

AN OUTLINE OF THE COURSE IN GEOGRAPHY IN THE UNIVERSITY ELEMENTARY SCHOOL

Prepared by the Teachers of Geography:

BERTHA HENDERSON ADALINE SHERMAN
KATHERINE McLAUGHLIN GRACE STORM
EDITH PARKER

INTRODUCTORY STATEMENT

Geography as a differentiated subject is not taught below the fourth grade. The course as here shown, however, presupposes the teaching in the lower grades of subject-matter in which there is much geographical content. Especially in the courses in history, community life and civics, natural science, and the arts, in the kindergarten and the first three grades there is considerable subject-matter which, if isolated, would be termed geography. A brief summary of this introductory material, so far as it bears on geography, is here given.

In the kindergarten a beginning is made in the study of the activities of the home and the immediate community. The study is, of course, informal, but it helps to organize the children's home and neighborhood experience. An important project is the construction with paper and cardboard of a community with its streets and walks, houses, stores, and other buildings, delivery wagons, and street cars.

In the first grade there is geographical significance in the study of farm activities. The children use a large sand-table, on which they represent a farm with its fields, woods, pastures, buildings, animals, and the people engaged in their many kinds of work. This representation is the result of much recalling and recounting of experiences on the farm and of many discussions which lead to the portrayal of that which is typical.

Later in this year attention is focused on Indian life as a kind of community life very different from our own. The more primitive life is easier for little children to understand. The relation

of effect to cause is more direct and immediate. The topics given special consideration are the providing and preparing of food, clothing, and shelter, and ways of getting about. These ideas form an important part of the background for the later more formal study of the relation of a community to its geographical environment.

In the second grade shepherd life is an important unit of study. The children carry on in a very simple way such activities as spinning, dyeing, and weaving of wool. They invent again some improvements in processes. They represent on the large sand-table the typical occupations of a shepherd people.

Here, as in other grades, the studies in natural science lead to much of geographical significance: for example, an acquaintance with soil and plants as a result of working in the garden, a familiarity with some animals and birds through the care of pets, a realization of changes of temperature and weather through the keeping of records, an acquaintance with seeds and stones through making collections, and early ideas of maps through the drawing of plans of projects to be carried out in the classrooms and on the school grounds.

The third-grade children study the Vikings as a people that developed trade and transportation overseas. By means of pictures and descriptions some idea is given of the region in which the Vikings lived—a rugged land, cold and bleak in winter, with a wild rocky coast fringed with fjords—and of the experiences of the people on their long voyages of exploration, trade, and war. They were less directly dependent upon nature than the hunter and the shepherd.

In the second half of this year a study of local history and geography is made. Chicago was established as a trading and military post (Fort Dearborn) at the mouth of the Chicago river. A few miles up the river was a short, easy portage to the Mississippi waters. Chicago was easy of access from all directions. The early settlement was on the low, swampy land near the river. The village grew. It had to lay out streets, light them, and eventually raise and pave them. It had to provide an adequate and safe water supply and a sewerage system. It had to straighten

and deepen its river and to build docks and bridges. As the city grew, more adequate transportation had to be provided. Better protection against fires was organized. Schools were established. More and more did the surrounding country send its products to the city to be manufactured and sent back in their new form. In this study of Chicago, the children get their information from reading, from pictures, from class discussions, and from sand-table relief maps. They organize it through discussion, writing, drawing, modeling, and construction. No study of wall- or book-maps is made, although simple charts and maps of the Chicago region are occasionally used. However, the children become sufficiently acquainted with maps to make their use in the fourth grade present no serious difficulty.

For a fuller outline of certain phases of this introductory work, the reader is referred to "The Course in Community Life, History, and Civics of the University Elementary School," published in the February, March, April, and May numbers of the *Elementary School Journal* for the current year. Other phases will be described in forthcoming outlines of the courses in natural science and the fine and industrial arts.

GRADE 4B

From the earlier work the children have gained many conceptions of the sources of the home food supply, of means of travel and transportation, of various kinds of shelter, of agricultural and pastoral life, of topographic features, and of some of the conditions which have contributed to Chicago's growth. They have read or heard many stories of people of other lands. Many of these children have had wide travel experiences. Effort is now made to gather up and to organize this geographic knowledge, and to build up the idea of the earth as the home of peoples having different environments and hence different occupations and modes of living.

