durian*, the latter being one of the most delicious of fruits. Gutta-percha is one of the principal gum-products. The island is also rich in gold, antimony, and diamonds.

4. **Celebes** is composed of four peninsulas grouped around a small center, and in shape bears some resemblance to a star-fish. It is eight hundred miles from north to south, and has as great an extent of sea-coast as the United States. It has elevated, grassy table-lands, on which herds of wild horses and buffaloes are found grazing, as in America. Cacao and coffee are grown on this island, and sago is the chief article of food. The Dutch possess the settlement of Macassar.

NOTE. — Of the native peoples the most important are the *Bugis*. They are the most enterprising navigators of the Archipelago. Their chief center is near Lake Labaya, around which are hundreds of villages, and whose waters are covered with sailing-craft which descend the river into the open sea.

5. **The Philippine Islands** are the most northerly group of the Indian Archipelago, and are largely under the control of Spain. They comprise a vast number of small islands, all of which are specially adapted to the growth of sugar, tobacco, and hemp. Taken together they have an area about three times as great as the State of Pennsylvania, with a population of about four millions.

MANILA (130,000) is the capital of the Spanish possessions, and is a great seat of trade.

6. **The Molucca Group,** or Spice Islands, comprise a great number of small islands, which together have an area somewhat larger than the State of Maine. They are famous for the production of cloves, nutmegs, and other spices. Most of these islands are subject to Dutch rule, and AMBOYNA is the chief station of the Dutch commerce.

TOPICAL REVIEW OF ASIA.

Countries.	Population.	Name of Capital.	Name of Largest City.	Population of Largest City.	Form of Government, etc.
Empire of China.	380,000,000	Peking.	Peking.	1,650,000	Absolute monarchy under an emperor.
Empire of Japan.	35,000,000	Tokio.	Tokio.	1,140,000	Absolute monarchy. Emperor called the *Mikado*.
Indo-China. Kingdom of Anam.	20,000,000	Hué.	Hué.	50,000	Absolute monarchy.
Indo-China. Kingdom of Siam.	5,000,000	Bangkok.	Bangkok.	500,000	" "
Indo-China. Empire of Burmah.	4,000,000	Mandalay.	Mandalay.	90,000	" "
British India.	255,000,000	Calcutta.	Bombay.	775,000	Colonial dependency of Great Britain. Viceroy called the Governor-General.
Asiatic Russia. Siberia.	4,000,000	Irkutsk and Tobolsk.	Irkutsk	35,000	Russian possession.
Asiatic Russia. Trans-Caucasia.	5,750,000	Tiflis.	Tiflis.	105,000	" "
Asiatic Russia. Russian Turkestan.	5,000,000	Tashkend.	Tashkend.	100,000	" "
Khanat of Bokhara.	.....	Bokhara.	Bokhara.	65,000	These regions constitute a part of Russian Turkestan.
Khanat of Khiva.	.....	Khiva.	Khiva.	4,000	
Khanat of Kokand.	.....	Kokand.	Kokand.	4,000	
Asiatic Turkey.	16,000,000	Constantinople.	Damascus.	150,000	Absolute monarchy. Emperor called the *Sultan*.
Afghanistan.	4,000,000	Herat.	Cabool.	60,000	Various independent khanats.
Beloochistan.	350,000	Kelat.	Kelat.	15,000	" " "
Persia.	7,650,000	Teheran.	Teheran.	200,000	Monarchy. Ruler called the *Shah*.
Oman.	3,700,000	Muscat.	Muscat.	40,000	Despotism.
Yemen.	2,000,000	Sana.	Mocha.	10,000	"
East India Archipelago.	35,000,000	.....	Manila.	130,000	Native governments, and European possessions.


NORTHERN AFRICA
5 Latitude = 1 Inch
MEDITERRANEAN SEA
ASIA MINOR
SPAIN
ALGIERS
TUNIS
TRIPOLI
BARCA
LIBYAN DESERT
Alexandria
CAIRO
MOROCCO
ATLANTIC OCEAN
SAHARA OR THE GREAT DESERT
SOUDAN
CONGO STATE
ARABIA
ZANZIBAR
MOZAMBIQUE CHANNEL
GULF OF GUINEA
EQUATOR
TROPIC OF CANCER
TROPIC OF CAPRICORN
SOUTH ATLANTIC CURRENT
AGULHAS CURRENT
Cape of Good Hope
CAPE TOWN
SOUTHERN AFRICA
ORANGE FREE STATE
SOUTH AFRICAN REPUBLIC
CAPE COLONY
AFRICA
AND THE ADJACENT ISLANDS
SCALE OF MILES
100 500 1000
10° Latitude = 1 Inch

AFRICA.

PHYSICAL MAP OF AFRICA.

VIEW OF THE NILE AND THE PYRAMIDS.

The Nile valley is from two to ten miles wide; the delta is about ninety miles in its greatest extent from south to north, and about eighty miles in breadth along the Mediterranean coast. Owing to the annual inundation of the Nile, this is one of the most fertile regions on the globe.

NOTE. — The inundations of the Nile, which are occasioned by the periodical rains in the Abyssinian Mountains, begin about the middle of June, attain their greatest height in September, and subside about the end of October. Before its subsidence, the muddy river-water deposits a fertilizing sediment, half an inch thick, over all the land, and thus annually renews the productiveness of the soil.

4. **Agriculture** is the principal occupation: wheat, barley, maize, rice, and cotton form the chief crops; tobacco, sugar, and indigo are also produced to a considerable extent.

5. **The commerce** is considerable, for, in addition to the products of the country, large quantities of gold-dust, ivory, and ostrich-feathers are brought by caravan from the interior of Africa. The Suez ship-canal was completed in 1869, and has proved of great commercial importance.

NOTE. — By the Suez Canal the Atlantic and Indian oceans are connected. The total length of the canal, from Port Said, the Mediterranean terminus, to Suez, on the Red Sea, is about one hundred miles. Steamships between French and English ports and Bombay pass through this canal.

6. **Population, etc.** — The population (about 5,000,000) is a great mixture of races, — Copts, Arabs, Turks, Greeks, etc.

7. **Cities.** — CAIRO (350,000), the capital, is a great center of trade and manufactures. ALEXANDRIA (175,000) is the chief seaport.

Historical. — Egypt is a country of vast antiquity, and the Egyptians are the oldest nation of which we have a recorded history. They were a highly civilized people at the time of Abraham, 2,200 years before Christ. The ancient kingdom of Egypt was overthrown by Alexander, and it remained under Greek rulers till it was subdued by the Romans. In the 7th century A. D. it fell under the dominion of the Saracens. The whole course of the Nile is dotted with remains of ancient monuments and works of art, such as pyramids, temples, obelisks, palaces, tombs, etc. The interiors of the tombs are frescoed in the most beautiful manner, and all the monuments are covered with picture-writing called *hieroglyphics*.

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people, numbering
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3. **Industries.** — T
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4. **Places.** — GON'
leading state.

MAS'SUAH, on th
belongs to Egypt.

TE

1. **Divisions.** — T
ranean countries of
Algeria, Tunis, and

Morocco and **Tunis**
Algeria is a colonial
Tripoli is a tributary

2. **Physical Fea**
through Morocco,
to the Mediterranea
east to the Great
that of Spain and

PHYSICAL GEOGRAPHY.

☞ **To draw the Map of Africa, see section on Map-Drawing, page 132.**

1. **Description.** — Africa, surrounded on all sides by the ocean, except where it is united to Asia by the Isthmus of Suez, is *naturally* a great southern peninsula of the Eastern Continent; but the art of man, by cutting a canal across the Isthmus of Suez, has rendered it an island-continent.

2. **Position.** — Africa is mainly in the equatorial region; it occupies the entire width of the Torrid Zone, — its northern section extending into the North Temperate Zone and its southern section into the South Temperate Zone.

NOTE. — Africa extends between the parallels of 37° north and 35° south latitude.

3. **Outline.** — It has few projections of land or inbreakings of the sea, and is the most regular of all the grand divisions. Its figure resembles that of an irregular triangle.

4. **In size** it ranks next to Asia: its area is three times as great as that of Europe.

5. **General Surface.** — The surface consists chiefly of a great plateau, with two mountain regions, the one in the northern, the other in the southern section. In the northern section the highlands extend east and west; in the southern section, north and south.

6. **The mountains** of Africa are: (1) the Atlas range, in the northwest; (2) the mountains of Abyssinia; (3) the mountains of the Great Lake Region, around the sources of the

MAP STUDIES ON AFRICA.

Situation and Outline. — 1. What sea north? — east? 2. What ocean west? — east? 3. Where is the Isthmus of Suez? 4. What part of Africa is crossed by the Equator? 5. What is the latitude of Cape Bon? — of Cape Agulhas [*a-gul'yas*]? 6. What is the most eastern cape? — the most western? 7. Where is the Cape of Good Hope? 8. What great inbreaking of the ocean on the west coast? 9. What groups of islands off the northwest coast? 10. What large island off the southeast coast? 11. Where is the island of Zanzibar?

Surface. — 1. Where are the Atlas Mountains? 2. Which coast is the more mountainous, the eastern or the western? 3. Notice on the Physical Map the great highland region of the eastern shore. 4. In what mountains do the eastern branches of the Nile take their rise? 5. Name two peaks in the range east of the great equatorial lakes. 6. What mountain-range in the region north of the Gulf of Guinea? 7. Notice on the Physical Map the Kong Mountains. 8. What mountains in South Africa? 9. Point out the Sahara, on the Physical Map.

Lakes and Rivers. — 1. What great lakes are drained by the Nile? 2. Where is Lake Tanganyika [*tan-gan-ye'ka*]? — Nyas'sa Lake? — Lake Tchad [*chad*]? 3. What branch of the Nile rises in the lake region? 4. What branches rise in the Abyssinian Mountains? 5. Through how many degrees of latitude does the Nile flow? 6. What great river flows into the Gulf of Guinea? 7. What is the chief river of Southeastern Africa? 8. Where is Orange River? — the Senegal'? — the Gambia? 9. Notice on the Physical Map the Nile, Niger, and Zambe'si rivers.

Countries and Regions. — 1. What four countries in the region of the Atlas Mountains? 2. Locate the cities of Morocco, Algiers', Tu'nis, Trip'oli. 3. What divisions occupy the Nile Valley? 4. Which is the principal seaport? 5. Where is Cairo? — Mas'suah? 6. Where is Khartoom'? — Gon'dar? 7. Where is the Oasis of Fezzan'? 8. Name a city there. 9. Name a city in the Sahara. 10. What city near Lake Tchad? 11. What countries border on the Gulf of Guinea? 12. In what country is Freetown? — Monrovia? 13. What country in Southern Africa? 14. Where is Cape Town? 15. What small countries northeast? 16. Where is the city of Zanzibar'? — Mozambique'?

Nile, in which is Kilimanjaro′ (20,000 feet high), the loftiest peak of Africa; (4) the mountains of South Africa, terminating in Table Mountain, in Cape Colony; (5) the Kong Mountains, along the Guinea coast.

7. Desert. — The great feature of African geography is the immense Sahara, or desert, in the northern part; it occupies about one fourth of the total surface.

8. Rivers. — The African rivers are few in number, though some of them are noted for their great length. The most important are the Nile, Niger, Congo, Zambesi, and Orange.

Names.	Length.	Description.	
	Miles.		
Nile.	4,000	Rises in the equatorial lake region, and flows north into the Mediterranean.	A river fam… nity; rem… flow, and f… of its lowe… tary.
Niger.	3,000	Rises in the Kong Mountains in Western Africa, and after flowing northward into an interior depression, turns southward into the Gulf of Guinea.	It drains th… great delta
Congo.	*unknown.*	Rises in Equatorial Africa, and flows westward into the Atlantic.	It discharge… ume of wa… of the Mis…
Zambesi.	1,600	Rises in the unexplored region of Africa, and flows southeast into the Indian Ocean.	Partly explo… discovered … agara of A…
Orange.	1,000	Rises in the eastern part of Southern Africa, and flows westward into the Atlantic.	Drains the … in the reg… ments, is … tance.

9. Lakes. — In the equatorial region of Afric… which in size rival, if they do not surpass, … North America. The largest of these are La… and Tanganyika; they have all become know… and no one of them is yet completely explored.

NOTE. — In 1858 Lake Tanganyika was discovered by B… officers. It is estimated to be 250 miles in length, with … miles. Victoria Lake, or Victoria Nyanza ("Nyanza" sig… in 1858, and subsequently visited by him and Captain Gra… Lake Tanganyika, with a lofty mountain-district interven… Baker discovered another great expanse of water west o… nected with it: he named it Albert Nyanza, that is, Lake …

Two other large lakes disconnected with the equatorial sys… Lake Nyassa, both discovered by the explorer Dr. Livingst… principal lake of Central Africa.

10. Climate: Heat. — Africa is the hottest of … This is due to its stretching through the entire width of the Torrid Zone, to its vast continuous extent from east to west, and to its immense desert, from the arid surface of which the heat of the sun's rays is reflected with intense power.

11. Climate: Moisture. — As regards moisture Africa comprises two regions, — the region of tropical rains and the region of scanty rains.

The region of the tropical rains nearly coincides with the Torrid Zone, extending from about 16° north to about 20° south latitude. In this region there are but two seasons, — the wet and the dry. During the former it rains in torrents for weeks together, and the country becomes flooded, owing to the overflow of the rivers; this is followed by the dry season, in which all but the largest rivers become empty channels, and vegetation is burned up by the excessive and long-continued heat.

The region of scanty rains includes the land north of 16° north latitude and south of 20° south latitude.

NOTE. — This region constitutes Egypt proper; but Egyptian rule has of late been established over an extensive region to the south, officially called *Soudan′*. It comprises Lower Nubia, Sennaar′, Dong′ola, Taka, Kordofan′, the provinces of the White Nile and Khartoom, with the region southward to the Equator.

2. The government is a monarchy; but is not quite independent, as the ruler, called the *khedive* (that is, viceroy), must pay tribute to the Sultan of Turkey.

PORT SAID, TERMINUS OF SUEZ CANAL.

I. EGYPT PROPER.

3. Physical Features. — The river Nile is the most striking physical feature in Egypt: without this beneficent stream the whole country would be a hot and arid desert. Nearly all the productive and habitable parts are comprised in its valley and delta.

The Nile valley is from two to ten miles wide; the delta is about ninety miles in its greatest extent from south to north, and about eighty miles in breadth along the Mediterranean coast. Owing to the annual inundation of the Nile, this is one of the most fertile regions on the globe.

VIEW OF THE NILE AND THE PYRAMIDS.

NOTE. — The inundations of the Nile, which are occasioned by the periodical rains in the Abyssinian Mountains, begin about the middle of June, attain their greatest height in September, and subside about the end of October. Before its subsidence, the muddy river-water deposits a fertilizing sediment, half an inch thick, over all the land, and thus annually renews the productiveness of the soil.

4. Agriculture is the principal occupation: wheat, barley, maize, rice, and cotton form the chief crops; tobacco, sugar, and indigo are also produced to a considerable extent.

5. The commerce is considerable, for, in addition to the products of the country, large quantities of gold-dust, ivory, and ostrich-feathers are brought by caravan from the interior of Africa. The Suez ship-canal was completed in 1869, and has proved of great commercial importance.

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6. Population, etc. — The population (about 5,000,000) is a great mixture of races, — Copts, Arabs, Turks, Greeks, etc.

7. Cities. — CAIRO (350,000), the capital, is a great center of trade and manufactures. ALEXANDRIA (175,000) is the chief seaport.

Historical. — Egypt is a country of vast antiquity, and the Egyptians are the oldest nation of which we have a recorded history. They were a highly civilized people at the time of Abraham, 2,200 years before Christ. The ancient kingdom of Egypt was overthrown by Alexander, and it remained under Greek rulers till it was subdued by the Romans. In the 7th century A. D. it fell under the dominion of the Saracens. The whole course of the Nile is dotted with remains of ancient monuments and works of art, such as pyramids, temples, obelisks, palaces, tombs, etc. The interiors of the tombs are frescoed in the most beautiful manner, and all the monuments are covered with picture-writing called *hieroglyphics*.

II. NUBIA AND KORDOFAN.

8. Description. — Except on the immediate margin of the Nile, the northern and middle parts of Nubia consist almost entirely of rocks and sand. Towards the south and in Kordofan′ the soil is fertile and the vegetation luxuriant.

9. Industries. — The population (about 2,000,000) is chiefly engaged in the culture of dhourra, barley, tobacco, indigo, senna, and coffee, and in forwarding to Egypt skins and hides, gum-arabic, and gold and silver.

10. Government, etc. — Nubia and Kordofan are subject to Egypt, and ruled by Egyptian governors.

Khartoom is the capital and center of trade of Nubia, and El Obeid [*o-bay′eed*] is the chief place of Kordofan.

ABYSSINIA.

1. Physical Features. — Abyssinia is an elevated plateau, ridged by rugged mountains, between which are fertile valleys covered with luxuriant vegetation. The low coast along the Red Sea is intensely hot, but the highlands are cooler.

Abyssinia, unlike Egypt, has abundant rains. The drainage of nearly the whole country belongs to the Nile.

2. Political Divisions. — The country, for a long time subject to a single ruler, is now divided between several petty independent states, inhabited by warlike and semi-barbarous tribes. The people, numbering about four millions, profess a sort of Christianity, but are immoral and degraded.

3. Industries. — The people raise various grains, and dates, tamarinds, coffee, etc.; manufacture coarse cloth, leather, and rude pottery; and sell to the Egyptians coffee, ivory, and gums.

4. Places. — GON′DAR is the principal center of population in the leading state.

MAS′SUAH, on the Red Sea, the chief seaport of the country, belongs to Egypt.

THE BARBARY STATES.

1. Divisions. — The Barbary States include all the Mediterranean countries of Africa, except Egypt. They comprise Morocco, Algeria, Tunis, and Tripoli.

Morocco and **Tunis** are independent monarchies.
Algeria is a colonial possession of France.
Tripoli is a tributary country of Turkey. It includes the oasis of Fezzan′.

2. Physical Features. — The Atlas Mountain range extends through Morocco, Algeria, and Tunis, sloping on the northwest to the Mediterranean Sea and the Atlantic Ocean, and on the southeast to the Great Desert. The climate of this region resembles that of Spain and Italy, though it is somewhat warmer and drier.

3. Productions. — The chief productions of Northern Africa are dates and olives, wheat, corn, millet, and barley.

4. Pursuits. — Agriculture forms the leading occupation; in the hill country the raising of sheep and goats is largely followed. The native manufactures include silk and woolen stuffs, shawls, carpets, fire-arms, and gunpowder.

There is a considerable caravan trade with Central Africa across the Sahara. The traders obtain from the negro countries gold, gums, ostrich-plumes, elephant-tusks, and slaves, in exchange for cloths and other manufactured articles.

5. The population of the Barbary States includes Berbers, or Kabyles, who live in the mountains, and are supposed to be the descendants of the aborigines; Moors, who occupy the cities, and are engaged in trade and rude manufactures; and Arabs, who

dwell in tents, and lead a wandering pastoral life. French colonists are numerous in Algeria.

6. **Cities.** — The leading cities are MOROCCO and FEZ, the capitals of Morocco and its chief commercial centers; ALGIERS, the capital of Algeria; and TUNIS and TRIPOLI, respectively the leading cities of the states of the same names.

THE SAHARA.

CROSSING THE GREAT DESERT.

1. **Description.** — The Sahara, or Great Desert, is a parched, sandy, and desolate waste, occupying one fourth of the surface of Africa, or an area equal to about two thirds that of Europe. The only habitable parts are the oases: fertile spots covered with date-palms, which offer their grateful shade, refreshing water, and sweet fruit to the weary caravans.

2. **The inhabitants** probably do not number over 100,000 souls. They comprise several tribes, — Moors, Tuaregs, and Teboos, — wanderers who feed their flocks and herds on the scanty herbage as they pass from oasis to oasis, and who subsist on the milk of their camels, on dates from the oases, and on what they can plunder from the caravans.

3. **Commerce.** — The only commercial products of this desolate region are ostrich-feathers, gums, and salt.

4. **Caravans.** — Numerous caravans, sometimes consisting of thousands of camels, cross the desert by various routes from the Barbary States to Central Africa, occupying from thirty to ninety days in the journey.

It would be utterly impossible for man to traverse the Sahara without the aid of the camel, which is the only animal that can eat the coarse herbage growing in the desert, and the only animal that, without water, can pass long periods of time on the burning sands.

SOUDAN.

1. **Extent.** — Soudan (i. e. *Belad-es-Soodan*, or Land of the Blacks) is the name applied to the vast, indefinite, and imperfectly explored region of Central Africa, extending between the Sahara on the north and the equatorial region on the south, — an area probably as great as that of the United States.

2. **Physical Features.** — This region consists of extensive plains, which, owing to the copious rains, is covered with luxuriant vegetation. It includes the basin of Lake Tchad and the chief part of the river Niger. Its climate is tropical, but not unhealthful.

3. **The population** of Central Africa numbers many millions, and is divided between the races of pure negro blood and the Fellatahs.

4. **The Fellatahs** are a mixed race, partly of negro and partly of Berber descent. They are Mohammedans in religion, and superior to the negroes in the scale of civilization.

5. **The negro tribes** live in villages, and cultivate the soil in a rude manner; they make iron weapons and implements; they weave and dye cotton cloth, and manufacture mats and other articles of household use. The women do most of the work, while fighting, hunting, and fishing are the principal occupations of the men. The negroes have no written language, no books, and no schools; hence they are ignorant and superstitious.

6. **The commercial productions** are gold-dust, ivory, and ostrich-feathers. The slave-trade is carried on; the merchants engaged in it are principally Moors, who form caravans for the purpose of crossing the Desert.

7. **Trading points** of note in Soudan are: Yakoba (said to have a population of 150,000), Sokotoo, Kano, Timbuktoo, and Kuka.

COUNTRIES OF THE WESTERN COAST.

1. **Extent.** — Western Africa extends along the coast of the Atlantic from the border of the Desert southward to the latitude of Cape Frio, — a range of between 3,000 and 4,000 miles.

2. **Physical Features.** — Inland from the belt of low sandy coast are found fertile alluvial bottoms, and to the east of these wooded or grassy table-lands.

The greater part of the country is covered by immense forests with dense underwood, which afford shelter to innumerable wild animals, formidable reptiles, and myriads of destructive insects. The more remarkable trees are the baobab, gum-acacias, and oil-palms. The climate is tropical.

3. **People and Industry.** — The inhabitants are almost entirely negroes, resembling the natives of Central Africa. They live in villages composed of mud huts, cultivate the soil, plant gardens of fruit-trees, possess cows, sheep, goats, and poultry in considerable numbers, and manufacture cotton cloth, earthenware, leather, and metal goods. They are very ignorant, cruel, and superstitious, and frequently engage in wars for the purpose of making prisoners, who are sold as slaves. European vessels visit the coast, and supply the people with gunpowder, arms, cotton cloth, spirits, cutlery, beads, etc., receiving in exchange palm-oil, wax, gums, feathers, ivory, etc.

4. **Divisions.** — Western Africa is divided, north of the Equator, into Senegambia, Sierra Leone, Liberia, and Guinea; south of that line, into Loango, Congo, Angola, and Benguela.

Senegambia is the region watered by the rivers Senegal and Gambia. England, France, and Portugal have trading stations along the coast.

Sierra Leone is a settlement established by the British as a refuge for liberated slaves. Freetown is the chief place.

Liberia, originally founded for the free negroes and emancipated slaves of the United States (during the time when slavery existed in our country), was made an independent negro republic in 1848. The capital is Monrovia.

Guinea extends along the shores of the Gulf of Guinea, and includes the native kingdom of Ashantee, chief town *Cumassie;* Dahomey, chief town *Abomey;* and Yoriba, chief town *Abbeokouta.*

Loango, Congo, Angola, and **Benguela** are extensive but little known countries, inhabited by various negro tribes, more degraded than those north of the Equator. The slave-trade still flourishes along the coast.

EAST AND SOUTH AFRICA.

1. **East Africa** comprises all the countries and regions on the eastern side of the continent from the Gulf of Aden to Delagoa Bay, and from the Indian Ocean to the Great Lake region.

2. **Surface.** — In general it forms a moderately elevated plateau, studded with several magnificent lakes, and bounded, coastwise, by mountain-ranges, the highest summit of which is Kilimanjaro. The longest rivers are the Zambezi and the head-stream of the Nile, which passes through lakes Victoria and Albert.

3. **Divisions.** — This region is divided into three territories: the Somali territory, Zanquebar, and the Portuguese possessions.

The Somali are tribes of native herdsmen. The chief place in their country is Berbera, on the Gulf of Aden. A great fair is held there annually, at which are assembled Egyptians, Nubians, Abyssinians, Arabs, Persians, all bringing the products and merchandise of their respective countries, and exchanging them for ivory, gums, myrrh, and coffee.

Zanzibar. — This region, stretching from the Equator southward to Cape Delgado, forms a separate sovereignty under Arab rule. It exports considerable quantities of rice, sugar, molasses and fish. Zanzibar (80,000) is the principal place.

The Portuguese Possessions reach from Cape Delgado to Delagoa Bay, and include the territories of Mozambique and Sofala. The native Blacks are in a wretched condition. The slave-trade, though condemned by the Portuguese government, is vigorously carried on by its servants. The city of Mozambique is the center of Portuguese power.

4. **South Africa** is the seat of three British colonies and of two small Dutch republics.

5. **Products.** — Most of the products of Southern Europe can be

grown in the valleys and along the coast, but raising cattle and sheep is the principal pursuit of the white settlers.

6. **The political divisions** of South Africa are: —

Divisions.	Characteristics.
Cape Colony.	Is the largest of the British possessions in South Africa. Cape Town is the capital. The native inhabitants are Hottentots, Kaffirs, and Bushmen.
Natal.	Is the other British colony. The native population are called Zulus.
Orange Free State. } **Transvaal Republic.** }	These are Dutch settlements that rank as independent states.
Griqua-Land.	Is a small British colonial settlement, which includes the rich diamond-district of South Africa.

ISLANDS.

1. **Madagascar,** the largest island of Africa, has great natural resources. The ruling people are of Malay stock. They have long practiced such arts as smelting, weaving, and rope-making; they are skillful in the manufacture of jewelry, carpets, and cutlasses.

2. **Mauritius,** a small volcanic island east of Madagascar, belongs to Great Britain. Reunion Island belongs to France.

3. **St. Helena,** twelve hundred miles distant from the African coast, is a small island, noted as the place of the banishment and death of Napoleon Bonaparte.

TOPICAL REVIEW OF AFRICA.

Names.	Population.	Capitals.	Largest Cities and Population.	Form of Government, etc.
Egypt.	5,500,000	Cairo.	Cairo (350,000).	Monarchy, partly subject to Turkey. Ruler styled the *Khedive* of Egypt.
Nubia.	2,000,000	Khartoom.	Khartoom (50,000).	Ruled by an Egyptian governor.
Abyssinia.	3,000,000		Gondar (7,000).	Various chiefs of tribes or petty kings.
Morocco.	5,000,000	Morocco and Fez.	Fez (100,000).	Absolute monarchy. Ruler called Emperor.
Algeria.	3,000,000	Algiers.	Algiers (55,000).	Colonial dependency of France. Governor-General.
Tunis.	2,100,000	Tunis.	Tunis (130,000).	Monarchy.
Tripoli.	2,000,000	Tripoli.	Tripoli (30,000).	Turkish tributary state. Ruled by a *Pasha.*
The Sahara.	100,000		Agades (7,000).	Tribal government, under *Sheiks.*
Soudan and Equatorial Africa.	80,000,000		Yakoba (150,000).	Tribal government, under *Sheiks.*
Senegambia.				Native tribes, and European trading-stations.
Sierra Leone.		Freetown.	Freetown (20,000).	Colonial dependency of England.
Liberia.	800,000	Monrovia.	Monrovia (3,000).	Republic, under a President.
Guinea Coast.			St. Paul de Loanda (20,000).	Colonial dependency of Portugal, and negro kingdoms.
Cape Colony and Natal.	500,000	Capetown.	Cape Town (35,000).	Colonial dependency of England. Governor-General.
Orange Free State. }	57,000	Bloemfontein.	Bloemfontein (2,500).	} Small independent republics.
Transvaal Republic. }	280,000	Pretoria.	Pretoria (4,500).	
Madagascar.	2,500,000	Tananarivo.	Tananarivo (80,000).	Kingdom.
Zanquebar.	800,000	Zanzibar.	Zanzibar 80,000).	Sultanate. Chief ruler called Sultan.


AUSTRALIA
NEW ZEALAND
AND THE ISLANDS OF
THE PACIFIC OCEAN
SCALE OF MILES
100 500 1000
10° Latitude=1 Inch
P.M. 10 Local Time when 11 Noon on the Mid 12 night Meridian of 1 Greenwich 2 3
150 160 170 East 180 West 170 Longitude 160 from 150 Greenwich 140 130
East Longitude 180 West 173 Long. 163 from 153 Washington 143 133 123 93 83 73 63 53
Mid 12 night A.M. 1 Local 2 Time 3 when 5 Noon on the 6 Meridian of 7 Washington 8 9
NORTH TEMP. ZONE
TORRID ZONE
SOUTH TEMP. ZONE
13 LENGTH IN HOURS 12 OF LONGEST DAY 13
NORTH AMERICA
CALIFORNIA
San Francisco
POLYNESIA
NORTH PACIFIC
SOUTH PACIFIC
AUSTRALASIA
INDIAN OCEAN
PEKING
Tien-tsin
Nankin
Shanghai
Amoy
Canton
Hong-Kong
FORMOSA
EAST CHINA SEA
Yellow Sea
COREA
NIPPON
TOKIO
Yokohama
Saka
Nagasaki
SIKOKE
KIUSIU
LOO CHOO IS.
MELAKO-SIMA IS.
BONIN IS.
Margaret I.
TROPIC OF CANCER
MARIANNE OR LADRONE ISLANDS
Saypan
Rota
Guban
PHILIPPINE IS.
LUZON
Manila
PALAWAN
MINDANAO
Sulu Sea
Celebes Sea
GILOLO
MOLUCCA OR SPICE IS.
CERAM
BANDA IS.
Banda Sea
Tomini G.
Tolo B.
Boni B.
FLORES
TIMOR
SUMBA
SANDALWOOD I.
Ooepang
ULUTI IS.
PELEW IS.
CAROLINE ISLANDS
LUTKE IS.
Hall I.
Hogolu I.
SENIAVIN IS.
MORTLOCK IS.
MARSHALL IS.
Radack Chain
Ralick Chain
Makin
Maraki
Nanouti
GILBERT IS.
Tamana
ELLICE IS.
Speiden I.
Vaitupu
EQUATOR
Howland I.
Baker I.
PHOENIX IS.
McKean
Gardiner
UNION GROUP
ADMIRALTY IS.
New Ireland
N. Britain
Dampier Str.
NEW GUINEA OR PAPUA
ARROO IS.
Arafura Sea
Torres Strait
Gulf of Carpentaria
LOUISIADE ARCHIPELAGO
SOLOMON IS.
Bougainville
Choiseul
Isabel
Malayta
San Christoval
SANTA CRUZ IS.
Vanikoro
NEW HEBRIDES
Espiritu Santo I.
Mallicollo
Sandwich
Erromango
Tanna
LOYALTY IS.
New Caledonia
CORAL SEA
FEEJEE ISLANDS
Vanua Levu
Viti Levu
Goro Sea
SAMOA OR NAVIGATOR IS.
Savaii
Opolu
Tutuila
Manua
TONGAN ARCHIPELAGO
Vavau
Hapai
FRIENDLY IS.
Tongataboo
TROPIC OF CAPRICORN
Norfolk I.
KERMADEC IS.
SANDWICH ISLANDS
Nubau
Kauhai
Oahu
HONOLULU
Molokai
Lanai
Lahaina
Maui
Hawaii
Palmyra
AMERICA IS.
Fannings I.
Christmas I.
Jarvis I.
Brooke I.
Malden I.
Penrhyn I.
Humphrey I.
Pukapuka I.
Nassau I.
Suworrov I.
MARQUESAS OR MENDANA IS.
Hiau
Nukahiva
Uahuga
Tahuata
LOW ARCHIPELAGO
SOCIETY ISLANDS
Bolabola
Huaheine
Eimeo
Papeete
Tahiti
COOK IS.
Atiu
Raratonga
AUSTRAL IS.
Rimitara
Vivitau
Oparo I.
GAMBIER IS.
Pitcairn I.
AUSTRALIA
NORTH AUSTRALIA
Palmerston
Victoria
Pt. Essington
MELVILLE I.
C. Londonderry
Cape Bougainville
ALEXANDRA LAND
Cape York
Cardwell
QUEENSLAND
Pt. Denison
Fitzroy R.
Sandy Cape
Moreton Bay
BRISBANE
WEST AUSTRALIA
North West Cape
De Gray R.
Gascoyne R.
Murchison R.
Swan R.
PERTH
Fremantle
Cape Leeuwin
Albany
SOUTH AUSTRALIA
L. Eyre
L. Torrens
Augusta
Gairdner
Great Australian Bight
Spencer Gulf
Kangaroo I.
ADELAIDE
NEW SOUTH WALES
Bathurst
Newcastle
SYDNEY
Mt. Kosciusko
Cape Howe
VICTORIA
Ballarat
MELBOURNE
Geelong
Pt. Phillip
King I.
Bass Strait
Flinders I.
TASMANIA
HOBART TOWN
NEW ZEALAND
North Caps
AUCKLAND
East Cape
NEW ULSTER OR NORTH I.
Napier
Wellington
Cook Strait
Nelson
Mt. Cook
NEW MUNSTER OR MIDDLE I.
Dunedin
CHATHAM I.

AUSTRALASIA.

Australasia comprises the continental island of Australia and the large islands of New Guinea, New Zealand, Tasmania (or Van Diemen Land), together with many small islands and groups of islands adjacent to Australia.

AUSTRALIA.

1. Size. — Australia, the greatest of islands, is two thirds as large as the United States. Its extreme length is 2,500 miles, and its extreme width 1,900 miles. It has a coast-line but little indented by the ocean.

2. Surface. — The interior, which has been only imperfectly explored, is a vast plain or slightly elevated plateau. Along the eastern shore extends a mountain system, with an elevation about the same as that of the Appalachian system in the United States. This constitutes the principal highland region. A secondary highland extends along the western coast.

3. Rivers. — The only important river system is that of the Murray. This stream with its affluents, the Lachlan and the Darling, drains the eastern or greater highland.

4. Climate. — The northern half is in the Torrid Zone, and has a tropical climate. The southern section has a climate similar to that of the Mediterranean countries of Europe. As Australia is situated in the southern hemisphere, the seasons are the opposite of ours: thus, it is hottest at Christmas and coldest in our midsummer; the Australian farmer sows his seed when we are gathering our harvests, and the reverse.

5. Vegetation. — The forest vegetation is peculiar, the native trees being evergreens, and some shedding their bark instead of their leaves: acacias, gum-trees (the *eucalypti*), and gigantic tree-ferns are the chief forest-trees.

6. Animals. — The wild animals are quite as peculiar as the vegetation. The largest is the kangaroo, which is a pouched animal. A very remarkable animal is the ornithorhynchus; it is a water animal, shaped like a beaver, has web feet, and a bill like that of a duck.

7. Natives. — The aborigines of Australia are of a distinct race from that inhabiting the Indian Archipelago or the islands of Polynesia, and are called Papuan-negroes. They are black, with curly hair, and are very low in the scale of civilization. They do not exceed 50,000 in number, and are fast dying out.

History. — Australia was discovered by the Dutch in 1606, and was named New Holland. In 1788 the English founded a convict settlement in New South Wales, but in 1837 transportation to New South Wales was abolished. Gold was discovered in 1851, after which time the country was rapidly settled by emigrants from the British Isles and other parts of the world.

8. Divisions. — Australia is a British possession, and is divided

MAP STUDIES ON AUSTRALASIA AND POLYNESIA.

Australasia. — 1. In what hemisphere is Australia? 2. What tropic crosses it near the middle? 3. By what waters is it surrounded? 4. What gulf in the northern part? 5. What great inbreaking of the sea in the southern part? 6. Where is Cape York? — Northwest Cape? 7. What parts are mountainous? 8. What are the principal branches of the Murray River? 9. Is Australia well supplied with rivers? 10. State the location of the following colonies: Victoria; — New South Wales; — South Australia. 11. Where is Melbourne? — Sydney? — Adelaide?

1. What large island north of Australia? 2. What strait between the two? 3. Measure by the scale of miles the length of New Guinea. 4. In what zone is it? 5. What island south of Australia? 6. What is its principal city? 7. What two islands 1,200 miles east of Southern Australia? 8. What is the name of the British colony occupying these two islands? 9. In what zone is it? 10. What is the capital? 11. Where are Solomon Islands? — New Hebrides? 12. Where is New Caledonia?

Polynesia. — 1. What group of islands near 160° W. Longitude? 2. What tropic north? 3. Measure the distance from the Sandwich Islands to San Francisco. 4. What is the capital? 5. On what island is it? 6. On what island is the volcano of Mauna Loa? 7. Where is the Marquesas [*mar-kay'sas*] group? 8. In what group is the island of Tahiti [*ta-hi'ty*]? 9. What city on this island? 10. What two groups east of the Feejee Islands? 11. What group north of Friendly Islands?

into five provinces or colonies, namely: 1. Victoria. 2. New South Wales. 3. Queensland. 4. South Australia. 5. West Australia.

9. The government in each colony consists of a governor appointed in England, a legislative council, and a legislative assembly elected by the people.

10. Resources. — Its rich mines of gold, copper, iron, and coal, and its great extent of agricultural and grazing lands, constitute the natural wealth of Australia.

11. The leading industries are mining, agriculture, and stock-raising.

Mining. — Australia ranks as one of the greatest of gold-mining countries. Its copper deposits are the richest in the world.

Stock-raising. — The vast plains of Australia make fine "sheep-ranges"; and sheep have multiplied so rapidly that Australia is now the greatest wool-producing country in the world. Immense herds of cattle also roam over the plains; and hides, horns, tallow, and preserved beef are exported to England in great quantities.

12. Commerce. — Australia being a colony of Great Britain, its trade is mostly carried on with the mother-country. It exports wool, gold, copper, hides, tallow, and preserved meats, and receives in exchange the cotton and woolen goods, iron, and hardware of England.

13. Civilization. — The colonies of Australia are among the most flourishing and prosperous of the British possessions, and in civilization rank with the foremost nations. Great attention is paid to education, and Sydney and Melbourne have universities.

14. Cities. — MELBOURNE (280,000), the capital of Victoria, is the great commercial and monetary center of Australia. SYDNEY, in New South Wales, is the second city in importance. ADELAIDE, the chief city of South Australia, is largely engaged in manufacturing and trade. BRISBANE is the chief city of Queensland. PERTH is the chief city of West Australia.

NEW GUINEA, TASMANIA, NEW ZEALAND, AND SMALLER ISLANDS.

I. NEW GUINEA.

1. Size. — New Guinea, next to Australia the largest of the Australasian Islands, is in area the second island on the globe, Borneo ranking as the third.

2. Vegetation. — The vegetation of this island resembles that of the East India Islands more than that of Australia. Many kinds of palm-trees grow luxuriantly, and the coasts are covered with a thick jungle of matted vegetation.

3. People. — There are a few white settlements on the coast, but the greater part of the inhabitants belong to the Papuan-negro race, and are chiefly engaged in fishing.

II. TASMANIA.

4. Description. — Tasmania (or Van Diemen Land) lies south of Australia, which it resembles in its vegetation and animals. It is a British colony.

5. Population. — The first white inhabitants were convicts transported from England, and a considerable part of the population are of convict descent. But this island has now ceased to be a penal settlement, greatly to the welfare of the colony.

6. Industries. — The people are engaged principally in agriculture, sheep-raising, and the whale-fishery.

7. The capital and chief place is HOBART TOWN.

III. NEW ZEALAND.

8. Situation, etc. — New Zealand comprises two islands, situated 1,200 miles east of Australia. It is larger than Great Britain.

9. In government it is a separate British colony.

10. Characteristics. — These islands have a temperate climate, fertile soil, luxuriant vegetation, and great mineral wealth.

11. Occupations. — Agriculture, pasturage, mining, and commerce are actively carried on.

12. Inhabitants. — The native inhabitants of New Zealand belong to the Malay race and are known as Maories. They possess many qualities superior to those of savage nations in general. They are, however, rapidly declining before the white colonists, with whom they are at intervals engaged in fierce wars. The white population numbers over 400,000.

13. The capital and chief place is Wellington.

IV. SMALLER ISLANDS.

14. Names. — Of the smaller Australasian islands or groups, the principal are the islands of New Britain and New Ireland, the groups of the Solomon, New Hebrides, and Loyalty Islands, and the island of New Caledonia.

15. Description. — These islands are in general highly productive, yielding in abundance tropical food-plants and valuable timber-trees. The native inhabitants of all these islands belong to the Papuan-negro race.

POLYNESIA.

GENERAL SKETCH.