Aims.—

1. To show the earth as the home of many peoples.
2. To teach something of the conditions under which these people live.
3. To make the pupil familiar with the globe as the symbol of the earth.

4. To have the pupil begin to use the globe and maps intelligently.

5. To extend his idea of the continent upon which he lives.

Subject-matter and method.—The children enter school in the fall eager to tell about the new experiences of the summer, and especially about the places they have visited. During the first two or three geography periods they are given opportunity to describe these places and to show the pictures they have brought back. As the pictures are discussed, the children are asked what other places they are reminded of by these scenes. The countries and peoples of which they have heard in the preceding grades are recalled. The mountains may remind them of Norway, for instance, and that country is then located on the large suspended relief globe. Their curiosity has already been aroused by this globe and they become much interested in it. The next question is, "Where are we?" and Chicago is located. "What ocean must we cross to come from Norway to Chicago?" and the Atlantic is shown on the globe. Norway is redescribed to make the children feel that this small spot stands for mountains, glaciers, fjords, forests, and people busied in various pursuits. In the same way many other familiar places are located upon the globe.

This introductory work in geography is carried on in the most informal way, with both teacher and children entering into discussions of pictures and stories, and endeavoring to interpret pictures, to introduce bits of personal experience, and to enrich the fund of information. The children's enthusiasm for books at this age when they are able to read with some fluency, together with their curiosity about other peoples, leads them to bring in much that may be read and discussed in class. Stories are brought in first, but later facts are gathered merely for information. Descriptions of many regions new to the children add to their growing conception of the world as a whole. All the illustrative material that is available is used. This material consists largely of pictures and exhibits from the school museum. Two or three trips are taken to the Field Museum. All the newly gained geographic facts are related to the globe.

As the various regions are located upon the globe, the continents come to mean great land areas on the earth's surface which are

the scenes of many familiar stories. In discussing the size and shape of the continents, the pupils find a need for a larger vocabulary and learn the new terms peninsula, cape, bay, gulf, strait, and isthmus as they are needed.

As the idea of the earth is expanding through the study of the globe, the children find in their study of Greek history that the ancient peoples conceived the earth as a plain. This definitely raises the question, "How do we know the shape of the earth?" The children already have some vague notions of the proofs of rotundity, and their attention is turned for a time to the stories of Columbus, Magellan, and Drake. As the adventures of these navigators are read, the children trace their voyages upon the globe. These voyages are compared with modern routes of travel around the earth. The children procure railway and steamship guides, discuss the routes, trace them upon the globe, note the time taken, and compare the experiences of modern travel with those of the early explorers. They find that these journeys have been made chiefly in east and west directions. The question arises, "Why have none been made north and south?" The reply that "it is too cold" leads naturally to the discussion of temperature changes from north to south, as evidenced by the changes in the amount of snow and ice, in vegetation, and in the numbers and occupations of the people. The children express this gradual change in temperature by shading a blackboard globe in varying intensities of one color or by blending colors. The position of the continents is noted with regard to the temperature areas. The children sum up the conditions of life in these various regions and make a simple outline for such a study. This one is typical:

- | | |
|---------------|---|
| 1. Vegetation | { Kinds
Uses |
| 2. Animals | { Kinds
Uses |
| 3. People | { How they live
Appearance
Homes
Occupations |

About eight weeks is given to this introductory study.

North America.—The study of North America helps the children further to orient themselves, this time with regard to the continent upon which they live. It is introduced by a succession of pictures of significant regions. These pictures are grouped to show scenes typical of the various parts of the country. The children see, for example, the rocky New England coast and the fishing fleet, some typical parts of the Appalachian Highland, the farms of the rolling prairie, cattle grazing on the plains, the high peaks of the Rockies, something of the life in the mining camps, the desert of the Great Basin, the big trees of the Sierras, the orange groves of California, and the cotton fields of the South. The presentation of this material covers several days. As the pictures are shown, the children locate the regions upon the globe, and upon the large relief model of North America. Many of the pictures are projected upon the screen. The children are encouraged to discuss them freely, to ask questions, to tell "what that man is doing," to say, "I have been there," and so on. They are encouraged to tell what place they would like most to visit and why, and to describe some of these places in writing and in sketches. They discuss both orally and in writing such points as "The Differences the Pictures Showed between the Eastern and the Western Mountains." In these studies the children are led to notice especially the changes in climate as evidenced by the vegetation.