1. Polynesia, meaning "many islands," is the name given to the numerous small islands and groups of islands in the Pacific Ocean not included in Australasia or Malaysia.

NOTE. — For the boundaries of Polynesia, see Map, page 124. The greater number of the Polynesian isles are included within twelve groups, or clusters. Four of these clusters — the Sandwich Islands, Marshall Islands, Caroline Islands, and Ladrones — lie north of the Equator. The eight lying south of the Equator are the Feejee, the Friendly, the Navigator, the Cook, the Austral, the Society Islands, with the Low Archipelago, and the Marquesas Islands.

2. Physical Formation. — The Polynesian Islands are naturally divided into two classes, — the mountainous islands, which are mostly of volcanic origin, and the coral islands.

The Sandwich Islands, the Ladrones, the Society Islands, and the Marquesas, with some others, belong to the volcanic, mountainous class; the rest of the islands, very numerous but very small, belong to the class of coral islands.

3. The coral islands are generally of circular or semicircular form, consisting mostly of a low belt or reef which encloses a lagoon connected with the ocean by an opening: islands of this description are called *atolls.* Most of the volcanic islands are surrounded by

AN ATOLL.

SCENE IN POLYNESIA.

coral reefs at some distance from the island, called *barrier-reefs*. These reefs render navigation difficult and dangerous.

NOTE. — The coral reefs are produced by the lime secretions of myriads of little *polyps*, that cannot exist at a greater depth than two hundred feet, and that cannot live above the surface. The *polyp* belongs to the lowest order of animal life. It consists of a little oblong sack of jelly, closed at one end, but open at the other, and surrounded by feelers or tentacles set like the rays of a star. Multitudes of these little sacks secrete lime which forms the strong skeleton called *coral*. The pores in a piece of coral were the homes of the living polyps, when they were in the ocean. Countless millions of these polyps, beginning at the depth of one hundred or two hundred feet, on some sunken mountain or submarine plateau, gradually build up to the surface, and then widen out their limestone wall. Next the sea begins to throw up broken pieces of coral, shells, and drift-wood. A little soil accumulates, seeds are drifted upon it, and vegetation springs up. Birds and insects make it their home, and when the cocoa-nut grows on the narrow belt of soil that encircles the lagoon, man comes in his canoes and builds his huts upon it.

4. **Products.** — These islands combine the three things requisite for luxuriant vegetation, namely, heat, moisture, and a fertile soil. The principal indigenous food-plants are the bread-fruit, yam, sweet-potato, taro-root, arrow-root, banana, plantain, and cocoa-nut. Coffee, sugar, cotton, rice, and, in fact, most of the fruits and grains of the tropical and temperate zones of Asia, have been introduced into these islands.

5. **Native Races.** — The native races by which the larger part of Polynesia is inhabited are altogether different from the Papuan negroes of Australia. They belong for the most part to the Malay (or brown) type of mankind.

These South Sea Islanders, as they are called, are seafaring people, and display great skill and boldness in the management of their canoes.

Their natural intelligence shows them to be capable of a high degree of civilization; but they have been rapidly dying out since they came in contact with the white race. The whole population of all the Polynesian Islands does not exceed half a million.

ISLAND GROUPS IN DETAIL.

SANDWICH ISLANDS.

1. **Situation.** — The Sandwich Islands, the most important group, are situated just a little south of the Tropic of Cancer, between 150° and 160° west longitude. The largest island is Hawaii which is about the size of Connecticut.

2. **Government and People.** — These islands form an independent nation governed by a king or queen. The entire population of the kingdom does not exceed seventy thousand. Most of the Sandwich-Islanders profess Christianity, and are partly civilized.

3. **The principal exports** of the Sandwich Islands are sugar, molasses, rice, cocoa-nut oil, cocoa-nuts, and oranges.

4. HONOLU'LU (12,000), the capital and principal seaport, is a famous resort for the whaling vessels of the North Pacific.

Hawaii is noted for its great volcanic peak, Mauna Loa, thirteen thousand feet high. Kilau'ea, a lower lateral crater of Mauna Loa, half-way up the mountain-side, is nine miles in circumference, and is sometimes filled with a fiery lake of red-hot lava. After filling up to the brim, the lava frequently breaks out, and flows in a glowing river down the mountain slope to the ocean, a distance of forty miles.

OTHER GROUPS.

5. **The Caroline Group** embraces a great number of small coral islets, situated near the Equator, in the Eastern Hemisphere, north of New Guinea. The natives of these islands make long voyages in their canoes, which they manage with great skill.

6. **The Ladrones,** north of the Carolines, are a volcanic group. The larger islands are inhabited by Spanish colonists, who have exterminated the native islanders.

7. **The Marquesas Islands** are French possessions. They contain about 20,000 native inhabitants, who are tall and robust, but very savage, and who practice cannibalism.

8. **The Society Islands** contain a population of about 20,000, the majority of whom have been converted to Christianity. The island of Tahiti is under French rule. The various foreigners settled in these islands carry on some commerce, consisting chiefly in the export of pearl-shells, sugar, cocoa-nut oil, and arrow-root.

9. **The Friendly Islands,** so named by Captain Cook on account of the hospitable reception given to him by their inhabitants, are peopled by from 20,000 to 30,000 natives, most of whom have been converted by the missionaries. The islands are occasionally visited for commercial purposes, chiefly for the sake of cocoa-nuts, which are particularly abundant.

10. **The Feejee Group** comprises over 300 islands, of which about one half are inhabited. These islands are under British rule. The number of islanders is estimated at 200,000.

The Feejeeans are among the most warlike and most skillful of the Polynesians. All of them were formerly ferocious cannibals, but through the influence of the missionaries many have now given up the practice of eating human flesh.

GENERAL REVIEW OF THE WORLD.

I. CONTINENTS.

Eastern . . . . . { Asia. / Africa. / Europe.

Western . . . . . { North America. / South America.

II. COMPARISON OF CONTINENTS.

Old World.		New World.
1. Has its greatest length from *east* to *west*, or *in the direction of the parallels.*	**Difference.**	1. Has its greatest length from *north* to *south*, or *in the direction of the meridians.*
2. Has its greatest width *along the parallel of* 50° N.	**Similarity.**	2. Has its greatest width *along the parallel of* 50° N.
3. Runs down to a great peninsula (Africa), which ends in a cape (Cape of Good Hope).	**Similarity.**	3. Runs down to a great peninsula (South America), which ends in a cape (Cape Horn).
4. The great southern peninsula (Africa) is connected with the main mass by an isthmus (Isthmus of Suez).	**Similarity.**	4. The great southern peninsula (South America) connected with the main mass by an isthmus (Isthmus of Panama).
5. Nearly all the important peninsulas jut southerly into the ocean.	**Similarity.**	5. Nearly all the important peninsulas jut southerly into the ocean.
6. Grand mountain-chains extend *east* and *west.*	**Difference.**	6. Grand mountain-chains extend *north* and *south.*
7. Highest mountain-peaks rise near the Tropic of Cancer.	**Difference.**	7. Highest mountain-peaks rise near the Tropic of Capricorn.

III. GRAND DIVISIONS OF LAND.

Names.	Comparative size, Europe as unit of measure.
Asia	4½
Africa	3
North America	2
South America	2
Europe	1

IV. THE OCEAN AND ITS BRANCHES.

Basin.	Extent.	Area.	Branches.
Northern Basin, or Arctic Ocean.	Extends around the North Pole, and is bounded by the northern shores of America, Europe, and Asia, and by the Arctic Circle in the spaces between the continents.	4,000,000 square miles.	Baffin Bay. White Sea. Gulf of Kara. Gulf of Obi.
Southern Basin, or Antarctic Ocean.	Extends from the Antarctic Circle around the South Pole.	Little is known of this immense basin; its navigation is impeded by impenetrable barriers of ice. Sir James Ross, however, in 1841, penetrated to lat. 78° 4′, or within 840 miles of the South Pole.	Unknown.
Western Basin, or Atlantic Ocean.	Bounded on the west by America; on the east by Europe and Africa; on the north by the Arctic, and the south by the Antarctic Circles; and divided into north and south by the Equator.	Including inland seas, about 30,000,000 square miles.	Baltic Sea, with its gulfs. North Sea. Mediterranean Sea. Black Sea. Hudson Bay. Gulf of Mexico. Caribbean Sea.
Eastern Basin, or Pacific Ocean.	Enclosed between America on the east; Asia, the Sunda Islands, and Australia, on the west; the Arctic Circle on the north; the Antarctic on the south; and divided into north and south by the Equator.	About 60,000,000 square miles.	Sea of China. Yellow Sea. Sea of Japan. Sea of Okhotsk. Sea of Kamchatka. Behring Strait. Gulf of California. Bay of Panama.
Southeastern Basin, or Indian Ocean.	Bounded by Africa on the west; the Sunda Islands and Australia on the east; by Southern Asia on the north; and by the Antarctic Circle on the south.	Estimated at 23,000,000 square miles.	Red Sea. Arabian Sea. Persian Gulf. Bay of Bengal.

V. GREAT PHYSICAL FEATURES.

Where is each? — *Describe each.*

Seven largest Islands . . .
- Australia.
- Papua, or New Guinea.
- Borneo.
- Madagascar.
- Sumatra.
- Japan Isles.
- British Isles.

Principal Mountain Ranges . .
- Himalaya.
- Rocky.
- Andes.
- Altai.
- Alps.

In what mountain system? — *Describe each.*

Highest Mountain Peaks.
- In Asia, Everest.
- In South America, Sorata.
- In Africa, Kilimanjaro.
- In North America, Mt. St. Elias.
- In Europe, Elbruz.

Seven longest Rivers.
- Mississippi.
- Nile.
- Amazon.
- Yenisei.
- Yang-tse-Kiang.
- Niger.
- Obi.

Through what countries does each flow? — *Where is each?*

Rivers in order of Commercial Importance.
- Mississippi.
- Danube.
- Yang-tse-Kiang.
- Plata.
- St. Lawrence.

Six largest Lakes.
- Caspian Sea (salt).
- Superior.
- Michigan.
- Huron.
- Baikal.
- Victoria.

VI. POPULATION.

Population by Grand Divisions.

Asia, (round numbers)	800 m.
Europe,	300 m.
Africa,	190 m.
North America,	60 m.
South America,	30 m.
Oceania,	20 m.
Total,	1,400 m.

Population by Races.

Caucasian,	600 m.
Mongolian,	550 m.
African,	180 m.
Malay,	60 m.
Indian,	10 m.
Total,	1,400 m.

Population by Religions.

Buddhists,	450 m.
Christians,	400 m.
Mohammedans,	200 m.
Brahmanists,	175 m.
Pagans,	170 m.
Jews,	5 m.
Total,	1,400 m.

VII. NATIONS.

Six greatest in Territory.
- Russian Empire.
- British Empire.
- Chinese Empire.
- United States.
- Brazil.
- Turkey.

Six greatest in Population.
- Chinese Empire.
- British Empire.
- Russian Empire.
- German Empire.
- United States.
- France.

Six greatest in Political Power.
- Great Britain.
- United States.
- Germany.
- Russia.
- France.
- Austria.

VIII. CITIES.

Six Largest.
- London (3½ m.)
- Paris (2 m.)
- Peking (1⅞ m.)
- Tokio, or Yeddo (1 m.)
- New York (1 m.)
- Constantinople (1 m.)

Each one million or over.

Note. — Many of the populous but unimportant cities of Asia are omitted.

Six greatest Seaports . . . . . .
- London.
- New York.
- Liverpool.
- Boston.
- Bombay.
- New Orleans.

IX. LEADING COMMERCIAL PRODUCTS.

Cotton.	Silk.	Wool.	Wheat.
United States.	China.	United States.	United States.
India.	Japan.	Australia.	Russia.
China.	Italy.	Spain.	France.
Egypt.	France.		Austria.
Rice.	**Tobacco.**	**Sugar.**	**Coffee.**
China.	United States.	Louisiana.	Brazil.
India.	Cuba.	Cuba.	Java.
Japan.	Turkey.	South America.	Arabia.
United States.			
Iron.	**Coal.**	**Gold.**	**Silver.**
United States.	United States.	United States.	United States.
Great Britain.	Great Britain.	Australia.	Mexico.
Belgium.	Belgium.	Russia.	Austria.
Russia.	Australia.		Peru.
Swed. & Norway.			
Quicksilver.	**Copper.**	**Tin.**	**Salt.**
Spain.	United States.	Great Britain.	United States.
Austria.	Great Britain.	Spain.	Austria.
California.	Chili.	Island of Banca.	Spain.
Peru.	Austria.	Australia.	
	Australia.		

X. LEADING POINTS OF LATITUDE.

		Key-Points.	Places of same Latitude.
60°	N. Lat.	St. Petersburg	In North America this parallel passes through Northern Labrador and Southern Alaska.
51° 30′	"	London	Northern part of Newfoundland. Southern part of Queen Charlotte Island.
49°	"	Northern boundary of Washington Territory.	Paris.
42°	"	Boston	Chicago. Rome.
41°	"	New York	Madrid. Pittsburgh. Constantinople. Salt Lake City.
40°	"	Philadelphia	Columbus, O. Pekino.
39°	"	Washington	St. Louis, Mo. Lisbon. Mt. Ararat.
37° 30′	"	San Francisco	Richmond, Va. Athens (Greece).
36°	"	Nashville	Yeddo (Tokio).
32°	"	Savannah	Morocco. Jerusalem.
30°	"	New Orleans	Cairo (Egypt). Ningpo.
25°	"	Southern extremity of Florida.	
23° 30′	"	Havana	Canton.
19°	"	City of Mexico	Bombay.
0	[Equator]	Quito.	
12°	S. Lat.	Callao	Freetown.
23°	"	Rio Janeiro	
35°	"	Buenos Ayres	Cape of Good Hope. Sydney.

TEST QUESTIONS FOR WRITTEN EXAMINATION.

I.

1. What is the distance from the North Pole to the South Pole?
2. What is the exact latitude and longitude of the place where you live?
3. What spot on the earth's surface has neither latitude nor longitude?
4. Why is the length of the Equator greater than that of any meridian circle?
5. What causes a difference in time at different points upon the same parallel of latitude?
6. A and B are at opposite ends of a telegraph. A's time is 12 M. at Greenwich. At the same instant B's time is 4.30 P. M. Is B east or west from A, and how many degrees?
7. A and B start from Philadelphia. A travels due north 10°, and B travels due west 10°: which of them travels the greater distance?
8. How are differences of climate in the same latitude accounted for?
9. Why do isothermal lines vary from lines of latitude?
10. What is the latitude of the tropics and polar circles?

II.

1. What parts of the Grand Divisions of land are crossed by the tropics?
2. What is the area of the United States?
3. What Grand Division has nearly the same area as the United States?
4. What Grand Divisions lie upon the eastern shore of the Atlantic Ocean? Upon the western?
5. What Grand Divisions lie upon the eastern shore of the Pacific? Upon the western?
6. What three Grand Divisions form nearly a circle round the Arctic Ocean?
7. What Grand Divisions are wholly in the Northern Hemisphere?
8. Which are partly in the Southern Hemisphere?
9. Which has its greatest length from east to west, the New World or the Old World?
10. Which has its greatest length from north to south?

III.

1. In what direction do the great mountain-systems of the New World extend?
2. In what direction do the great mountain-systems of the Old World extend?
3. What is the difference between a plain and a plateau?
4. How does North America compare in outline with South America?
5. How does the outline of South America compare with that of Africa?
6. Where do the Eastern and Western continents approach each other the most closely?
7. Whether do the majority of rivers flow eastward or westward?
8. Why does the Nile grow smaller as it approaches the sea, while the Mississippi grows larger?
9. In what direction do most of the great peninsulas of the world project?
10. A line drawn south from New York would traverse what part of South America?

IV.

1. What ocean receives the greater amount of drainage, the Atlantic or the Pacific?
2. Name all the countries around the Mediterranean, beginning at the northwest.
3. Is Russia a mountainous country? Is Switzerland? — Belgium? — Spain?
4. What ocean occupies more space than all the land on the earth's surface?
5. What waters are connected by the following important straits: Gibraltar? — Dover? — Bosphorus? — Skager Rack? — Malacca?
6. Locate the following noted capes: Horn; — Good Hope; — St. Roque; — Verde; Hatteras; — Mendocino; — Race; — North; — Cod; — Sandy Hook.
7. Name the three freest nations on the earth.
8. What is the only monarchy in South America?
9. What two important republics in Europe?
10. What nation has possessions in so many parts of the world that it is said the sun never sets on her dominions?

V.

1. How do grain-ships from San Francisco reach Liverpool?
2. What countries supply the world with diamonds?
3. What effect has the great production of petroleum had on the whale-fishery?
4. What countries supply india-rubber?
5. How does Africa, as a tropical continent, differ from South America?
6. What are the chief commercial centers of North America?
7. Trace a water-route from Chicago to Yeddo.
8. What States in the Union have most coal?
9. What is the population of the United States?
10. What nations of Europe have nearly the same population as the United States?

VI.

1. Name the principal countries in which the English language is spoken.
2. What nation forms the most progressive representative of the Mongolian race?
3. In what part of the world is cannibalism still practiced?
4. Where are the following wheat ports: Odessa? — Chicago? — San Francisco? — Valparaiso?
5. Under what dominion is the Holy Land at present?
6. What nation has been semi-civilized but unprogressive for four thousand years?

A SYSTEM OF MAP-DRAWING.

BY E. A. AND A. C. APGAR.

This system of Map-Drawing is substantially the same as that originally prepared by the authors and published in 1865. Such improvements have been introduced, however, as the practical workings of the system have shown to be important.

SUGGESTIONS TO TEACHERS.

THE study of geography consists principally in a study of the form and locality of the features of the earth's surface. Maps give a much better idea of the form and locality of geographical features than can be obtained from descriptions only; hence, maps should be the principal objects of study in geography.

The pupil commits his lesson in text to memory, and for a recitation, he repeats it to the teacher as given by the author. In studying maps the same rule should be observed; that is, the maps should be committed to memory, and for a recitation they should be reproduced as given in the book.

That form is easiest remembered which the hand is taught to trace. The exercise of the mind, needed to teach the hand to trace a form, impresses that form upon the mind. As the study of maps is a study of form, the manner of studying them should be by map-drawing.

In learning to draw maps, the pupil needs some rule or guide to assist him in drawing them correctly, and also to enable him to judge of their accuracy when drawn. This assistance is best afforded by the use of geometrical figures or diagrams. The diagram used in each case, in order to answer the purpose intended, should be so constructed as to coincide as nearly as possible in its outline with the boundaries of the map to be drawn. By the relative lengths of the lines of which it is composed, it should express the general laws of form of the map it is intended to accompany, and, by its angles and division marks, the position of prominent features should be determined. However complex and irregular the map may be, the diagram should be so simple that it can be readily constructed and easily remembered by the pupils.

In the construction of the diagrams used for drawing the Continents, the first line in each case serves as a measure for determining the lengths of the other lines. For the States *no additional diagram is used*, because the bounding lines are generally straight, and they themselves when taken together form a geometrical figure. In drawing the States, therefore, it is only necessary to select one of the straight lines forming the boundary for a measuring unit. The line selected should be a convenient measure or multiple of the other lines.

In conducting exercises in map-drawing, the class should be practiced,—*first* in drawing upon the blackboard, under the immediate direction of the teacher; *second*, in drawing upon slates, their work to be submitted to the teacher; and *third*, in executing maps upon paper, to be presented for the criticism of both the teacher and the class.

Either the teacher or one of the more skillful pupils should execute a well-finished and accurate map upon the blackboard. From this drawing—which is much to be preferred to any printed outline map—the class may recite their lesson, and upon it each of the new features, as they are learned from day to day, may be represented.

It is well to accompany every lesson in map-drawing with more or less practice in rapid sketching. In order to excite emulation for quick work, the lesson may be drawn on the board, and the exercise timed by the teacher. Pupils, by practice, will soon be able to draw a diagram in half a minute, a State in from half a minute to two minutes, and a Continent in from three to five minutes. Concert recitation should frequently accompany rapid sketching.

An exercise called *talking and chalking* will be found both interesting and valuable. The pupil, while he is drawing a map, briefly and in a lively manner, describes the features as he represents them; his verbal explanations all the while keeping pace with his illustrations made with the chalk.

All directions and exercises in map-drawing should be such as to prepare the pupil to draw rapidly, accurately, and *without the copy*.

After the pupils have learned to draw a map with sufficient accuracy, and are able to describe satisfactorily the features it contains, they may, with the use of colors and India ink, be taught to draw and embellish one for preservation. *Not much time, however, should be spent in producing highly ornamented maps.* A slate-pencil and slate, lead-pencil and paper, white crayon and blackboard, are all the materials usually needed in map-drawing exercises. Rapid work and much of it should be the motto.

Special attention should be directed to the method employed for representing the population of cities and the heights of elevations. The symbols used will greatly assist the memory in retaining these facts. Special lessons may be given to teach their meaning. Their use should be required in all map-drawing exercises.

In drawing a Continent, the pupils should be taught,—*first*, to construct the diagram accurately; *second*, to draw the coast line, and to describe all the features formed by it, such as peninsulas, capes, bays, gulfs, &c.; and *third*, to draw and describe the internal features, such as mountains, lakes, rivers and cities. It is all important that the pupils should be able to draw the outline of a Continent readily and accurately, before they attempt to represent the internal features; for upon an imperfect drawing of the outline, the details must necessarily be imperfect.

In describing the features of a map, observe the following order and directions:—

Diagram.—Explain in full the manner of its construction.

Points of Coincidence.—Name in order the angles and division marks upon the diagram, and the features upon the map, the location of which they determine.

Peninsulas.—State from what portion of the Continent they project, and by what waters they are embraced.

Capes.—State from what portion of the Continent they project, and into what waters.

Bays.—Give their location, and the names of the bodies of water to which they are tributary.

Islands.—State where situated, and name the waters by which they are surrounded.

Mountains.—Give their height, the general direction in which they extend, and the part of the Continent where they are located.

Lakes.—State where located, and name the river which forms the outlet.

Rivers.—State where they rise, in what direction they flow, and into what waters.

Political Divisions.—Bound the country, and name, bound, and give the capital of each of the divisions.

Cities.—Give location and population.

EXPLANATION OF THE SIGNS USED TO REPRESENT THE POPULATION OF THE CITIES AND TOWNS.

FIRST CLASS.

In the First Class only one Sign is used viz. a round dot.
● represents under 10.000 Inhabitants.

SECOND CLASS.

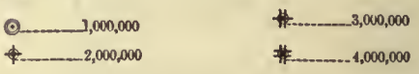
Each Line of the Second Class represents a population of 10.000.

THIRD CLASS.

The markings of the Third Class have a Dot in the centre. Each Line upon this Dot represents 100.000 population.

FOURTH CLASS.

The markings of the Fourth Class have a Dot and Circle (◉) in the centre. Each Line upon this Dot and Circle represents 1,000,000 inhabitants.



EXPLANATION OF THE SIGNS USED TO REPRESENT THE ELEVATION OF THE MOUNTAINS.

RANGES.

Hill and Mountain Ranges, Like the Cities, are divided into Four classes. The First is represented by a series of Parallel Curves; the Second by a series of Interlocking Curves; the Third by a Waved Line; and the Fourth by a Zigzag Line; as follows:

First Class or Hills,—Under 2000 ft. high.

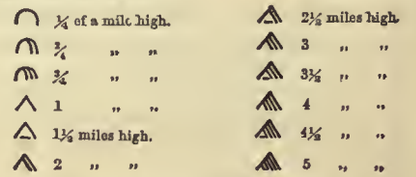
Second Class,—Between 2000 & 8000 ft. high, or Between ½ and 1½ miles high.

Third Class,—Between 8000 & 16,000 ft. high, or Between 1½ and 3 miles high.

Fourth Class,—Over 16,000 feet high, or over 3 miles high.

PEAKS.

For Peaks under one mile high each Curve upon the right represents One-Fourth of a mile Elevation; for those one mile high or more, each Line upon the right represents One Mile in Elevation and the Dash underneath One Half a Mile.



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DIRECTIONS FOR DRAWING NORTH AMERICA.

Diagram.—1. Draw a quadrant, and divide it into four equal parts, as represented in the figure. Through the first division at 1, and the right angle, draw the first line of the diagram the length desired for the map.

2. From the centre of this line, draw the line C D at right angles with it, and one-half its length. Connect A D and B D.

3. Extend the line C D toward E, making the whole length D E, equal to A D or B D, and draw the lines A E and E B.

4. Divide the line A E into four equal parts, and from the upper division-point at G, draw the line G H at right angles to A E, and equal to E C in length. Connect A and H.

5. Divide the line E B into two equal parts, and from its centre, and at right angles with it, draw the line I J one-half the length of E C, and connect E and J, and J and B.

6. Divide the lines C D and C B each into two equal parts, and the lines A D and D B each into six equal parts.

7. Sub-divide the lower division of the line D B into three equal parts, and from the division-point at L draw L M, and from M draw M N, and from N draw N O,—making the length of each line equal to two-thirds of the distance from B to K, or equal to the distance from L to K.

It will be observed that if the diagram is correctly drawn, the lines D A, D E and D B are equal in length, and the line A E is vertical.

Position.—North America is situated North of the Equator, and is joined to South America by the Isthmus of Panama.

Extent.—The length of the Continent, extending from Point Barrow, on the North, to the Port of Guatemala on the South, is 4,800 miles.

General Form.—The general form of North America is triangular. It is wide toward the North, and narrow toward the South. The Arctic and Atlantic coast-lines are nearly straight in their general direction, while the Pacific coast-line is curved.

Points of Coincidence.—The position of Point Barrow is determined by the northern angle of the diagram; Cape Charles by the eastern angle; Port of Guatemala by the southern angle; Bay of San Francisco by the western angle; and the western extremity of Alaska Peninsula by the north-western angle.

***Drawing the Map.**—*Arctic Coast.*—Commence at Point Barrow. Make the mouth of the Mackenzie River opposite the first division; Victoria Land on the second; the mouth of Hudson Bay between the third and fourth, and Ungava Bay and Cape Chidley near the fifth division. The southern extremity of Hudson Bay touches the line C D near its centre.

Atlantic Coast.—Make the Pena. of Nova Scotia opposite the first division; Cape Cod north of the second, and Cape Fear at the third. The western shore of Florida crosses at the fourth division; the mouth of the Gulf of Mexico is between the fourth and fifth, and Yucatan Pena. extends as far north as the fifth. The shore of the Gulf of Mexico crosses the line C B near its centre, and touches the line E B. The shore of Central America, and the Isthmus of Panama follows closely the zigzag line from K to O.

Pacific Coast.—California Peninsula extends nearly as far south as the angle at J, and the eastern shore of the Gulf of California crosses the line I J near its centre.

Note.—It will be observed that the Lake of the Woods is on the line C D, midway between its centre and C; also, that Lake Erie is midway between the centres of the lines C D and B D.

* In these directions for drawing, some features are referred to which are not found upon the accompanying maps. In such cases it is expected that the pupil will refer to the other maps in the book.

DIRECTIONS FOR DRAWING SOUTH AMERICA.

Diagram.—1. Draw the vertical line A B the length desired for the map, and divide it into four equal parts. From the upper division-point, draw a horizontal line to the right, one-half the length of the first line, and divide it into three equal parts. Extend this horizontal line one-third of its length to the left.

2. Draw straight lines from C to F, from F to A, from A to E, and from E to B, and divide the lines F A, A E, and E B, each into three equal parts.

General Form.—South America in its general form is wedge-shaped—being wide toward the north and narrow toward the south. Its coast-line is simple, and deviates but little from the lines of the diagram. The length of the Continent from north to south is 4,500 miles.

Points of Coincidence.—The position of the Peninsula of Paraguana is determined by the northern angle of the figure; Cape St. Roque by the eastern angle; Cape Pillar by the southern, and Cape Parina by the western. Opposite the second division-point, on the line F A, is the Isthmus of Panama; and opposite the second, on the line A E, is the mouth of the Amazon. Opposite the first division on the line E B is Cape Frio, and opposite the second is the mouth of the Rio de la Plata.

DIRECTIONS FOR DRAWING AFRICA.

Diagram.—1. By means of a quadrant divided into six equal parts, as represented in the figure, draw the first line of the diagram the length desired for the map.

2. Divide this line into two equal parts at C, and the upper half in four equal parts.

3. With the points A and B as centres, and with a radius equal to three-fourths of the first line, draw two arcs to intersect D, and draw the lines A D and B D. In the same manner with the points A and C as centres, and with a radius equal to three-fourths of the line A C, determine the point E, and draw A E and C E.

4. Divide the line A D into two equal parts, and draw the perpendicular F H equal to one-eighth of the first line. Divide the part F D into two equal parts, and draw the lines A H and H G. Trisect each of the lines A H, D B, B C and C E.

General Form.—Africa resembles both North America and South America in its general form, being wide at the north and narrow toward the south. Its coast is very regular, like that of South America. Its length, from Cape Spartel to Cape Agulhas, is 5,000 miles. Like South America, it is situated on both sides of the Equator.

Points of Coincidence.—The position of Cape Spartel is determined by the northern angle of the diagram; the Isthmus of Suez by the north-eastern angle; Cape Guardafui by the eastern angle; Cape Agulhas by the southern, and Cape Roxo by the western.

Outline.—Commence at Cape Spartel, and draw the northern and eastern coasts; then, from the same point, draw the western coast. The coast from Cape Spartel to Cape Bon is without the line of the diagram; then it crosses the line, and forms the Gulf of Sidra, opposite the second division-point. The western shore of the Red Sea follows the line H G, and makes an inward curve between G and D. The eastern shore first makes a small outward curve; touches the line at the first division-point, and then makes a much larger bend without the line, touching again at Cape Agulhas. From this point it deviates but little from the diagram till it reaches Cape Lopez. Between this point and the first division on the line C E, there is a large inward bend forming the Gulf of Guinea. It then bends without the line till we reach Cape Roxo. From Cape Roxo to Cape Spartel the coast is wholly without the line.

Fig. 1.

Figure 1 represents a convenient Ruler for pupils to use in drawing maps upon the blackboard. It is twenty inches long, and divided into halves, thirds, fourths and sixths. A similar one, six inches long, may be used for drawing on slate or paper.

Fig. 2.

Figure 2 represents an easy method for drawing a quadrant.

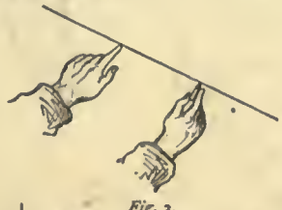


Fig. 3.

Figure 3 represents an easy method for trisecting a line.

Note.—In the construction of diagrams, and in the division of lines, the pupils should at first be allowed to use a ruler, such as the one represented in figure 1. After some practice, however, the ruler should be dispensed with, and the figures should be drawn by hand, guided only by the eye.

In drawing a quadrant, a piece of crayon held between the thumb and first finger may be made to describe the arc around the end of the fourth finger, as represented in figure 2. A vertical and a horizontal line drawn from the centre to the arc will complete the quadrant. Instead of the hand, a short string with a piece of crayon tied to the end of it may be used; or, each pupil may be furnished with a quarter of a circle, cut out of a piece of writing paper, having the divisions of quarters and sixths marked upon it.

In dividing a line into three equal parts, use the finger or one hand and a crayon in the other, and place them so that the three parts appear equal, as represented in figure 3.

In dividing a line into four or six parts, first bisect it, and then bisect or trisect each half.

It will be observed that the different lines of the diagrams are drawn in the order they are lettered, and that the divisions are made in the order they are numbered.

In drawing upon paper or slate, the diagram should be in very light lines. For blackboard work, the figure should be drawn with a slate-pencil.

MODEL LESSON IN MAP-DRAWING.

In Map-drawing Exercises, the pupils may either be required to describe their work in full, without the assistance of questions; or, the lessons may consist of a series of questions and answers similar to the following model:—

North America.—After the diagram is made, the class is prepared to draw the map,—first, with the atlas in hand, and afterwards from memory. Every order given by the teacher should be executed by the class simultaneously, and with military promptness and precision. The execution should commence immediately after the last word of the order is given. Each pupil is supposed to have his own diagram on the board upon which he draws his map.

Outline: *Teacher.*—What is the most northern point of North America?

Scholars.—Point Barrow.

T.—Show where Point Barrow is located. In what direction from it is Cape Charles?

S.—South-east.

T.—Point where Cape Charles is located. (Scholars point.)

Now make a dot showing the location of each of the following places between these two Capes:—1st. For Cape Bathurst. (Scholars made the dot with the crayon.) 2d. For Victoria Land. 3d. For the northern extremity of Melville Pena. 4th. For Hudson Strait. What large bay between Melville Peninsula and Hudson Strait?

S.—Hudson Bay.

T.—5th. For the southern extremity of Hudson Bay. (Dot.) 6th. For Cape Chidley. What bay south-west from Cape Chidley?

S.—Ungava Bay.

T.—Draw the coast-line from Point Barrow to Cape Bathurst. (Scholars draw.) From Cape Bathurst to Victoria Land. From Victoria Land to Melville Peninsula. Draw Hudson Bay and James Bay. Draw the line from Hudson Strait to Cape Charles.

The teacher should now make a brief inspection of the work done, and point out and correct all the faults made.

In this manner the outline of North America should be completed.

Mountains: *T.*—How far do the Rocky Mountains extend?

S.—Through the entire length of North America.

T.—What is their elevation?

S.—Between 8,000 and 16,000 feet, except the northern portion, which is only between 2,000 and 8,000 feet.

T.—Draw the Rocky Mountains nearly parallel with, and at a proper distance from the Pacific Coast. What range in the eastern part of the Continent?

S.—The Appalachian Mountains.

T.—What is the elevation of this range?

S.—About 2,000 feet.

T.—Draw it. The teacher should now inspect the drawing of the mountains and correct mistakes.

Lakes: *T.*—What three lakes have their outlet through the Mackenzie River?

S.—Great Bear Lake, Great Slave Lake, and Athabasca Lake.

T.—Point where the first is located; the second; the third. Draw the first; the second; the third.

In this manner complete the drawing of the lakes.

Rivers: *T.*—Describe the Yukon River.

S.—It rises near the Pacific Coast and west of the Great Slave Lake; flows, first, in a north-westerly direction, then westerly through the country of Alaska, and empties into Behring Sea.

T.—Draw it. Follow in the same manner with the Mackenzie; Nelson; Albany; St. Lawrence; Ottawa; Savannah, and Alabama.

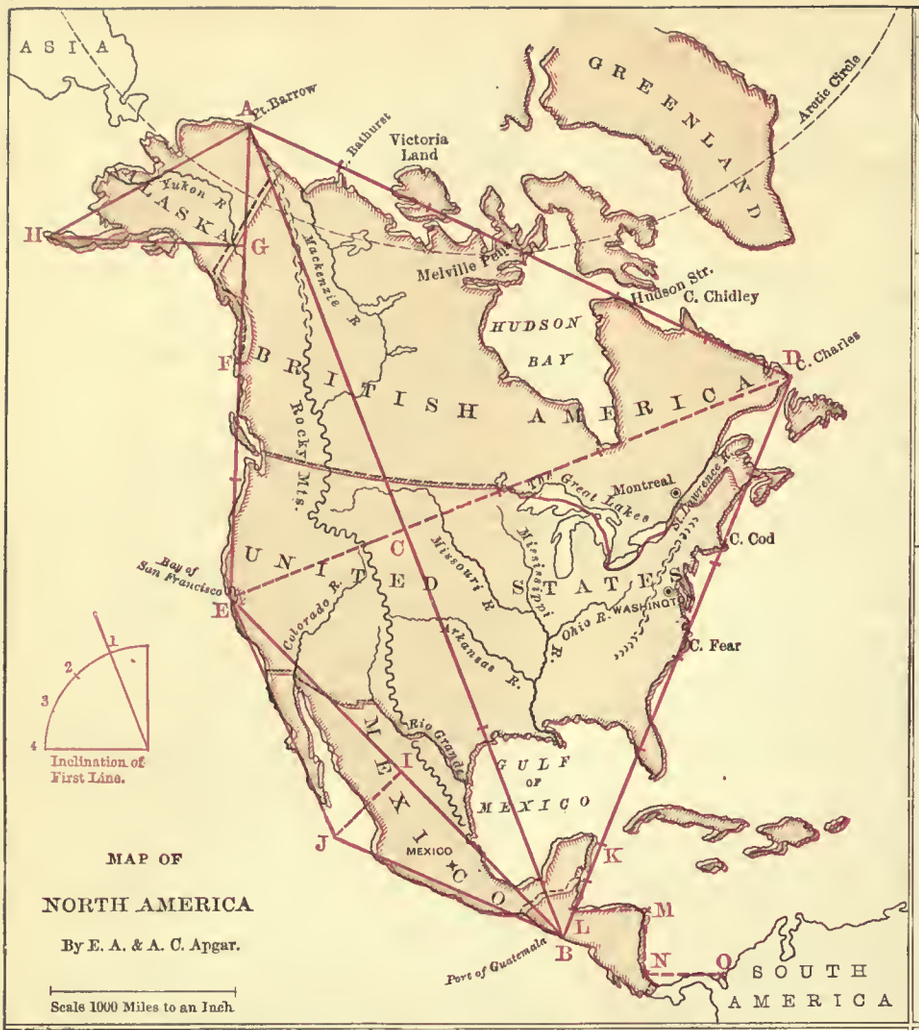
T.—Describe the Mississippi River.

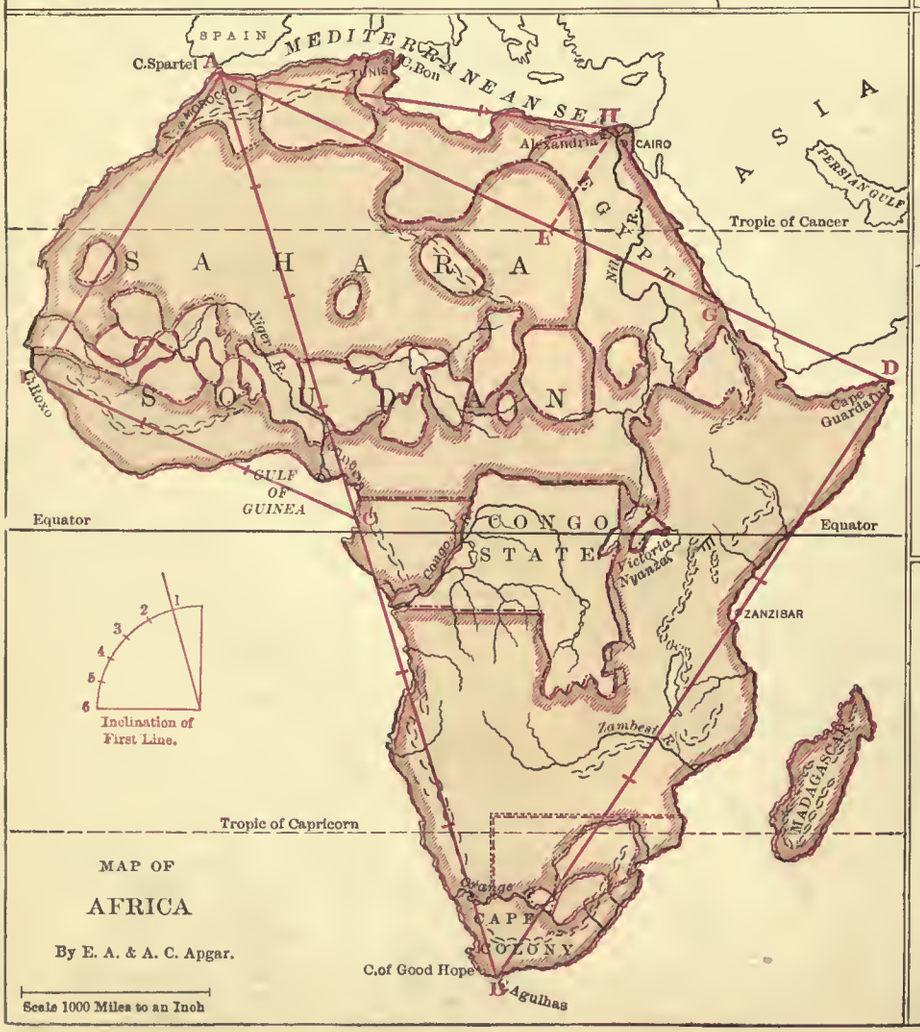
S.—It rises in a small lake west of Lake Superior, and south of the Lake of the Woods; flows a southerly course through the United States, and empties into the Gulf of Mexico.

T.—Draw it. Draw the tributaries, and describe them.

Complete the rivers in this way, and inspect the work.

Cities: *T.*—Locate the cities as I name them, taking pains to show the population of each as it is done in the book.





DIRECTIONS FOR DRAWING AUSTRALIA.

Diagram.—1. Draw the horizontal line **A B** the length desired for the map, and bisect it at **C**.

2. Through the centre **C** draw the line **D E** at right angles to **A B**, making **C D** and **C E** each one-third the length of **A B**.