At the close of this period of work the question is asked informally, "What have all of these pictures meant to you?" Among the replies, these are found: "I never knew the people were doing so many different kinds of work in North America," "I never knew North America was so big." In gathering up all the new ideas the children have gained of North America one large question is formulated in which the rest of the study centers—"Why has North America so many kinds of places and so many kinds of workers?"

The first answer is, "Because of its great size and its different kinds of climate." From the globe the children discuss the time consumed in journeys across the continent. They see that the continent stretches almost from the North Pole to the equator.

In the search for another reason the children gather about the large relief map of North America which is placed upon the

floor. They notice the eastern and western highlands bounding the great trough or central valley. The two highlands are compared as to trend, length, width, height, and general character. The children note the parallel ridges of the Appalachians. They see that the Rocky Mountains are separated from the Sierras by the Great Basin. They trace the Cascade and the Coast ranges. In doing this, they are led to see that the topography is another force in determining the variety of places and kinds of work.

Having found two reasons, the children search for another. They recall regions of forests, of grassy plains, and of deserts and discover that there are variations in rainfall. They find out from maps and pictures where there is little precipitation, where there is a great deal, and where there is a moderate amount.

The question now naturally arises, "What are all these places good for?" and the children begin to locate the important industries upon the continent. Farming receives first attention. They know that some of the best farm lands are in river valleys. Several of the great rivers of North America are studied to find which basins offer the best opportunities for farming.

The following questions are considered:

1. What part is the main stream and what its most important tributaries?
2. Where do these streams rise and into what does the main stream empty?
3. What is the climate of the region through which this stream flows?
4. Does the climate vary in the different parts of the basin and, if so, how does this affect farming?

Some of the rivers studied in this way are the Mississippi, Missouri, St. Lawrence, Columbia, Sacramento and San Joaquin, Colorado, Mackenzie, and Yukon. The pupils find what in a large way are the most important crops of different parts of the continent. This establishes the idea of the wheat, corn, and cotton lands. The other important industries are indicated on the large relief map as their location is learned. The detailed study of these industries is postponed until the second semester.

In the lower grades the children become familiar gradually with charts and simple maps. The use of maps in this grade occasions very little difficulty.

During this work there is much opportunity for expression in oral and written composition, by drawing pictures, sketches, and diagrams, and by sand-modeling.

This study of North America extends over about nine weeks.

Standards of attainment.—

1. Ability to locate upon the globe and maps the continents, oceans, islands, and the most important countries and cities.
2. The recognition of such physical features as peninsula, strait, gulf, and mountain.
3. Knowledge of the conditions of life in the warm, cold, and temperate zones.
4. Knowledge of the large relief features of North America and the main facts concerning climate, distribution of vegetation, and distribution of the industries.

Time required.—Five half-hour periods a week are given to geography with an occasional assignment for home study.

Texts.—

Brigham and McFarlane, *Essentials of Geography*, First Book.
Carpenter, *North America*.

GRADE 4A

THE UNITED STATES

The pupils have studied general globe geography and North America the first half of the year and are now ready to make a detailed study of the United States.

Aims.—

1. To develop the conception of the United States as the home of a nation of people engaged in many kinds of work, in which every citizen should share.
2. To give an idea of the processes used in some of the more important industries.
3. To develop an understanding of the connection between an industry and the conditions which influence it.
4. To develop a feeling for the dignity of labor.

5. To teach the "place geography" of the United States.
6. To develop a feeling of need for books other than the text-book.

Subject-matter and method.—The course in the geography of the United States is mainly a study of the leading industries in this country. The children are told that they may soon represent on a large sand-table map of the United States what they find out about each.