3. Draw **D F** at right angles to **D E**, and one-fourth the length of **A B**, and connect **F** and **B**.

4. Draw **G H** at right angles to **D E**, making **G E** and **E H**, each equal to **F B** in length, and bisect the lines **C E** and **E H**.

Points of Coincidence.—North-west Cape coincides with the angle at **A**; Sandy Cape, with the angle at **B**; Cape Howe, with the angle at **H**; and Cape Leeuwin, with the angle at **G**. Cape York is a little north of the angle at **F**.

Map.—From **G** the coast extends toward the centre of the line **C E**, and from this point it extends toward and crosses near the bisecting point of the line **E H**.

The Gulf of Carpentaria is situated between **D** and **F**, and extends toward the south nearly half way to the line **A B**.

Note.—If Australia is drawn without New Zealand, the first line **A B** should be inclined about five degrees from the horizontal, the extremity **A** being farther north than the extremity **B**.

DIRECTIONS FOR DRAWING EUROPE.

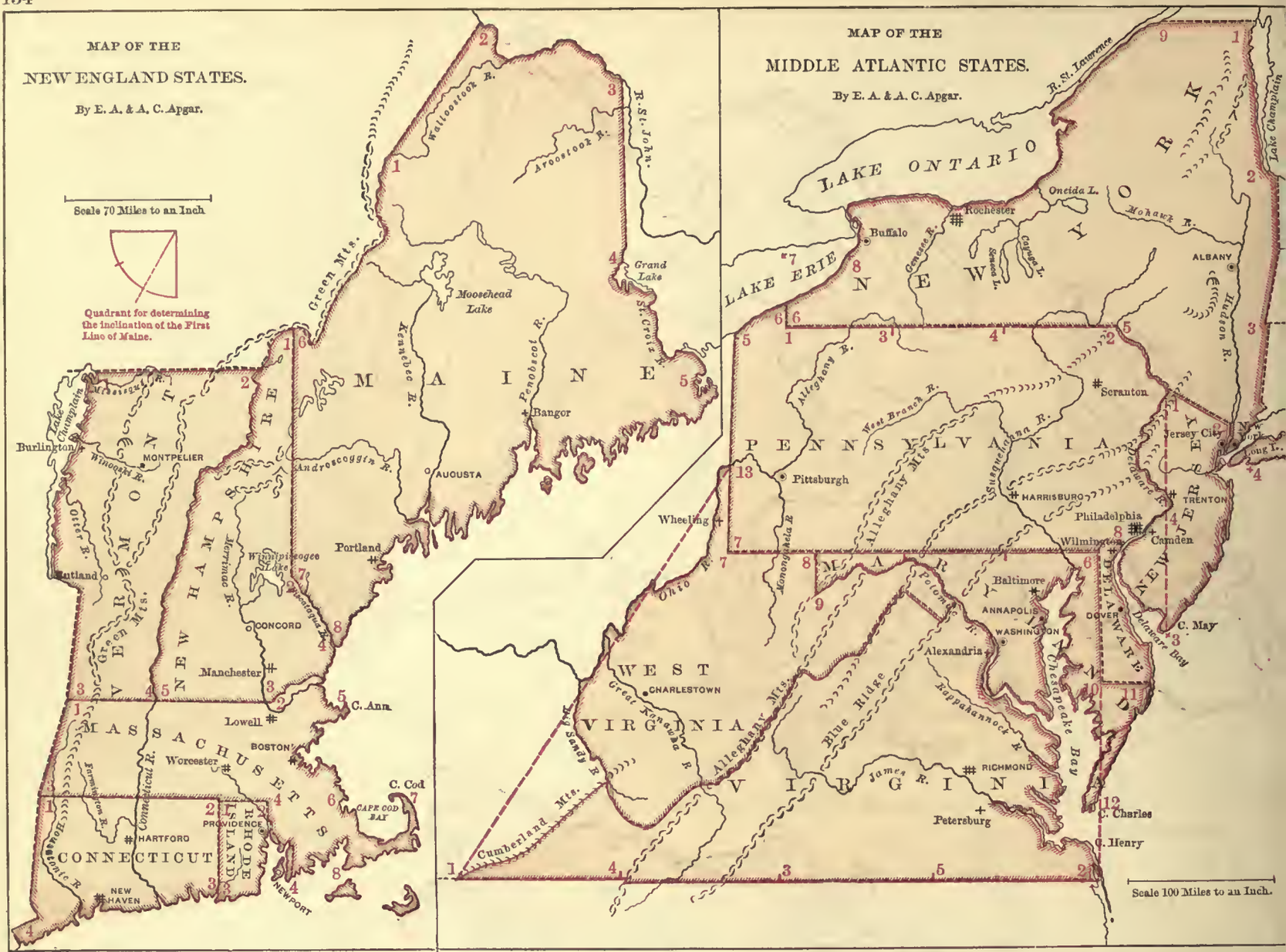
Diagram.—Draw the horizontal line A B the length desired for the map. This line connects the mouth of the Douro River with Cape Apsheron. Its length is 3,000 miles. With A and B as centres, and with a radius equal to three-fourths of A B, draws arcs to intersect at C, and connect A and C, and B and C. Divide A C into four, C B into six, and A B into eight equal parts. From the first division to the right of G, and from the angle A draw vertical lines, as shown in the figure, each one-eighth the length of A B. Connect H and I, and divide the right-hand half of this line into four equal parts. From D draw a perpendicular line equal to two and one-half divisions on the line A B, and bisect it. Connect C and F, and E and B. From K draw a line in the direction of the centre of C B until it meets a vertical line drawn from the angle C.

Map.—In drawing the map commence at C, on the coast of Norway, and draw, in order, the northern and eastern boundaries; then commence again at C and draw the western and southern boundaries. The coast of Norway follows the line C A, and extends south to a point about midway between C and K. The lines C L and L K will assist in drawing the Gulf of Bothnia, the Baltic Sea, and the north-western shores of Germany and France. The head of the Bay of Biscay is near the first division to the right of A, on the line A B. The Gulfs of Lions and Genoa are on opposite sides of the second division, and the head of the Adriatic Sea embraces the third division. The fifth division marks the western extremity of the Black Sea; the Sea of Azov is north of the sixth division, and the eastern extremity of the Black Sea is near the seventh. Italy resembles in outline the shape of a boot. The southern extremity is between the first and second divisions to the right of J on the line H I. The Peninsula of Greece is situated between the second and third divisions, and extends south of this line equal to one division. The Sea of Marmora is a little north of L.

DIRECTIONS FOR DRAWING ASIA.

Diagram.—Draw the vertical line A B a little more than one-half the length desired for the map, north and south. Divide it into three equal parts, and the upper third into two parts. From the point B draw the horizontal line B C one and one-sixth times the length of A B. Bisect it, and connect A and C. Trisect A C, then bisect the middle division and trisect the upper. With the points A and C as centres, and with a radius equal to one and two-thirds times the first line, draw arcs to intersect at D, and connect A and D, and C and D. Trisect A D and bisect the middle division. Divide the line C D into four equal parts, and bisect both of the extreme divisions. Draw the lines E P and N L and bisect them; also one from O to K and trisect it. From the lower trisecting point on the line O K draw a line toward J till it meets the line N L. The distance measured by the line A C is 5,300 miles.

Map.—In drawing the map commence at East Cape and draw in order the eastern, southern, and western boundaries, including the Black Sea; then commence again at East Cape and finish the outline. The shore of Kamchatka crosses at the first division on the line D C; the southern shore of the Sea of Ochotsk is at G; the Yellow Sea is near the centre of the line at H; the Gulf of Tonquin is at I; and the Gulf of Siam is near the last division. If we suppose a line drawn from this division-point parallel with the line A C, it will assist in determining the position of the Gulf of Siam and the Bay of Bengal. Cape Romania coincides with the angle at C, and Cape Comorin with the lower division on the line O K. The head of the Persian Gulf is near the centre of the triangle A N L. The Strait of Bab-el-Mandeb is at N; the Isthmus of Suez between A and K; and the Strait of Bosphorus, at A. The Black Sea extends as far east as the first division on the line A C, and the Caspian Sea touches this line at the second division. The position of the Caspian Sea, the Ural River, and Ural Mountains is determined by the line K C.



DIRECTIONS FOR DRAWING.

Maine.—The first line from 1 to 2 is 75 miles long. Its inclination is found by trisecting a quadrant, as shown in the figure. The boundary from 2 to 3 is equal to the first line, and the point 3 is opposite the upper trisecting point of the first line. The distances from 3 to 4 and from 4 to 5 are each equal to the first line. The direction of the St. Croix River coincides closely with a line drawn from 2 through 4. The boundary from 1 to 6 is one and one-fourth times the first line and extends in nearly the same direction. From 6 to 7 is one and one-half times the first line. The boundary formed by the Piscataqua River is one-half the first line. Thus the whole distance from 6 to 8 is two times the first line. Points 5 and 8 are joined by the irregular Atlantic coast-line, slightly curved inward.

New Hampshire.—The first line from 1 to 2 is 112 miles long, or one and one-half times the first line of Maine. From 2 to 3 is one-half the first line, and the point 3 is a little west of the first line extended. The boundary from 2 to 3 is formed by the Piscataqua River, the Atlantic coast-line and the irregular boundary extending parallel with the Merrimac River. Point 4 is east of the first line extended and about equally distant from 2 and 3. From 3 to 5 is one-half of the first line. Points 1 and 5 are connected by the Connecticut River.

Vermont.—The first line from 1 to 2 is 75 miles long. From 1 to 3 is two times the first line. Two-thirds of this boundary is formed by Lake Champlain. From 3 to 4 is one-half the first line. Points 2 and 4 are joined by the Connecticut River. Point 3 is a little west of point 1.

Massachusetts.—The first line from 1 to 2 is 100 miles long. From 1 to 3 is one-half of the first line. The eastern extremity of the southern boundary at 4 is directly south of 2. The distances from 2 to 5, from 4 to 6, from 6 to 7, and from 6 to 8, are each one-third of the first line. The bay on which Boston is situated, is midway between points 4 and 5.

Rhode Island.—The first line from 1 to 2 is 22 miles long. From 1 to 3 is two times the first line, and from 3 to 4 is one and one-half times the first line.

Connecticut.—The first line from 1 to 2 is 88 miles long, or four-fifths the length of the southern straight boundary of Massachusetts. From 2 to 3 is one-half the first line. From 1 to 4 is about three-fourths of the first line. Points 3 and 4 are joined by the coast-line slightly curved inward.

New York.—The first line of New York is Lake Champlain. Its length is 100 miles. From 2 to 3, from 3 to 4, and from 3 to 5 are each equal to the first line. The northern boundary of Massachusetts is midway between 2 and 3. From 5 to 6 is two and one-fourth times the first line and is in line with the southern boundary of Massachusetts. From 6 to 7, and from 7 to 8 are each one-half of first line. Lake Ontario extends as far west as the State; its eastern shore is midway between Niagara River and the eastern boundary of the State, and the distance between the southern shore and the southern boundary of the State is three-fourths of the first line. The width of Lake Ontario is one-half the first line. From 9 to 1 is three-fourths of the first line.

New Jersey.—The first line from 1 to 2 is 50 miles long. The vertical line from 1 to 3 is three and one-half times the first line. This line is bisected at 4, which marks the position of an important bend in the Delaware River. The northern bend of the Delaware River is about one-half the length of the first line, west of the vertical line, and the southern bend is nearly twice as far west as the northern. Point 3 marks the position of Cape May. Points 2 and 3 are connected by the Hudson River and the Atlantic coast, slightly curved outward.

Pennsylvania.—From 1 to 2 is the first line. Its length is 225 miles. This is trisected, and the distance from 1 to 5 is one-half the distance from 1 to 3. From 1 to 6 is one-half the distance from 1 to 5. From 5 to 7 is two-thirds of the first line, and the eastern extremity of the southern boundary at 8 is directly south of 2. The eastern boundary, formed by the Delaware River, is in the form of a W, turned thus ≷.

Delaware, Maryland, Virginia, and West Virginia. From 1 to 2 is 440 miles. It is divided into four equal parts. From 2 to 6 a vertical line is drawn one-half the length of the first line. From 6 to 7 is five-eights of the first line, or the point 7 is vertically over a point midway between 3 and 4. The line from 6 to 7 is divided into four equal parts. From 7 to 13 is equal to, and from 8 to 9 is one-half the distance from 7 to 8. From 6 to 10 is one-half the distance from 6 to 8 and from 10 to 11 is one-third the distance from 6 to 10. From 11 to 12 is equal to the distance from 6 to 10.

MAP OF THE

SOUTHERN STATES.

By E. A. & A. C. Apgar.

Scale of Statute Miles.

25 50 75 100 125 150 175 200 225 250

125 Miles to an Inch.

DIRECTIONS FOR DRAWING THE GROUP.

Note.—After the pupils have learned to draw the above States singly, according to the directions given below, they should be taught to draw the group.

In grouping, draw in the following order: 1, North Carolina; 2, Tennessee; 3, Mississippi; 4, Alabama; 5, Georgia; 6, South Carolina; 7, Florida; 8, Louisiana; and 9, Arkansas.

The northern boundary of Tennessee is one-third longer than the first line of North Carolina. The northern boundary of Mississippi is one-third of the southern boundary of Tennessee, and the northern boundary of Alabama is two-thirds of the remaining portion of the southern boundary of Tennessee.

The southern boundary of Mississippi, from 5 to 6, constitutes the first line for Louisiana. The northern boundary of Louisiana bisects the western boundary of Mississippi. The northern boundary of Ark. is in line with the northern boundary of Tenn., and its length is equal to the width of the State.

DIRECTIONS FOR DRAWING.

North Carolina.—The first line from 1 to 2 is 330 miles long, or three-fourths of the southern boundary of Virginia. This line is trisected at 3 and 4. From 3 to 5, from 5 to 6, and from 2 to 7, are each one-third of first line, and the point 6 is south-east of the point 5. From 5 to the western extremity of the State, at 8, is five-sixths of first line, or two and one-half times the third of first line.

South Carolina.—The first line from 1 to 2 is 200 miles long. It is trisected at 3 and 4. From 4, the right-hand trisecting point, to the southern extremity of the State, at 5, is nearly equal to first line, and from 2 to 6 is one-half of first line in a south-east direction. Points 6 and 5 are connected by the coast, and 1 and 5 by the Savannah River.

Georgia.—The first line from 1 to 2 is 150 miles. The western boundary from 1 to 3, the boundary formed by the Chattahoochee River from 3 to 4, and the southern boundary from 4 to 5, are each equal to first line. The St. Mary's River, from 5 to 6, is one-third of first line, and the coast, from 6 to 7, is two-thirds of first line. Points 2 and 7 are connected by the Savannah River.

Alabama.—The first line from 1 to 2 is 150 miles long. From 2 to 3 is equal to, and from 3 to 4 is nearly equal to first line. From 4 to 5 is equal to first line. From 5 to 6, and from 6 to 7 are each one-third of first line. The line from 1 to 7, which forms the western boundary, has a small angle at its lower trisecting point.

Florida.—The first line is 150 miles long. From 2 to 3 is one-sixth of first line, and from 3 to 4 is equal to first line. The St. Mary's River, from 4 to 5, is one-third of first line. From the mouth of St. Mary's River a line is drawn towards the south, two and one-half times first line, which determines the southern limit of the State. From 6 to 7 is equal to first line, and at 7 a horizontal line is drawn, equal to first line in length, and extending equal distances east and west of the vertical line. From 2 to 10 is two-thirds, and from 1 to 11 is one-third of the first line.

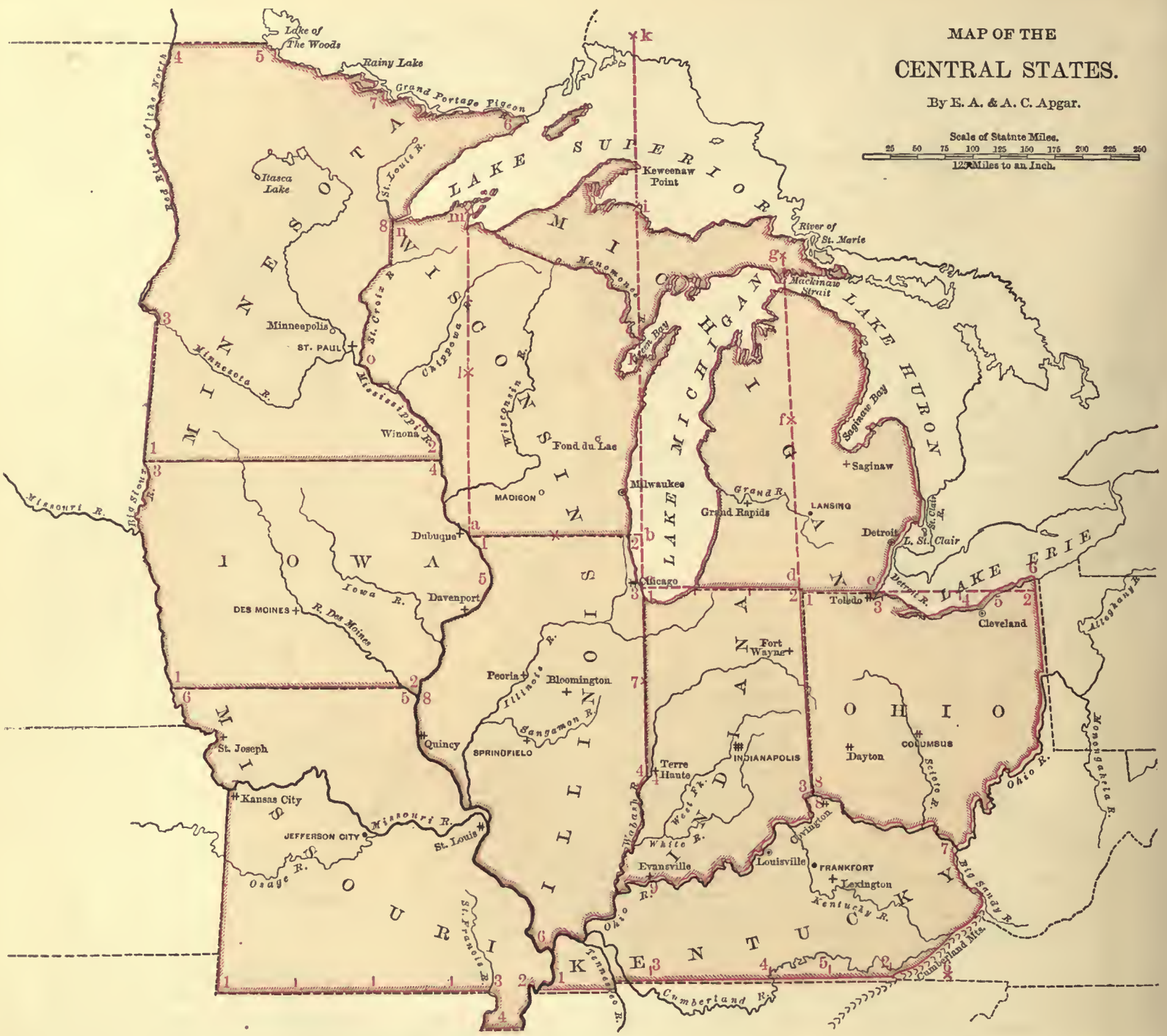
Mississippi.—The first line is 110 miles long. From 2 to 3 is three times first line; from 3 to 4 is a little more than one-half of first line, and from 4 to 5 is one-half of first line. From 5 to 6 is equal to first line. The Mississippi River forms small angles at its trisecting points, where it receives the waters of the Arkansas and Yazoo.

Louisiana.—The first line from 1 to 2 is 110 miles, or the same in length as the first line of Mississippi. From 1 to 3 is one and one-fourth times first line, and the point 3 is one-fourth of first line east of the point 1. From 3 to 4 is one and one-half times first line. From 4 to 5 is one-half of first line, and the Sabine River, from 5 to 6, is one and one-half times first line,—making the entire western boundary two times first line. From 2 to 7, from 1 to 8, and from 1 to 9, are each equal to first line.

Arkansas.—The first line from 1 to 2 is 250 miles long. From 2 to 3 and from 3 to 4 are each equal to one-sixth of first line. The width of the State, from 1 to 5, is equal to first line. From 5 to 6 is two-thirds of first line.

Tennessee.—The northern boundary, or first line, is 440 miles long, or the same as the southern boundary of Virginia. The width of the State, from 1 to 3, is one-fourth of first line, and the southern boundary, from 3 to 4, is three-fourths of first line.

Note.—It will be observed that the first lines of Georgia Alabama and Florida are equal in length. The first lines of Mississippi and Louisiana are also equal.



DIRECTIONS FOR DRAWING.

Michigan and Wisconsin.—The first line is the southern boundary of Wisconsin. It is 150 miles long. From b to c is one-third of the first line; from c to d is equal to the first line, and from d to e is one-half of the first line.

From a, b and d vertical lines are drawn. The middle one is three times, and each of the others two times the length of the first line.

The distance from the right-hand vertical line to the St. Clair River is three-fourths of the first line, and to the eastern shore of Lake Huron at p it is equal to the first line. To the right of f is Saginaw Bay, and at g is the projection of land between River St. Marie and Mackinaw Strait.

At h is Green Bay, at i the southern shore of Lake Superior, and at k the northern shore. Keweenaw Point touches this vertical line. At m is Point Detour, and the distance from m to n is one-half of the first line. The junction of the St Croix with the Mississippi at o is west of l a distance equal to two-thirds of the first line.

Illinois.—The first line from 1 to 2 is 150 miles long. From 2 to 3 is one-third of the first line, and from 3 to 4 is one and one-sixth times the first line The lines from 1 to 2 and from 3 to 4 are each bisected. The length of the State, from 5 to 6, is two and one-third times the first line, and the width, from 7 to 8, is one and one-third times the first line. Two-thirds of the boundary, from 4 to 6, is formed by the Wabash River, and the remaining third by the Ohio.

Indiana.—The first line, from 1 to 2, is 150 miles long, one-third of which is formed by Lake Michigan. The eastern boundary, from 2 to 3, is one and one-third times the first line, and the western boundary, from 1 to 4, is one and one-sixth times the first line. The boundary formed by the Wabash River, from 4 to 5, is two-thirds of the first line. Points 3 and 5 are joined by the Ohio River.

Ohio.—The first line, from 1 to 2, is 220 miles long. It is trisected at 3 and 4, and the right-hand division is bisected at 5. That portion of the northern boundary extending from 3 to 5 is formed by Lake Erie. The distance from 2 to 6 is one-half the distance from 2 to 5. From 2 to 7 is one-third of the first line, and the western boundary, from 1 to 8, is five-sixths of the first line, or equal to the distance from 1 to 5. Point 9 is south of the right-hand trisecting point of the first line at 4, and the distance from 4 to 9 is equal to the first line. Points 7, 9 and 8 serve as guides for drawing the Ohio River.

Kentucky.—The first line, from 1 to 2, is 330 miles long, or equal to the first line of North Carolina. This line is trisected at 3 and 4, and the right-hand division is bisected at 5. This first line is now extended to 6, a distance equal to one-sixth of its own length. From 6 to 7 is one-third, from 5 to 8 is one-half, and from 3 to 9 is one-quarter of the first line. Points 7, 8, 9 and 1 serve as guides for drawing the Ohio River.

Missouri.—The first line, from 1 to 2, is 280 miles long. From 2 to 3 and from 3 to 4 are each one-eighth of the first line. The width of the State is equal to the first line, and the eastern extremity of the northern boundary at 5 is a little east of the centre of the first line. The northern boundary, from 5 to 6, is three-fourths of the first line. The western boundary, from 1 to 7, is two-thirds of the width of the State. The bend of the Mississippi River, where it receives the waters of the Missouri, is midway between 2 and 5.

Iowa.—The first line from 1 to 2 is 210 miles long, or three-fourths the length of the first line of Missouri. The width of the State is equal to the first line. The northern boundary, from 3 to 4, is one and one-third times the first line, and it extends the same distance east and west of the extremities of the southern boundary. One-third of the western boundary is formed by the Big Sioux River, and two-thirds by the Missouri. The great bend of the Mississippi River at 5 is midway between 2 and 4.

Minnesota.—The first line from 1 to 2 is 280 miles long, or equal to the first line of Missouri. From 1 to 3 is one-half of the first line, and the boundary formed by the Red River of the North is nearly equal to the first line. From 4 to 5 is one-third of the first line, and from 5 to 6 is equal to the distance from 3 to 4. Point 7 bisects the distance from 5 to 6, and the distance from 7 to 8 is one-half of the first line.

MAP OF THE

UNITED STATES.

By E. A. & A. C. Apgar.

Scale 300 Miles to an Inch.

DIRECTIONS FOR DRAWING THE UNITED STATES.

Diagram.—1. Draw the horizontal line A B the length desired for the map, and divide it into four equal parts. This line coincides with parallel 49° north. It extends from Vancouver Island to the Gulf of St. Lawrence, and is 2800 miles long.

2. Draw the vertical lines A F, C G, and E H, each one-half the length of the first line, and connect F and H. Trisect the line A F at I and J, and the line E H at K and L.

3. Draw the oblique lines C K and B K. Extend the line F H to M, making G M equal in length to the oblique line C K, and connect B and M.

4. Trisect the line B M at N and O. Bisect the middle third of the line A F at 1, and trisect the lower half at 2 and 3. From the points 1 and 3 draw horizontal lines across the figure.

5. Trisect F G at P and Q, and draw D P. Bisect G H at R. Trisect F P at 4 and 5, and bisect G R at 6. Divide each of the oblique lines, C K and B K, into four equal parts, and bisect the line E K. Also bisect each of the thirds on the line B M.

6. Mark the point 17, making its distance from T equal to one division on the oblique line C K, and also on the line below mark the point 18, making its distance from U equal to one and one-half divisions on the oblique line. Bisect T K at 19.

7. Connect the points 11 and 15. From M draw the line M S one-sixth the length of B M. From 6 draw a line north to 20, equal in length to the distance from G to 6.

Outline.—1. Draw the forty-ninth parallel from A to C, for the northern boundary of the States, and at C, the centre of the first line, locate the Lake of the Woods.

2. The obliqne lines, with their divisions, serve as guides for drawing the Great Lakes and the St. Lawrence. Lake Superior crosses at 7, and its northern shore touches the line A B. The western shore of Lake Michigan crosses at 8 and at 19. Saginaw Bay touches at 9, and the southern extremity of Lake Huron touches between 9 and K.

3. Lake Erie surrounds the point at K; the northern shore of Lake Ontario crosses at 10, and midway between these points is the Niagara River. The northern part of Maine crosses at 12.

4. The line B M, with its divisions, marks the direction of the Atlantic Coast, and the position of several important features. The eastern boundary of Maine crosses at 14, and the southern coast crosses midway between 14 and N. At N the coast again crosses, and forms Cape Cod without the line. Opposite 15 is Delaware Bay, and at O is Cape Hatteras. From this point to M the coast makes quite a bend within the line.

5. At S is Cape Sable. The western shore of Florida crosses at H; at R is the mouth of the Mississippi, and near G is the coast of Texas. At Q is an important bend in the Rio Grande, and south of the middle point between Q and G is the mouth of this river. Between 4 and 5 is the Peninsula of California. The southern boundary of California is midway between 3 and F.

6. The western shore of California is west of the line A F, equal to the distance from 1 to 3. San Francisco Bay is west of 2, and the point where the coast crosses the line A F is south of J, equal to the distance from 3 to J.

The States.—After completing the outline, draw the Mississippi River, and then draw the States in the following order:—

1. The New England States.
2. The Middle States.
3. The Southern States, east of the Mississippi River.
4. The Western States, east of the Mississippi River.
5. The five States bordering the Mississippi on the west.
6. California.
7. Arizona, New Mexico, Indian Territory, and Texas.
8. Nevada, Utah, Colorado, and Kansas.
9. Washington, Oregon, and Idaho.
10. Montana, Wyoming, North Dakota, South Dakota, and Nebraska.

Note.—The Mississippi River rises a little south of the Lake of the Woods, and flows south-easterly, till it crosses the line I N at 17. It here makes a curve to the east, and then a larger one to the west, and crosses at 18. From this point to 20 it flows a little west of south. From 20 its course is south-east.

The Eastern States are all east of the line from 11 to 15. The Middle States are east of the line E H. The northern boundaries of Arkansas, Tennessee, and North Carolina coincide with the horizontal line drawn through U, and the northern boundaries of Arizona, New Mexico, and Indian Territory are a little north of this line. The northern boundaries of California, Nevada, Utah, Indiana, Ohio, Pennsylvania, Connecticut, and Rhode Island are a little south of the line I N. The western boundaries of Missouri, Arkansas, and Louisiana coincide closely with the vertical line C G. The western boundaries of Wyoming, Colorado, and New Mexico lie in the direction of the line D P—that of Wyoming being west of it, and that of Colorado and New Mexico being east of it.

GEOGRAPHICAL AND STATISTICAL TABLES.

A considerable part of the matter usually found in Statistical Tables has in this book been incorporated in the text and in the various Topical Reviews. The following Tables are supplementary.

TABLE I.

Dimensions of the Earth.

Polar Diameter	7,899.17 miles.
Equatorial Diameter	7,925.65 "
Equatorial Circumference	24,899.00 "
Superficial Area	196,861,755 sq. miles.

TABLE II.

Length of a Degree of Longitude on each parallel of Latitude from the Equator to the North Pole.

Deg. of Lat.	No. of Miles in one Deg. of Long.	Deg. of Lat.	No. of Miles in one Deg. of Long.	Deg. of Lat.	No. of Miles in one Deg. of Long.
Equa. 0	69.16	30	59.95	60	34.67
1	69.15	31	59.33	61	33.62
2	69.12	32	58.71	62	32.56
3	69.07	33	58.07	63	31.48
4	69.00	34	57.40	64	30.40
5	68.90	35	56.71	65	29.31
6	68.79	36	56.02	66	28.21
7	68.65	37	55.31	67	27.10
8	68.50	38	54.57	68	25.99
9	68.32	39	53.82	69	24.86
10	68.12	40	53.05	70	23.73
11	67.90	41	52.27	71	22.58
12	67.66	42	51.48	72	21.44
13	67.40	43	50.66	73	20.28
14	67.12	44	49.83	74	19.12
15	66.82	45	48.98	75	17.96
16	66.50	46	48.12	76	16.78
17	66.16	47	47.25	77	15.61
18	65.80	48	46.36	78	14.43
19	65.42	49	45.46	79	13.24
20	65.01	50	44.55	80	12.05
21	64.59	51	43.61	81	10.85
22	64.16	52	42.97	82	9.66
23	63.70	53	41.71	83	8.46
24	63.22	54	40.74	84	7.25
25	62.72	55	39.76	85	6.05
26	62.20	56	38.77	86	4.84
27	61.67	57	37.76	87	3.63
28	61.11	58	36.74	88	2.42
29	60.54	59	35.71	89	1.21
				90	0.00

TABLE III.

Heights of Principal Mountains.

North America.

1. *Northern Coast Mountains.*

	Feet.
Mount St. Elias (Dall)	19,283
" (Malespina)	17,854
" (Eng. Hydrog. Charts)	14,970
" (La Perouse)	12,661

2. *Sierra Nevada and Cascade Range.*

Mount Whitney	14,887
Mount Rainier	14,444
Mount Shasta	14,440
Mount Tyndall	14,386
Mount Dana	13,277
Mount Hood	11,225

3. *Rocky Mountains.*

Uncompahore Peak	14,540
Mount Harvard	14,334
Gray's Peak	14,341
Mount Lincoln	14,297
Long's Peak	14,271
Pike's Peak	14,147

South America.

Andes.

*Illampu	24,812
*Illimani	24,155
*Aconcagua	23,421
Tupangati	22,015
Chimborazo	21,424
Nevada de Sorata	21,290
Nevada de Cavambe	19,535
Antisana	19,137
Cotopaxi	18,875
Tunguaragua	16,424
Pichincha	15,924

Europe.

Elbruz (highest of Caucasus Mountains)	18,526
Blanc (Alps)	15,784
Rosa (Alps)	15,223
Finsteraar-horn (Alps)	14,089
Highest of Pyrenees	11,200
Mount Etna Sicily (volcano)	10,874
Mount Olympus, Greece	8,200
Mount Vesuvius, Italy (volcano)	3,948

Africa.

Killimandjaro, Central Africa	20,000
Teneriffe, Canary Islands	12,182
Atlas Mountains (highest)	11,400
Mountains of Abyssinia (highest)	10,000
Kenia, Central Africa	18,000

Asia.

Everest, Himalaya Mountains (highest in the world)	29,100
Kanchinoinoa Himalaya Mountains	28,156
Dhawalaoiri, Himalaya Mountains	26,826
Hindoo Koosh Mountains (highest)	20,000
Ararat, Armenia	17,200
Fusi Yama, Japan	14,000

Islands.

Mauna Loa, Sandwich Islands	14,000
Ophir, Sumatra	13,842
Owen Stanley, Papua	13,205
Semero, Java	12,000
Egmont, New Zealand	8,840
Australian Alps (highest)	7,500
Kilauea, Sandwich Islands (crater)	6,000

* These are the results of official surveys. Aconcagua is probably the best determined point in South America.

TABLE IV.

Area of the Basins and Length of the Principal Rivers of each Grand Division.

Name	Area of Basin.	Length.
North America.	sq. miles.	Eng. miles.
Mississippi (entire)	1,244,000	4,200
Mackenzie	590,000	2,300
St. Lawrence	430,000	2,000
Saskatchewan	478,000	1,900
Yukon	200,000	1,600
Columbia	298,000	1,020
Colorado	257,000	1,000
South America.		
Amazon	2,775,000	3,750
Plata	1,242,000	2,300
Oronnco	340,000	1,550
San Francisco	250,000	1,550
Europe.		
Volga	600,000	2,400
Danube	311,000	1,800
Dnieper	170,000	1,080
Don	168,000	960
Dwina	107,000	864
Rhine	65,000	600
Asia.		
Yenesei	1,040,000	3,400
Yang-tse-kiang	950,000	3,320
Obi	1,250,000	3,000
Lena	800,000	2,700
Amoor	786,000	2,650
Brahmapootra	450,000	2,300
Indus	400,000	1,850
Euphrates	250,000	1,750
Ganges	416,000	1,600
Irawaddy	140,000	1,200
Africa.		
Nile	1,425,000	4,000
Niger	800,000	3,000
Zambezi	900,000	1,600
Australia.		
Murray	500,000	1,500

TABLE V.

Area of the Principal Lakes of the World, and their Altitude and Depth.

Name.	Area.	Altitude.	Depth.
Old World.	sq. miles.	Feet.	Feet.
Caspian Sea, Asia	132,000	−83	2,700
Victoria Nyanza, Africa	28,000	4,300	
Aral, Asia	26,400	36	200
Albert Nyanza, Africa	20,000	2,700	
Baikal, Asia	15,200	1,230	3,000
Tchad, Africa	15,000	800	
Tanganyika, Africa	13,000	2,800	
Nyassa, Africa	8,000	1,300	
Ladoga, Russia	6,900	50	
Balkhash, Asia	6,400	500	60
Bangweolo, Africa	5,000	4,000	
Onega, Europe	4,900	237	
Eyre, Australia	3,000	70	
Gairdner, Australia	2,400	366	
Wener, Europe	2,300	143	
Urumiah, Asia	1,700	4,350	50
Wetter, Europe	800	289	400
Dead Sea, Asia	500	−1,286	1,300
Geneva, Europe	240	1,226	930
Constance, Europe	190	1,263	1,027
New World.			
Superior, N. America	31,400	600	1,200
Michigan, N. America	25,600	574	1,000
Huron, N. America	23,800	574	1,000
Erie, N. America	10,000	565	80
Great Bear, N. America	9,300	230	
Winnipeg, N. America	8,900	628	
Ontario, N. America	7,300	235	600
Maracaybo, S. America	5,300	0	
Nicaragua, Central America	3,500	128	
Titicaca, S. America	3,500	12,850	700
Great Salt Lake, N. America	3,200	4,200	
Athabaska, N. America	3,200	600	
Nipigon, N. America	1,650	913	600
Chapala, N. America	1,350	2,824	
Tulare, N. America	700	500	
Champlain, N. America	567	93	280
St. John, N. America	500	300	
L. of the Woods, N. America	500	977	
Moosehead, N. America	300	1,070	
Tahoe, N. America	250	6,300	1,700

TABLE VI.

Altitude of the Highest Inhabited Places and Cities.

	Feet.
Haule, Thibet	15,117
Pasco, Peru	14,098
Potosi, Bolivia	13,350
La Paz, Bolivia	12,226
Cuzco, Peru	11,500
Quito, Ecuador	9,520
Bogota, Columbia	8,665
Sherman, Wy. Ter.	8,000
St. Bernard, Alps	7,965
Mexico, Mexico	7,473
Aurora, Nev. Ter.	7,446
Virginia City, Nevada	6,300
Truckee, California	5,834
Salt Lake City, Utah Ter.	4,200

TABLE VII.

Areas of the Oceans with their adjacent Seas, in English square Miles.

	Sq. Miles.
Pacific Ocean	65,630,000
Atlantic "	34,780,000
Indian "	30,590,000
Arctic "	5,930,000
Antarctic "	4,940,000
Total of the Ocean and its branches	142,570,000

REFERENCE TABLE OF POPULATION.

CITIES, TOWNS, VILLAGES, BOROUGHS, ETC., HAVING A POPULATION OF OVER 10,000 BY THE CENSUS OF 1880.