As a preparation for the industrial studies, a short time is spent on such topics as the position, climate, and surface features. This is both in review and in extension of the study of these topics in the preceding semester. With physical maps before them, the children observe that the United States occupies much of the southern half of the continent. They note the relative positions of the other continents, especially Europe, in which they are just now interested through their study of Greek and Roman history. They locate the United States, not by degrees of latitude, but with reference to its relative nearness to the equator. They volunteer the information that it has a temperate climate. They are asked if this temperate climate prevails everywhere throughout the country. As a result of their travels and of their study of various regions in the previous grades, they are able to give instances of kinds of climate found in the different parts. To fix these impressions, pictures of the regions are again shown, but this time with a simple explanation of the causes; e.g., in the northwestern part, winds blow over the land from the sea bringing warmth and moisture, but, because of the height and consequent cold of the mountains, moisture falls on the western side of the mountains, leaving the eastern side dry (again the pictures are referred to as an illustration of the fact); in the eastern half of the country there is abundant moisture, but it is brought by the south and the southwest winds, and in the central part by winds from the Gulf of Mexico. No detailed explanations are given of the climatic features. It is sufficient if the reasons for the big contrasts are seen and the significance of the resulting vegetation is observed from the pictures.

The Great Lakes are located in relation to the adjoining states; they are traced on paper to get the general outline; paper cuttings

are made by the teacher and placed before the class so that the outline may be more distinct. After tracing, cutting, and drawing, the pupils have a much clearer picture of the general outline of the Great Lakes.

The children first try to draw, in small sand pans, the outline of the United States. Until they are able to draw it from memory, they refer to the wall-map. Then they take up the surface features. Such facts as the relative heights of the Rocky Mountain Highland and the Appalachian Highland, and the location of the Great Basin, smaller coastal ranges, the eastern coastal plain, and the Piedmont Plateau are observed and discussed. The extent of the Mississippi Basin and the gradual slope of the Great Plains toward the Rocky Mountains are noted, so that the relative areas may be correctly shown in the modeling. The drainage systems are worked out in connection with a study of the great slopes. For instance, the important rivers which have their sources in the Rocky Mountains are located, and their general directions discussed.

The pupils are now ready to begin work on the sand-table map. The table we use for this work is 5×7 feet. They make the model of soil, in order to show the more important farm products actually growing in the different regions. First, the general outline of the country is formed. Usually a group of six children work at a time. Then others take their places and perhaps criticize some part of the outline not accurately portrayed and remodel it. All this representation is done without the aid of the wall-map, except to verify the correctness of the modeling. After the general shape is approved by all the class, the surface features are modeled. This is the test of the mapwork. Of course no detailed or scientific results are expected, but a knowledge of the proportions of the surface features is required, such as the slope of the Piedmont in relation to the Appalachian Mountains, the height of the Appalachian Mountains compared with that of the Rockies, the relative location of the smaller western ranges, and the location of the Great Lakes in relation to the Mississippi Basin. Small rocks are brought in to build up the Rocky Mountains and salt is sifted on the peaks to represent snow. Strips of clay are used to bank in the coasts and to form the basins of the Great Lakes.

The Mississippi is represented by a narrow strip of silver paper; the other rivers are shown by indentations in the soil.

After the model is completed, it is used in various ways in the drill in place geography. A child is asked to travel from the Atlantic Coast to the Pacific, naming the various surface features over which he passes in taking such a trip. He goes to the sand table and points out each feature as he names it. Another pupil is asked to take a trip through the Great Lakes; another is asked to locate and name the different rivers indicated on the map.

The pupils are now ready to take up the seven leading industries: agriculture, grazing, lumbering, mining, fishing, manufacturing, and commerce.

Under agriculture, the principal crops studied are wheat, corn, cotton, tobacco, rice, and sugar cane. In approaching the study of wheat, the children discuss its various uses. After they have named as many of the wheat products as they know, an exhibit of wheat products is placed before them. The importance of wheat as a food is discussed and the question arises, "How much wheat does the United States raise?" They read in Allen's *Industrial Studies of the United States* to find the answer to this question. "What states raise the most wheat?" After they find the answer to this question, they locate the states on the wall-map or in their atlases. Next, using crayolas, each pupil colors the wheat states on an outline map of the United States. Usually at this point some pupils volunteer, "I know how to show on the soil map where wheat is raised," and before long all are able to locate the wheat areas with no assistance from wall-map or geography text.