NAME.	POPULATION.
Akron, O.	16,512
Albany, N.Y.	90,758
Alexandria, Va.	13,659
Allegheny, Penn.	78,682
Allentown, Penn.	18,063
Altoona, Penn.	19,710
Atchison, Kan.	15,105
Atlanta, Ga.	37,409
Attleborough, Mass.	11,111
Auburn, N.Y.	21,924
Augusta, Ga.	21,891
Aurora, Ill.	11,873
Austin, Tex.	10,960
Baltimore, Md.	332,313
Bangor, Me.	10,856
Bay City, Mich.	20,693
Belleville, Ill.	10,683
Biddeford, Me.	12,651
Binghamton, N.Y.	17,317
Bloomington, Ill.	17,180
Boston, Mass.	362,839
Bridgeport, Conn.	27,643
Brockton, Mass.	13,608
Brooklyn, N.Y.	566,663
Buffalo, N.Y.	155,134
Burlington, Io.	19,450
Burlington, Vt.	11,364
Cambridge, Mass.	52,669
Camden, N.J.	41,659
Canton, O.	12,258
Cedar Rapids, Io.	10,104
Charleston, S.C.	49,984
Chattanooga, Tenn.	12,892
Chelsea, Mass.	21,782
Chester, Penn.	14,997
Chicago, Ill.	503,185
Chicopee, Mass.	11,325
Chilicothe, O.	10,938
Cincinnati, O.	255,139
Cleveland, O.	160,146
Cohoes, N.Y.	19,416
Columbia, S.C.	10,036
Columbus, O.	51,647
Concord, N.H.	13,843
Council Bluffs, Io.	18,059
Covington, Ky.	29,720
Cumberland, Md.	10,693
Dallas, Tex.	10,358
Danbury, Conn.	11,666
Davenport, Io.	21,831
Dayton, O.	38,678
Denver, Col.	35,629
Derby, Conn.	11,650
Des Moines, Io.	22,408
Detroit, Mich.	116,340
Dover, N.H.	11,687
Dubuque, Io.	22,254
Easton, Penn.	11,924
East Saginaw, Mich.	19,016
Eau Claire, Wis.	10,119
Elizabeth, N.J.	28,229
Elmira, N.Y.	20,541
Erie, Penn.	27,737
Evansville, Ind.	29,280
Fall River, Mass.	48,961
Fitchburg, Mass.	12,429
Fond-du-Lac, Wis.	13,094
Fort Wayne, Ind.	26,880
Galesburg, Ill.	11,437
Galveston, Tex.	22,248
Georgetown, D.C.	12,578
Gloucester, Mass.	19,329
Grand Rapids, Mich.	32,016
Hamilton, O.	12,122
Hannibal, Mo.	11,074
Harrisburgh, Penn.	30,762
Hartford, Conn.	42,015
Haverhill, Mass.	18,472
Hoboken, N.J.	30,999
Holyoke, Mass.	21,915
Houston, Tex.	16,513
Hyde Park, Ill.	15,716
Indianapolis, Ind.	75,056
Jackson, Mich.	16,105
Jacksonville, Ill.	10,927
Jersey City, N.J.	120,722
Joliet, Ill.	16,145
Kalamazoo, Mich.	11,937
Kansas City, Mo.	55,785
Keokuk, Io.	12,117
Kingston, N.Y.	18,344
La Crosse, Wis.	14,505
Lafayette, Ind.	14,860
Lancaster, Penn.	25,769
Lawrence, Mass.	39,151
Leadville, Col.	14,820
Leavenworth, Kan.	16,546
Lewiston, Me.	19,083
Lexington, Ky.	16,656
Lincoln, Neb.	13,003
Lincoln, R.I.	13,765
Little Rock, Ark.	13,138
Lockport, N.Y.	13,522
Logansport, Ind.	11,198
Long Island City, N.Y.	17,129
Los Angeles, Cal.	11,183
Louisville, Ky.	123,758
Lowell, Mass.	59,475
Lynchburg, Va.	15,959
Lynn, Mass.	38,274
Macon, Ga.	12,749
Madison, Wis.	10,324
Malden, Mass.	12,017
Manchester, N.H.	32,630
Marlborough, Mass.	10,126
Memphis, Tenn.	33,592
Meriden, Conn.	15,540
Middletown, Conn.	11,732
Milwaukee, Wis.	115,587
Minneapolis, Minn.	46,887
Mobile, Ala.	29,132
Montgomery, Ala.	16,713
Muskegon, Mich.	11,262
Nashua, N.H.	13,397
Nashville, Tenn.	43,350
New Albany, Ind.	16,423
Newark, N.J.	136,508
New Bedford, Mass.	26,845
New Brighton, N.Y.	12,679
New Britain, Conn.	11,800
New Brunswick, N.J.	17,166
Newburgh, N.Y.	18,049
Newburyport, Mass.	13,538
New Haven, Conn.	62,882
New London, Conn.	10,537
New Orleans, La.	216,090
Newport, Ky.	20,433
Newport, R.I.	15,693
Newton, Mass.	16,995
New York, N.Y.	1,206,299
Norfolk, Va.	21,966
Norristown, Penn.	13,063
North Adams, Mass.	10,192
Northampton, Mass.	12,172
Norwalk, Conn.	13,956
Norwich, Conn.	15,112
Oakland, Cal.	34,555
Ogdensburgh, N.Y.	10,341
Omaha, Neb.	30,518
Orange, N.J.	13,207
Oshkosh, Wis.	15,748
Oswego, N.Y.	21,116
Paterson, N.J.	51,031
Pawtucket, R.I.	19,030
Peoria, Ill.	29,259
Petersburgh, Va.	21,656
Philadelphia, Penn.	847,170
Pittsburg, Penn.	156,389
Pittsfield, Mass.	13,367
Portland, Me.	33,810
Portland, Ore.	17,577
Portsmouth, O.	11,321
Portsmouth, Va.	11,390
Pottsville, Penn.	13,253
Poughkeepsie, N.Y.	20,207
Providence, R.I.	104,857
Quincy, Ill.	27,268
Quincy, Mass.	10,529
Racine, Wis.	16,031
Reading, Penn.	43,278
Richmond, Ind.	12,742
Richmond, Va.	63,600
Rochester, N.Y.	89,366
Rockford, Ill.	13,129
Rock Island, Ill.	11,659
Rome, N.Y.	12,194
Sacramento, Cal.	21,420
Saginaw, Mich.	10,525
Salem, Mass.	27,563
Salt Lake City, Utah	20,768
San Antonio, Tex.	20,550
Sandusky, O.	15,838
San Francisco, Cal.	233,959
San José, Cal.	12,567
Savannah, Ga.	30,709
Schenectady, N.Y.	13,655
Scranton, Penn.	45,850
Shenandoah, Penn.	10,147
Somerville, Mass.	24,933
South Bend, Ind.	13,280
Springfield, Ill.	19,743
Springfield, Mass.	33,340
Springfield, O.	20,730
Stamford, Conn.	11,209
Steubenville, O.	12,093
St. Joseph, Mo.	32,431
St. Louis, Mo.	350,518
St. Paul, Minn.	41,473
Stockton, Cal.	10,282
Syracuse, N.Y.	51,792
Taunton, Mass.	21,213
Terre Haute, Ind.	26,042
Toledo, O.	50,137
Topeka, Kan.	15,452
Trenton, N.J.	29,910
Troy, N.Y.	56,747
Utica, N.Y.	33,914
Vicksburg, Miss.	11,814
Virginia City, Nev.	10,917
Waltham, Mass.	11,711
Warwick, R.I.	12,163
Washington, D.C.	147,293
Waterbury, Conn.	17,806
Watertown, N.Y.	10,697
Weymouth, Mass.	10,571
Wheeling, W. Va.	30,737
Wilkesbarre, Penn.	23,339
Williamsport, Penn.	18,934
Wilmington, Del.	42,478
Wilmington, N.C.	17,350
Winona, Minn.	10,208
Woburn, Mass.	10,931
Woonsocket, R.I.	16,053
Worcester, Mass.	58,291
Yonkers, N.Y.	18,892
York, Penn.	13,940
Youngstown, O.	15,435
Zanesville, O.	18,113

PRONUNCIATION OF DIFFICULT GEOGRAPHICAL NAMES.

☞ All marks used to indicate pronunciation are the same as are employed in Webster's Dictionary, last edition.

EXPLANATION OF MARKS. — ā, ē, ī, ō, ū, ȳ, *long;* å, ḗ, ô, *less prolonged;* ă, ĕ, ĭ, ŏ, ŭ, y̆, *short;* câre, fär, låst, fạll, whạt; thêre, vẹil, tẽrm; pïque, fĩrm; dône, fôr, dọ, wọlf, fōōd, fŏŏt; fûrl, rụde, pụsh; *e, i, o,* silent; ä̈, *sound of long* ä; ö, *similar to* e *in* her; ü, *like the French* u; ĕĕ, *sound of* i *in* spirit; ç *as* s; çh *as* sh; c, ch, *as* k; ġ *as* j; g̅ *as in* get; ṣ *as* z; x̱ *as* gz; ṉ *as in* linger, link; th *as in* thine; ĭ, *like* lli *in* million; ñ, *like* ni *in* minion; ṡ, *nearly like* z; ᴅ, *similar to* th *in* this; ɢ, *sound of German* ch; ʜ, *strongly aspirated;* ᴋ, *sound of German* ch; ɴ, *French nasal sound;* ʀ, *like* rr *in* terror.

A.

Aachen, ä̈'ᴋen.
Abaco, ä'bä-ko.
Abbitibbe, ab-be-tib'bee.
Abeokuta, ä-be-o-kụ'ta.
Ăb'er-deen'.
Abomey, ab'o-mā'.
Aboukir, ä-boo-keer'.
Abrantes, ä̈-brän'tĕṣ.
Acapulco, ä-kä-pool'ko.
Acarai, ä-cä-rä'ī.
Ach-een'.
Aconcagua, ä-kon-kä'gwä.
Acre, ä'ker, *or* ā'ker.
Aden, ā'den; *Arab. pron.* ä'den.
Adige, ä'de-je; *It. pron.* ä'de-jå.
Ad'ĭ-ron'dack.
Adrianople, ad'rĭ-an-o'pl.
Ad'ri-at'ic.
Ægean (Sea), e-jee'an.
Afghanistan, äf-gän'is-tän'.
Agades, äg'a-dĕs'.
Agra, ä̈'grä.
Aguilar, ä-g̅e-läʀ'.
Agulhas, ä-gool'yä̈s.
Aisne, ān, *or* ĕn.
Aix-la-Chapelle, āks-lä-shä'-pel'.
Ajaccio, ä-yät'cho.
Ak'ron.
Alamo, ä'lä-mo.
Albans, ạl'banṣ.
Al'be-marle (Eng.).
Al'be-marle' (U. S.).
Albuquerque, äl-boo-kĕʀ'kå, *or* al'boo-kẽrk.
Alcantara, äl-kän'tä-rä.
Alençon, a-len'son; *Fr. pron.* ä'lŏɴ'sôn'.
Ä-lep'po.
Aleutian, a-lu'shĭ-an.
Algarve, äl-gäa'vå.
Al-ġiērṣ'.
Alicante, ä̈-le-kän'tä̈.
Alleghany, ăl-le-gā'nĭ.
Allegheny, ăl-le-gā'nĭ.
Allier, äl-le-ā'.
Almaden, äl-mä-ᴅen'.
Almeida, äl-mā'ē-dä.
Alsace, äl'säss'.
Altai, äl-tī'.
Altamaha, awl'ta-ma-haw'.
Alton, ạl'ton.
Am-boy'.
Am-boy'na.
Amiens, am'ĭ-enz; *Fr. pron.* ä'me'ŏɴ'.
Amite, a-meet'.
Am'os-kĕag'.
A-năm'.
An'da-man'.
Andorra, ăn-doʀ'aä.
An'do-ver.
An'dros-cog'g̅in.
Anglesey, *or* **Anglesea**, ang'-gl-se.
An-go'la.
Angostura, äa-gos-too'rä.
Angoulême, ŏɴ'goo'lâm'.
An-ko'ber.
Antigua, an-te'ga.
Antilles, ăn-teel', *or* ŏɴ'teel'.
Apache, ä-pä'chå.
Ap'en-nīneṣ.
Ap'pa-lā'chĭ-an.
Ap'pa-lach'ĭ-co'la.
Ap'po-mat'tox.
Araguay, ä-rä-gwī'.
Ăr'al.
Archangel, ark-ān'jĕl.
Arequipa, ä-rå-kee'pä.
Ardennes, är-dĕn'.
Ar'ġen-tīne.
Argyle, är-g̅īl'.
Arica, ä-re'kä.
Arispe, ä-rēs'pā.
Ar-kan'sas.
Armagh, ar-mä'.
A-roos'tŏŏk.
Arpino, är-pē'nō.
Ar'ras.
Artois, aa'twä'.
A-shan'tee, *or* **Äsh'an-tee'.**
Ash'ta-bu'lä.
Asia, ā'shĭ-a, *often improperly pronounced* ā'zhĭ-a.
Ăs'pin-wall.
As-sam'.
As-sin'ni-boin'.
Asuncion, ä-sụn'sē-ōn.
Atacama, ä-tä-cä'mä.
Atbara, ät-bä'rä.
Atchafalaya, atch-af-a-lī'a.
Aube, ōb.
Ạugṣ'burg.
Äugustine, St., sent-aw'gus-teen'.
Au Sable, ō-sä'bl.
Auvergne, ō-vĕrn, *or* ō'vêʀñ'.
Auxerre, ō-sêr'.
Avignon, ä'vēn'yŏɴ'
Avon, ā'von.
Az'of.
Azores, a-zōrz', *or* a-zō'rez.

B.

Bab'el-man'deb.
Badajos, bad-a-hōs'.
Baden, bä'den, *or* bad'en.
Bagdad, bäg-däd', *or* bag'dad.
Ba-hā'maṣ.
Bahia, bä-e'ä.
Baikal, bī'käl'.
Baireuth, bī'rụth; *Ger. pron.* bī'roit.
Balaton, bä̈'law-toñ.
Bal'e-ăr'ic.
Balize, bä̈-leez'.
Balkan, bäl-kän'.
Baṉ'gôr (U. S.).
Ban'kok'.
Barbadoes, bar-bā'doz.
Bar-ce-lo'na, *or* baʀ-thå-lo'nä.
Barnaul, baʀ-nowl'.
Bar'ne-gat'.
Barn'sta-ble.
Basle, bäl.
Bäs'so-räh.
Bä-täng'.
Baton Rouge, bat'un roozh.
Bayonne, bä̈'yon'.
Bayou la Fourche, bī'oo lå fụrsh.
Beaufort (British Dominions), bō'furt.
Beaufort (S. C.), bū'furt.
Bering, beer'ing.
Bel-fȧst' (Ireland).
Bel'fȧst (Maine).
Bellefontaine (France), bel'-fŏɴ'tân'.
Bellefontaine (U. S.), bĕl-fŏn'tĕn.
Belle Isle, *or* Bellisle, bel-īl'.
Beloochistan, bel-oo'chis-tän'.
Benares, ben-ä'rĕs.
Bengal, ben-gawl'.
Ben-gä'zï.
Benguela, ben-gā'lä.
Benin, ben-een'.
Bẽr'lin; *Ger. pron.* bĕʀ-leen'.
Ber-mu'daṣ.
Bẽr-nard', Saint.
Berwick, (Eng.), bĕr'rik.
Bẽr'wick (U. S.).
Besançon, b'z-ŏɴ'sŏɴ'.
Bexar; *Sp. pron.* bå-ʜaʀ'; *often pron. by the Texans*, beh-har', *or* bar.
Biafra, bī-ä̈f'ra.
Biloxi, be-loks'ĭ.
Binghamton, bing'um-tun.
Birmingham, bĭr'ming-am.
Blanc (Mont), mŏɴ blŏɴ, *or* Mount Blaṉc.
Blois, bloi, *preferably* blwä.
Bogota, bo-go-tä̈'.
Boisé, bwä-zä̈'.
Bokhara, bo-ᴋä'rä.
Bologna, bo-lōn'yä.
Bom-bay'.
Bonin, bo-nēn'.
Bordeaux, boʀ'dō'.
Borgne, born.
Bos'po-rus.
Boulogne, boo-lŏn'; *Fr. pron.* boo'loñ.
Bowdoin, bo'den.
Brah'ma-poot'ra.
Bra-zil'; *Port. pron.* brä-zeel'.
Brazos, brä'zos, *or* brä'sōss.
Brem'en, *or* brā'mea (Europe).
Breslau, brĕs'law, *or* brĕs'lou.
Breton (Cape), brit'ŭn.
Brindisi, brin'de-ṡee.
Brụ'ġeṣ; *Fr. pron.* brüzh.
Bu'cha-rest'.
Bu'da; *Hung. pron.* boo'dŏh'.
Buenos Ayres, bo'nus ä̈'riz; *Sp. pron.* bwā'noss ī'rĕs.
Bụg.
Bụr'gōs.
Bur'gun-dy.
Bushire, boo-sheer'.
Butte, būt.

C.

Căb'es.
Ca-bool'.
Caen, kŏn.
Cagliari, käl'yä-re.
Caicos, kī'kōs.
Caī'ro (Egypt).
Cāī'ro (U. S.).
Calais, kăl'iss; *Fr. pron.* kä'lā'.
Calcasieu, kal'ka-shụ, *or* kŭl'-ka-shụ.
Caldera, käl-dā'rä.
Callao, käl-lä'o, *or* käl-yä'o.
Calvi, käl'vē.
Canandaigua, kan'an-dā'-gwa.
Can-ăv'e-ral.
Can-ton' (China).
Cape Girardeau, je-rar-do'.
Ca-rac'as.
Cardenas, kär'då'näs.
Căr'ib-be'an.
Căr'ib-bee'
Carlsruhe, carls'roo.
Ca-rŏn'de-lĕt.
Cartagena, kar'ta-je'na.
Căsh-mēre'.
Cassiquiari, kä-se-ke-ä'ree.
Castine, kas-teen'.
Ca-taw'ba.
Catoche, kä-to'chā.
Cat'ta-rau'gus.
Căt'tē-găt.
Cau'ca-sus.
Cayembe, kī-äm'bä.
Cayenne, kī-en'.
Cayman, kī-män'.
Cayuga, kå-yoo'ga.
Celebes, sel'e-biz.
Çen'is, *or* se'ne'.
Cette, set.
Cettigne, chĕt-tĭñ'å.
Ceuta, sū'ta.
Cévennes, så-ven'.
Ceylon, see'lọn, *or* sī-lon'.
Chagres, chä'grĕs.
Chaleur, shä-loor'.
Châmouny, shä'moo'ne'.
Chandeleur, shan-de-loor'.
Chapala, shä-pä'lä.
Chapultepec, chä-pool-tå-pek'.
Chăr'ĭ-ton.
Chat'ta-hoo'che.
Chăt-ta-noo'ga.
Chaudière, shō-dē-ĕr'.
Chautauqua, sha-taw'kwa.
Chelsea, chel'se.
Chenango, she-näng'gō.
Chemnitz, ᴋem'nits.
Chemung, she-mŭng'.
Che-raw'.
Cherburg, sher'burg, *or* shĕʀ'-booʀ'.
Che-sun'cook.
Cheviot, chiv'e-ut.
Cheyenne, shī-ĕn'.
Chicago, she-kaw'go.
Chihuahua, che-wä'wä.
Chili, chil'le; Sp. Chile, chee'-lå.
Chil'lĭ-coth'e.
Chimborazo, chim'bo-rä'zo.
Chin'cha.
Chowan, chō-wän'.
Chuquisaca, chụ-kē-sä'kä.
Cienfuegos, se-ĕn'fwä'gōs.
Cimaron, se-mä-rŏn'.
Cobija, ko-bee'ʜä.
Coblentz, kob'lents.
Cochabamba, ko-chä-bäm'bä.
Co'chin Chi'na.
Cohahuila, ko-ä-wee'lä.
Cohoes, ko-hōz'.
Co-im'bra, *or* ko-eem'brä.
Colima, ko-lee'mä.
Cologne, ko-lōn'.
Colorado, kol'o-räh'do.
Comayagua, ko-mī-ä'gwä.
Com'o-rin.
Conecocheague, kon'e-ko-cheeg'.
Conecuh, ko-nee'ka.
Congo, cong'go, *or* Livingstone.
Connaught, kon'nawt.
Co'pen-hā'g̅en.
Copiapo, kō-pē-a-pō'.
Coquimbo, ko-kĕm'bō.
Cor'do-va.
Corea, kō-rē'a.
Corrientes, koʀ-ʀe-ĕn'tĕs.
Costa Rica, kōs'tä rē'kä.
Cotopaxi, ko'to-paks'e.
Cŏv'ing-ton.
Cracow, krā'ko.
Cri-me'a.
Croix (St.), kroi.
Cuenca, kwen'kä.
Cumana, kụ-mä-nä'.
Curaçoa, ku'ra-sō'.
Cuyahoga, kī'a-ho'ga.
Cuzco, koos'ko.

D.

Dahlonega, dä-lŏn'ē-ga.
Dahomey, dah-ho'må'.
Dai Nippon'.
Darfur, dar'foor'.
Darien, dä-re-ĕn'.
De-cā'tur.
Del'a-go'a.
Delhi (Hindostan), del'lee.
Delhi (U. S.), del'hī.
Demerara, dem'e-rä'ra.
Des Moines, dē-moin'.
Dieppe, dyep, *or* de-ep'.
Dijon, de'zhŏɴ'.
Dnieper, nee'per.
Dniester, nees'ter.
Dominica, dom'e-nee'ka.
Dongola, dong'go-la.
Dordogne, dôr-dōn'.
Do'vre-fĭ-eld'.
Drāve.
Drontheim, dront'im.
Dubuque, du-būk'.
Duluth, dụ-lụth'.
Dumfries, dum-freess'.
Dun-dee'.
Du-ned'in.
Duquesne, du-kān'.
Dus'sel-dorf; Ger. Düssel-dorf, düs'sel-doʀf'.
Dwī'na.

E.

Eau Claire, ō clair'.
Ecuador, ek-wā-dōʀ'
Edinburgh, ed'in-bur-ruh.
Ed'is-to.
Egripo, ā-grē'po.
Eisenach, ī'zen-äk.
Elbe, elb; *Ger. pron.* el'beh.
Elburz, el-bụrz'.
El Obeid, ĕl ō-bā'ĕd.
Enara, ā-nä'rä.
Erfurt, ĕr'fụrt.
Erlangen, ĕʀ'lang-en.
Erzeroum, erz-roum'.
Erzgebirge, ĕats'ga-bēĕʀ'ga.
Espinhaço, ĕs-pēn-yä'so.
Essequibo, ĕs-sē-kē'bo.
Esslingen, ĕss'ling-ẹn.
Etienne, Saint, sȧɴt et'e-en'.
Et'o-wah.
Eufaula, ū-fạ'la.
Eylau, ī'lou.

F.

Färoe, fä̈'ro.
Fauquier, faw-keer'.
Fayal, fī-äwl'.
Fernandina, fĕr-nän-dē'nä.
Ferrara, fĕʀ-ʀä'rä.
Ferrol, fĕʀ-ʀōl'.
Fezzan, fĕz'zän'.
Finisterre, fin-is-têr'.
Fiume, fē-ōō'mā.
Fond dụ Lăc.
For-mo'sa.
Freiburg, frī'burg.
Frio, free'o.
Frob'ish-er.
Fū'cä.
Funchal, foon'shäl'.
Funen, fū'nen.
Fusiyama, fū-sī-yä'mä.

G.