Great wheat farms are described next, together with the method of planting and cultivating wheat. Since different members of the class have visited wheat farms, they are able to give first-hand information that is much more interesting than that gained from books. The points brought out are: preparation of the ground for planting, time of planting, harvesting, threshing, and milling. Emphasis is placed on the improvements which have been made in the machinery used in the raising of wheat, such as the invention of the drill, the modern reaper, the harvester, and the thresher.

For instance, the pupils discuss the means by which the farmers cut their grain before the modern reaper was invented, and are shown pictures of the old-fashioned sickle, the grain cradle, and the mower. The size of the farms, as affected by the invention of the reaper, is brought out, and, if possible, miniature models of the reaper, thresher, and harvester are shown to the class.

The class compares the old handmill with the modern flour-mill. Since the children know the important wheat states, they can see the reason for the location of the important milling centers, which they indicate on the map. As a summing up of this study, the children show wheat in the soil map in the regions where it is grown.

The other agricultural products are taken up in a similar way. Sometimes the seeds are planted at the beginning of the study or as soon as the class learns in what regions the products are most abundant. Thus the plants come up before the study is finished, and the children can observe their growth, write compositions about them, and draw them. Some of the topics about which compositions may be written, after observing the plants in the sand table, are: wheat, corn, peanuts, cotton, rice, tobacco.

Lumbering.—This type study of lumbering indicates in detail the method followed in much of the geography study of Grade 4A.

As a preparation for the study of lumbering, an effort is made to give the pupils a general idea of forestry. The value of the forest is discussed, especially as a source of fuel and lumber, as a means of protection against floods, winds, snowslides and moving sand, and as an element of beauty in the landscape. The children are encouraged to give personal experiences which illustrate any of these points. It is not necessary for the teacher to give all of this information or for the children to get it by reading; most of it can be brought out by discussion.

The forests in our country are next considered, and especially the size of the forested areas when the early settlers came to America, as contrasted with what we now have. This information is not given in terms of acres, but of the fractional amount left. A chart may be used to show by colors the relative amounts of forest land. Because of the waste of timber the children are told

of the law passed by Congress which authorizes the president to set aside forest land as public reservations and by virtue of which we have now about 163 national forests. The large map of the national forests is examined.

At the beginning of this study the children write letters to the Bureau of Forestry to ask for maps and booklets. Besides adding to the general interest in forestry, this provides an excellent motive for practice in letter-writing. After each pupil has written his letter, a committee is appointed from the class to select the best and neatest copy to send to Washington. Usually three maps and charts are sent in response, one of the national forests, one showing the great forests of the United States and the kinds of trees in each, and a third showing the different kinds of woods in each state, the selling price of the timber, and the number of mills in each state. These are placed on the wall to be used throughout the study.

Enemies of the forest are studied, such as forest fires, grazing animals, forest insects, snow, wind, and fungus diseases. The life of a forest ranger is taken up. Price's *The Land We Live In* gives a most interesting story of a forest ranger and his work, which is to provide for the best use of the forest, to protect it from fires, overgrazing, insects, and diseases, and to provide the best growing conditions for every tree, in order to insure a supply of timber.

The next topic is the great forest regions of the United States. There are to be found five great forests, the northern, central, southern, Rocky Mountain, and Pacific Coast. These the children indicate by color on outline maps, after locating them on the wall-map. Distinguishing characteristics of each forest region are brought out: for example, in the Rocky Mountain and Pacific Coast forests there are few trees besides the conifers and evergreens; in the western forests the trees stand so far apart that the crowns do not often touch, while in the eastern the trees usually stand close together. Some of the important trees in each forest are taken up, and their appearance and the uses of their woods are discussed. Specimens of woods are brought from the museum or collected by the children, and the characteristics are observed. It is, of course, better for the children to make these collections for themselves, as

their interest in the work is stimulated in proportion to their own efforts to contribute to it. The children are asked to bring to class any magazines having pictures or descriptions of forests or lumbering operations. Among the most important facts learned in the study of lumbering are the uses to which certain woods are put: spruce for paper, oak for furniture, cypress for shingles, hickory for wheels, Douglas fir for ties and telegraph poles, pine for building, and birch, beech, and maple for flooring. Large pictures of the trees are placed before the class, so the children may associate the appearance of the tree itself (its shape, height, and foliage) with its wood. An excursion is made to Washington and Jackson parks to see the trees.