Gairdner, gârd'ner.
Galapagos, gal'a-pä'gus.
Galatz, gä̈'lätz.
Ga-le'na.
Gallinas, gäl-ē'näs.
Gal'ves-ton.
Galway, gawl'wā.
Garonne, gä-ron'.
Gaspe, gäs'på'.
Gen'o-a.
Ghauts, gawts.
Ghent, g̅ent; Fr. Gand, gŏɴ.
Giessen, g̅ees'sen.
Gila, ʜe'lä.
Gironde, je-rond'; *Fr. pron.* zhē'rŏɴd'.
Gloucester, glos'ter.
Gobi, gō'bē.
Godavery, gô-dä'ver-ĭ.
Goes, ʜōōs.
Gotha, go'tä.
Göttingen, get'ting-en, *or* got'ting-en.
Granada, gra-nä'dä.
Greenwich, grin'ĭj.
Grigua, grĭg'wa.
Guadalajara, *or* Guadalaxara, gwä-ᴅä-lä-ʜä'rä.
Guadaloupe, gaw'da-loop', *or* gä'dä-loop'.
Guadalquivir, gaw'dal-kwiv'er.
Guadiana, gaw'de-å'na, *or* gwä'ᴅe-ä'nä.
Guanahani, gwä-nä-hä'nee.
Guanajuato, *or* **Guana-Gxuato**, gwä-nä-ʜwä'to.
Guapore, gwä-pō'rä.
Guardafui, gwar'da-fwee' *or* gar'da-fwe'.
Guatemala, gaw'te-må'la, *or* gwä-tē-mä'lä.
Guayama, gwī-ä'mä.
Guayaquil, gwī-ä-keel'.
Guaymas, gwī'mäs.
Guernsey, g̅ẽrn'ze.
Guiana, g̅e-ä'na.
Guinea, g̅in'e.
Guyandott, g̅ī-an-dot'.

H.

Hague, hāg.
Hainan, hī-nan'.
Hakodadi, hä-ko-dä'dee.
Halle, häl'leh.
Han'o-ver.
Hauran, hŏw-rän'.
Haverhill (Eng.), hav'er-il.
Haverhill (Mass.), hā'ver-il.
Havre de Grace, hav'er de gråss.
Hawaii, hä-wī'ee.
Hayti, hā'tĭ.
Hebrides, heb'rĭ-dēz.
He-le'na, St.
Helena (Ark.), hĕl'e-na.
Hel'ĭ-go-land.
Hel'sing-fors'.
Hen-lo'pen.
Hen-rī'ko.
Herat, her-ät'.
Herzegovina, hĕrt'seh-go-vee'nä.
Hesse Cas'sel.
Him-a-lā'ya.
Hin-do-stan'.
Ho-ang'ho, *pronounced almost* whang'ho'.
Ho'bō-ken.
Holstein, hol'stīn.
Honduras, hon-doo'ras.
Honolulu, ho-no-loo'loo.

Houston, hūs′tun.
Huć, hoo-ā′.
Huelva, wel′vä.
Huesca, wes′kä.
Hŭ′lč.
Hyderabad, hī′der-a-bäd′.

I.

Iberville, ī′ber-vil.
Iguape, ē-gwä′pa.
Illampu, eel-yäm′pōō.
Illimani, eel-yä-mä′nee.
Ilmen, il-mĕn′.
Inagua, e-nä′gwä.
Indies, in′dīz.
Innsbruck, ins′prōōk.
Interlachen, in′ter-läk′en.
I′o-wa
Iquiqué, ē-kē′kā.
Iser, ee′zer.
Itacolumi, ē-tä-cō-lo-mō′.
Ith′a-ca.
Ĭ-u′ka.
Iztaccihuate, ēs-täk-sō-hwat′l′.

J.

Jaen, hä-en′.
Jalapa, hä-lä′pä.
Jalisco, *or* **Xalisco**, hä-lees′-ko.
Jan Mayen, yän mī′en.
Jassy, yäs′se.
Jen′a; *Ger. pron.* yä′nä.
Ju′an Fĕr-nan′dĕz
Ju′au, Saint; Sp. San Juan, sän hwän.
Jungfrau, yōōng′frow.

K.

Kagesima, kä-ga-sō′ma.
Kal′a-ma-zoo′.
Kamt-chat′ka.
Kanawha, ka-naw′wa.
Kan-da-har′.
Kankakee, kang′k′a-kee′.
Kano, kä-nō′.
Karakorum, kä-rä-kō′rŭm.
Karlskrona, kärls-krōō′nä.
Ka-tah′din.
Kearney, kär′ni.
Kearsarge, kēr′särj′.
Kennebec, kĕn-nē-bĕk′.
Kenosha, kē-nō′sha.
Ke′o-kuk′.
Kerguelen, kerg′e-len.
Khiva, kee′vä.
Klakhta, ke-äk′tä
Kief, ke-ef′, *or* kī-ef′.
Kiel, keel.
Kilimanjaro, kil-e-mān-jä-rō′.
Kiolen, kī′o-len.
Kioto, kī-o′to.
Kit′ta-tin′ny.
Klamath, klăm′at.
Kolin, ko-leen′.
Königsberg, ken′igz-berg.
Kordofan, kor-do-fän′.
Kuenlun, kwen-lōōn′.
Kuka, kōō′kä.
Kurile, kōō′ril.

L.

Lab′ra-dōr.′
Lad′o-ga.
La-droneş′; *Sp. pron.* läd-ro′-nēs.
Lafayette, laf-ā-et′.
La Fourche, lä foorsh.
Lago Maggiore, lä′go-mäd-jo′rā.
La Guayra, lä gwī′rä.
Lancaster, lăng′kas-ter.
Languedoc, lŏn′geh-dok′.
Laon, lä′ŏn′.
Laredo, lä-rā′dō.
La Rochelle, lä rō-shĕl′.
Latakia, lät′a-kee′a.
Lausanne, lō′zän′.
Legnano, lĕn-yä′no.
Leicester, les′ter.
Leinster, lin′ster.
Leipsic, līp′sik.
Leith, leeth.
Lĕom′in-ster (U. S.).
Leominster (Eng.), lem′ster.
Le′on; *Sp. pron.* lā-ōn′.
Le Sueur, soor.
Leyden, lī′den, *or* lā′den.
Liège, leej; *Fr. pron.* le-âzh′.
Lisle, leel.
Lima (Peru), lee′mä.
Lima (U. S.) lī′ma.
Limoges, le′mosh′.
Lipari, lip′a-re, *or* lee′pä-ree.
Llanos, lyä′nōs.
Lodi (Italy), lo′dee.
Lodi (U. S.), lo′dī.
Lo-fo′den.
Loire, lwän.
Lomond (Loch), lok lō′mund.
Los Angeles, lōce ăn′jĕl-ēz.
Louisville, loo′is-vil.
Luc′ca; *It. pron.* look′kä.
Lupata, lu-pä′tä.
Luzon, loo-zōn′.
Lŭ-cŏm′ing.
Lŷ′ons; Fr. Lyon, le′ŏn′.

M.

Maas, mäs.
Macao, mä-cä′o, *or* ma-kow′.
Machias, ma-chī′as.
Mack′I-naw.
Madeira, ma-dee′ra; *Port. pron.* mä-dä′e-rä.
Mad-ras′.
Mad-rid′.
Mad′rid (U. S.).
Magdala, măg′dä-lä.
Magellan, ma-jel′lan.
Makoqueta, ma-ko′ke-ta.
Mal′a-bar′.
Mal′a-ga, *or* mä′lä-gä.
Malta, mawl′ta.
Mandalay, man-dā′le.
Manistee, ma-nis′tē.
Manitoba, man-I-to-ba′.
Manitouwoc, man′e-too-wok′.
Manzanillo, măn-sä-neel′yo.
Maracaybo, mä-rä-kī′bo.
Maranham, măr′a-nam′.
Mar′mo-ra.
Marquesas, mar-kā′säs.
Marquette, mar-ket′.
Marseilles, mar-sālz′.
Martinique, mar′tI-neek′.
Mas′sil-lŏn.
Ma-tan′zas.
Mat′a-pan′.
Mauch-Chunk, mawk chŭnk′.
Maz′at-lan′.
Mechlin, mek′lin.
Medina (Arabia), me-dee′na.
Medina (U. S.), me-dī′na.
Me-her′rin.
Meiningen, mī′ning-en.
Menai, mĕn′I, *or* men′ā (Strait).
Mendocino, mĕn-do-see′no.
Mercede, mer-sād′.
Mersey, mĕr′zi.
Merthyr Tydvil, mĕr′ther tid′vil.
Messina, mōs-see′nä.
Miami, mī-ă′mi.
Milan, mil′an (Italy); mI-lăn′ (U. S.).
Miquelon, mik-e-lon′.
Miramachi, mir′a-ma-shee′.
Mod′e-na, *or* mod′ă-nä.
Mohave, mo-hăv′.
Mo-nad′nock.
Mo-non′ga-he′la.
Mont Blanc, mŏn blŏn, *or* Mount Blănc.
Mont Cenis, mŏn seh-nē′, *or* seh-nēs′.
Mon′te-vid′e-o, *or* mon-tā-vee′dā-o.
Mont-pe′lI-er.
Mo-re′a.
Mos′cōw; Russ. Moskwa, mosk-wä′.
Mozambique, mo-zam-beek′.
Munich, mū′nik.
Muscatine, mus′ka-teen′.
Muskingum, mus-king′gum.
Mysore, mI-sōr′.

N.

Nan-kin′.
Nantes, nants; *Fr. pron.* nŏnt.
Nan-tuck′et.
Natal, nä-täl′.
Natch′I-toch′es; *sometimes pronounced* nak-e-tush′.
Neufchatel, nush′ä′tel′.
Ne′vis (Ben).
Newfoundland, nu′fund-land′.
New Or′le-ans.
Ngami, 'ngä′mee.
Niagara, nI-ag′a-ra; *sometimes pronounced* nI-ag′a-ra.
Nicaragua, nik′ă-rā′gwä.
Nice, nees.
Niger, nī′jer.
Nijne Novgorod, nIzh′nĕ nŏv′gŏ′rŏd.
Nip′is-sing′.
Nismes, neem.
Norwich (Eng.), nor′rij.
Norwich (U. S.), nor′rich, *or* nôr′wich.
Nov′go-rod′.
Nucces, nwā′sĕs.
Nyanza, nŷ-an′za.
Nyassa, nĕ-ăs′ä.

O.

Oahu, wäh′hoo.
Oaxaca, wă-hä′kä.
Obi, ō′be.
Ock′lo-ko′nee.
O-co′nee.
Odense, ō′den-seh.
Ogeechee, o-gēe′chee.
Oise, oiz; *Fr. pron.* wäz.
Okeechobee, ō-kē-chō′bē.
Okefinokee, ō-kē-fin-ō′kē.
Okhotsk, o-kotsk′.
Olean, o-le-ăn′.
Oléron, o-lā′rŏn′.
Omaha, ō′ma-haw′.
Oman, ō-män′.
O-ne′ga.
Oneida, o-nI′da.
Onondaga, on′un-daw′ga.
On′to-nag′on.
O-pel′I-ka.
Op′e-lou′sas.
Orizaba, o-re-sä′bä.
Or′tĕ-gal.
O′sāge′.
Ouachita, wŏsh′I-ta.
Oude, owd.
O′zark′.

P.

Pad′u-a.
Paduca, pa-dū′ka.
Panama, păn′a-mä′.
Papua, pap′oo-a, *or* pä′poo-ä.
Para, pä-rä′.
Paraguay, pä-rä-gwā′, *or* pä-rä-gwI′.
Par′a-mar′I-bo.
Parana, pä-rä-nä′.
Parime, pär-I′mä.
Parina, pä-re-nä′.
Pas-sā′ic
Passaro, päs′sä-ro.
Pass Christian, pâss kris′te-ăn′.
Pa-tras′.
Pavia, pä-vee′ä.
Pecos, pā′kŏs.
Peĭpus, pā′e-poos.
Pemblna, pĕm′be-na.
Pernambuco, pĕr-näm-boo′-ko.
Pesth, pest.
Phil′ip-pine.
Piacenza, pe-ä-cheu′zä.
Pierre (Saint), sĕnt peer.
Piqua, pik′wa.
Pisa, pee′sä.
Pis-cat′a-qua.
Plaquemine, plak′mēn′.
Plata (Rio de la), re′o dä lä′ plä′tä.
Po′co-tal′I-co.
Pondicherry, pon′de-shĕr′-ree.
Pont′char-trāin′.
Popayan, po-pI-ăn′, *or* po-pä-yän′.
Po-po-cat′e-pĕtl′.
Port-au-Prince, pōrt ō-prinss.
Pōrt Mahon, mä-hōn′.
Porto Rico, pōr′to ree′ko.
Portsmouth, pōrts′muth.
Potosi, po-to-see′, *or* po-to′see.
Poughkeepsie, po-kip′sI.
Prague, präg.
Prairie du Chien, prā′rI dŭ sheon.
Presque Isle, presk eel.
Puebla, pwĕb′lä.
Pyrenees, pIr′e-nēz.

Q.

Queretaro, kā-rā′tä-ro.
Quesada, kā-sä′dä.
Quiche, kee′chā.
Quiloa, kee′lo-ä.
Quin′e-baug′.
Quito, kee′to.

R.

Racine, ras-seen′.
Ragusa, rä-goo′sä.
Rahway, raw′wä.
Raleigh, raw′lI.
Rangoon, rang-goon′.
Rap′id-an′.
Raritan, răr′it-un.
Reading, rĕd′ing.
Recife, rā-se′fā.
Reggio, rĕd′jo.
Rensselaer, ren′se-ler.
Rey′kI-a-vik.
Rheims, reemz; *Fr. pron.* rănz.
Riad, rI-ad′.
Richelieu, rē′she-loo′.
Rideau, rē′dō′.
Riesengebirge, ree′zen-ga-hĕRG′eh.
RI′ga, *or* ree′ga.
Riobamba, ree-o-bäm′bä.
Rio Colorado, ree′o ko-lo-rä′-do.
Rio del Norte, rI′o del nort; *Sp. pron.* ree′o dĕl noR′tā.
Rio Grande (Texas), rI′o grănd.
Rio Grande (S. A.), rē′o-grän′-da.
Rio Janeiro, rI′o ja-nee′ro, *or* ree′o ja-nā′ro.
Rivoli, riv′o-le, *or* ree′vo-le.
Ro′a-noke′.
Rouen, roo′en; *Fr. pron.* rwŏN.
Rügen, rü′gen.
Russia, rŭsh′I-a.
Ryswick, riz′wik.

S.

Sabine, sa-been′.
Saco, saw′ko.
Sag-hal′I-en.
Saguenay, sag′eh-nā′.
Sahara, sa-hā′ra.
Said, sä-eed′.
Saïgon, sI′gon′.
Sal′a-mo-nī′.
Salford, sawl′furd, *or* saw′-furd.
Saloulca, sal-o-nē′ka.
Saltillo, säl-teel′yo.
Saluda, sä-loo′dä.
Salvador, säl-vä-dōR′.
San Diego, sän de-ā′go.
Sangamon, sang′ga-mon.
San Joaquin, sän hwä-keen′.
San José, sän ho-sā′.
San Ju′an; *Sp. pron.* sän hoo-ăn′, *or* uwän.
Santa Cruz, san′ta kroos.
San′tä Fé; *Sp. pron.* sän′tä fā.
Santarem, sän-tä-rĕN; *almost* sän-tä-reng′.
Santiago de Cuba, sän-te-ä′-go de ku′ba, *or* dā koo′bä.
Saône, sōn.
Sas-katch′a-wan′.
Sault (St. Mā′ry), soo.
Schaffhausen, shäf-how′zen.
Scheldt, skelt.
Schenectady, ske-nek′ta-dy.
Schoharie, sko-hăr′ree.
Schuyler, skI′ler.
Schuylkill, skool′kil.
Seine, sān.
Senegal, sen′e-gawl′.
Sennaar, sen′năr.
Seville, sev′il, *or* se-vil′.
Seychelles, sā′shel′.
Shanghai, shang′hI′.
Shawangunk, shong′gum.
She-boy′gan.
Shen′an-do′ah.
Sierra Madre, se-en′nä mäd′-rä.
Sierra Nevada, se-en′nä nä-vä′dä.
Sim′plon; *Fr. pron.* săN′plŏN′.
Sinai, sI′nā, *or* sI′nā-I.
Singapore, sing′ga-pōr′.
Sioux, soo.
Sisal, se-säl′.
Skag′er Rack.
Skaneateles, skan′e-at′les.
Sofala, so-fä′lä, *or* so′fä-lä.
Soissons, swäs′sōN′.
Somme, som.
So-no′rä.
Sorata, so-rä′tä.
Stettin, stet-teen′.
Steubenville, stu′ben-vil.
Stromboli, strom′bo-lee.
Sucre, soo′krä.
Suez, soo-ez′.
Sumatra, soo-mä′trä.
Surinam, soo-rI-nam′.
Su-wä′nee.
Swansea, swon′se.
Szegedin, seg′ed′in′.

T.

Tahiti, tä-hī′te.
Tahlequah, tä′le-kwä.
Tamaqua, ta-maw′kwa.
Tamatave, tam′a-täve.
Tamaulipas, tä-mou-lee′päs.
Tampico, tăm-pee′ko.
Tananarivo, tä-nä-nä-re-voo′.
Tanganyika, tăn-gän-yI′ka.
Tangier, tan-jeer′.
Taos, tä′ŏs; *almost* towss.
Tapajos, tä-pä′zhŏs, *or* tä-pä′-hŏs.
Taunton (Eng.), tawn′ton.
Taunton (Mass.), tän′ton.
Tcche, 'tĕsh.
Teheran, teh-h'rän.
Tehuantepec, tā-wän-tā-pek′.
Ten-as′ser-im.
Teneriffe, ten′er-lif′.
Terre-Haute, ter′reh-hōt.
Thames, tĕmz.
Thibodeaux, tIb′o-dō′.
Thibet, tib′et, *or* tI-bet′.
Tierra del Fuego, te-ĕR′RĂ dĕl fwā′go.
Tiflis, tif-lees′.
Tim-buc′too.
Titicaca, tit-e-kā′kä.
Tivoli, tiv′o-le, *or* tee′vo-lee.
Tokantins, to-kän′teens′.
Tokio, to′kI-o.
Tonquin, ton-keeu′.
To-pe′ka.
Toulon, too′lŏn′.
Toulouse, too′looz′
Tours, toor.
Traf′al-gar′, *or* **Trä-fäl′gar.**
Trieste, tre-est′.
Trin′I-dad′.
Truxillo, *or* **Trujillo**, troo-neel′yo.
Tucson, tŭ-son′.
Tularo, too-lä′ree.
Tu′rin, *or* tu-rin′.
Tŷr′ol; *Ger. pron.* te-rōl.

U.

Ucayali, oo-kI-ä′lee.
Ujiji, ū-jī′ji.
Ulm; *Ger. pron.* ōōlm
Um-bā′gog.
Upernavik, oo-pĕn′na-vik.
Up′sal.
Uruguay, u′roo-gwā′, *or* oo-roo-gwI′.
Utrecht, u′trĕkt.

V.

Valdai, väl′dI.
Val′la-do-lid′; *Sp. pron.* val-yä-no-leen′.
Vallejo, väl-yä′ho.
Valparaiso, väl-pä-ri′so.
Varennes, vä′ren′.
Venezuela, ven′e-zwee′la.
Vera Cruz, vā′rä-kroos.
Verde, vĕrd.
Vergennes, vĕr-jenz′.
Versailles, veR-sälz′; *Fr. pron.* vĕR-sălz′, *or* vĕR-say′.
Vienna, ve-en′na.
Vincennes, vin-sĕnz′; *Fr. pron.* văN′sĕn′.
Vosges, vōzh.

W.

Wachusett, wą-chū′set.
Wahsatch, wä-săch′.
Warwick (Eng.), wor′rik.
Warwick (U. S.), wor′wik, *or* wor′rik.
Washita, wŏsh′I-taw.
Wąu-ke′gan.
Wener, wā′ner.
We′ser; *Ger. pron.* wā′zer.
Wieliczka, we-litch′kä.
Wilkesbarre, wilks′băr-rI.
Willamette, wil-lă′met.
Win′ne-bā′go.
Win-ne-pe sau′kee.
Wis-căs′set.
Woolwich, wōōl′lich, or wōōl′ij.
Worcester, wōōs′ter.
Würtemberg, wûr′tem-berg.
Wy′an-dot′.
Wy-o′ming.

Y.

Yakutsk, yä-kootsk′.
Yang-tso-kiang, yang′tse-ke-ang′.
Yar′kand′.
Ya-zoo′.
Yem′en.
Yenisei, yen′e-sā′e.
Yezo, yā′zo.
Yo-ko-hä′mä.
Yo-sem′I-te.
Youghiogheny, yōh′ho-gā′nI.
Yp′sI-lăn′tI.
Yu′că-tan′, *or* yoo′kä-tän′.

Z.

Zacatecas, zăk-a-tā′kas.
Zacualpan, sä-kwäl-pän′.
Zam-be′si, *or* zam-bā′ze.
Zanguebar, zang′gä-bar′.
Zan′te.
Zan′zI-bar′.
Zürich, zu′rik.
Zuyder, zI′der.

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