The next step is to study the processes by which these trees are taken from the forest to the mills. Logging in the north is discussed first. For this the following texts are used:

Carpenter's *Geographical Reader of North America*

Carpenter's *How the World is Housed*

Allen's *Industrial Studies of the United States*

Too much emphasis cannot be placed on the use of pictures in this part of the study, especially those showing the camp, the cutting of the trees, and the hauling of the logs to the mills to be sawed into lumber. As contrasted with logging in the North, a lumber camp in the South or Northwest is described.

After the study of the processes is finished, the important cities noted as shipping centers for lumber are located on the wall-map and then indicated on the small outline maps.

For this unit of work the children make "Lumber Books," designing the covers and drawing their illustrations in the art periods. Some of these illustrations may be: A Logging Camp in the North, A Logging Scene in the South, A Forest Ranger, A Flume. For these books the children collect pictures to illustrate their compositions and copy one or two of the simpler charts.

These are the topics upon which they write compositions for the books:

The Uses of the Forest

Enemies of the Forest

The National Forests

A Forest Ranger

The Great Forests of the United States
 Different Woods
 Logging in the North
 Logging in the Northwest
 Logging in the South
 A Flume

As a summary, they may make a scene on a sand-table showing logging operations in any one of the regions studied.

Other industries.—The method used in teaching the other industries is similar to that used in the case of agriculture and lumbering, and so only the concrete representations need be noted here.

Small pieces of iron ore are used to indicate on the soil map the iron mining of the Lake Superior region and Alabama; pieces of coal for the mines of the Appalachian Mountains, Indiana, and Illinois; and a small toy freight train, loaded with coal, is shown on its way from Pennsylvania to New York. Gold mining is shown in California and Colorado; and silver, in Nevada, Colorado, and Utah.

To show fishing, a small basket of toy fish is placed on the Cape Cod coast; and a small toy salmon, on the Northwestern coast.

To show shipping, miniature boats are made to sail on the oceans, the Gulf of Mexico, and the Great Lakes. Some are entering New York Harbor, others are taking on cotton at New Orleans, and still others are sailing into port through the Golden Gate. Small barges full of coal and iron are plying the Great Lakes. The railroads are shown by tiny trains.

After the industries are studied, the children represent the cities of the United States on the sand-table. Each child is given a city to indicate in any way he chooses, provided his representation shows an important feature for which that city is known. He may get his information anywhere he pleases—in his reference textbooks, in the school library, or at home.

TOPICAL OUTLINE

- I. Position of United States
 1. In relation to
 - a) North America
 - b) Oceans
 - c) Other continents
 2. Distance from equator and North Pole
 - a) Temperate country

II. Surface features and drainage

1. Surface

a) Highlands

- (1) Appalachian
- (2) Rocky Mountain
- (3) Comparisons and contrasts

b) Plains and lowlands

- (1) Great Central Plain
- (2) Coastal plains

c) Plateaus

- (1) Piedmont
- (2) Great Basin
- (3) Colorado
- (4) Columbia

2. Drainage

- a) Important rivers
- b) Great Lakes

III. Climate

1. Affected by

- a) Size
- b) Position

2. Western United States; affected by westerly winds and topography

3. Eastern part; moisture from south and southwest winds

4. Central part; moisture increased from winds from Gulf of Mexico

5. Dry region

- a) Cause of little rainfall in Great Basin and on plains east of Rockies

IV. Industries

1. Agriculture

a) Wheat

- (1) Uses
- (2) Value
- (3) Conditions of growth
- (4) Plowing, harrowing, drilling, harvesting, threshing
- (5) Taken to elevators
 - (a) Description of elevator
 - (b) Location of elevators
- (6) Taken to mills
 - (a) Description of large mill
 - (b) Milling centers
- (7) Wheat regions
- (8) Important cities in wheat region
- (9) Exporting centers

- b) Corn
- c) Cotton
- d) Tobacco
- e) Rice
- f) Sugar cane
- g) Sugar beets
- 2. Livestock
 - a) Conditions favorable for raising food animals
 - b) Regions
 - c) Cattle
 - (1) Raising of cattle for meat
 - (2) Shipping and marketing of products
 - (3) Cities important as markets
 - (4) Dairying
 - d) Sheep
 - e) Hogs
- 3. Fruit-growing
 - a) Important fruit regions
 - b) Growing and marketing of apples, peaches, grapes, berries, oranges, lemons, grapefruit, pineapples, prunes, olives, figs
- 4. Lumbering
 - a) Uses of the forest
 - b) Area of forests in United States at present time
 - c) Forest reserves
 - (1) What they are
 - (2) Location
 - (3) Area
 - (4) Uses
 - (5) Conservation
 - d) Enemies of the forest
 - e) Forest regions of the United States
 - (1) Characteristics of each
 - (2) Lumbering methods used in each
 - g) Great cities important as shipping centers for lumber
- 5. Mining
 - a) Coal
 - (1) Uses
 - (a) Iron industry
 - (b) Steam power
 - (c) Heat
 - (d) Cooking and lighting
 - (e) Coal-tar products
 - (2) Formation of coal

- (3) Kinds
 - (4) Methods of mining
 - (5) Coal regions of United States
 - (6) Important cities in coal regions
- b) Iron
 - (1) Uses
 - (2) Iron-mining regions
 - (3) Methods of mining
 - (4) Transportation of ore
 - (5) Processes of manufacture
 - (6) Important iron- and steel-manufacturing cities
- c) Copper
 - (1) Uses and importance
 - (2) Regions where it is found
 - (3) Processes of mining and smelting
- d) Gold
 - (1) Discovery
 - (2) Uses
 - (3) Value
 - (4) Regions
 - (5) Methods of mining
 - (6) Cities
- e) Silver
 - (1) Uses
 - (2) Value
 - (3) Regions
 - (4) Methods of mining
 - (5) Cities
- 6. Fishing
 - a) Value of our fish catch
 - b) Methods of fishing in different regions
 - c) Preparation for market
 - d) Conservation methods
- 7. Manufacturing

Through the study of the leading industries, the main facts have been brought out concerning the location and character of the great manufacturing industries.

 - a) Rank of United States among manufacturing countries of the world. Reasons:
 - (1) Raw material
 - (2) Fuel
 - (3) Enormous capital
 - (4) Good transportation facilities

- b) Great manufacturing centers
- c) Manufacturing industries to be further developed in this country
- 8. Commerce
 - a) Domestic
 - (1) Facilities for transportation
 - (a) Natural waterways; rivers and lakes
 - (β) Artificial means
 - (i) Railroads; the important classes of products carried by each of our large systems
 - (ii) Canals
 - (2) Great commercial centers
 - b) Foreign
 - (1) Facilities for transportation
 - (a) Steamship lines
 - (β) Panama Canal
 - (γ) Extended coast line with good harbors
 - (2) Coast cities
 - (3) Principal imports
 - (4) Principal exports

Standards of attainment.—Progress is made in—

1. Ability to see the dependence of an industry upon environment.
2. Understanding the reasons for the growth of certain cities.
3. Ability to use reference books, government publications, etc., in collecting data for the study of an industry.
4. Ability to select the important topics in the study of an industry, such as, regions where industry is carried on, process, shipping centers, etc.

Time.—Five thirty-minute periods a week are given to the study of geography besides three study periods a week given to composition work and sand-table construction.

Textbooks.—

Brigham and McFarlane, *Essentials of Geography*. First Book
 Allen, *Industrial Studies of the United States*
 Carpenter, *Geographical Reader—North America*

Reference books.—

Longmans' Atlas
 Tarr and McMurry, *Geography*. First Book

Chamberlain, *How We Are Fed*

———, *How We Are Clothed*

———, *How We Are Sheltered*

———, *How We Travel*

Carpenter, *How the World is Fed*

———, *How the World is Housed*

———, *How the World is Clothed*

Chase and Clow, *Stories of Industry*. Books I and II