PUBLIC SCHOOL

OF

ROCHESTER.

MANUAL OF THE COURSE OF STUDY

IN

GEOGRAPHY

WITH SUGGESTIONS AND DIRECTIONS TO TEACHERS.

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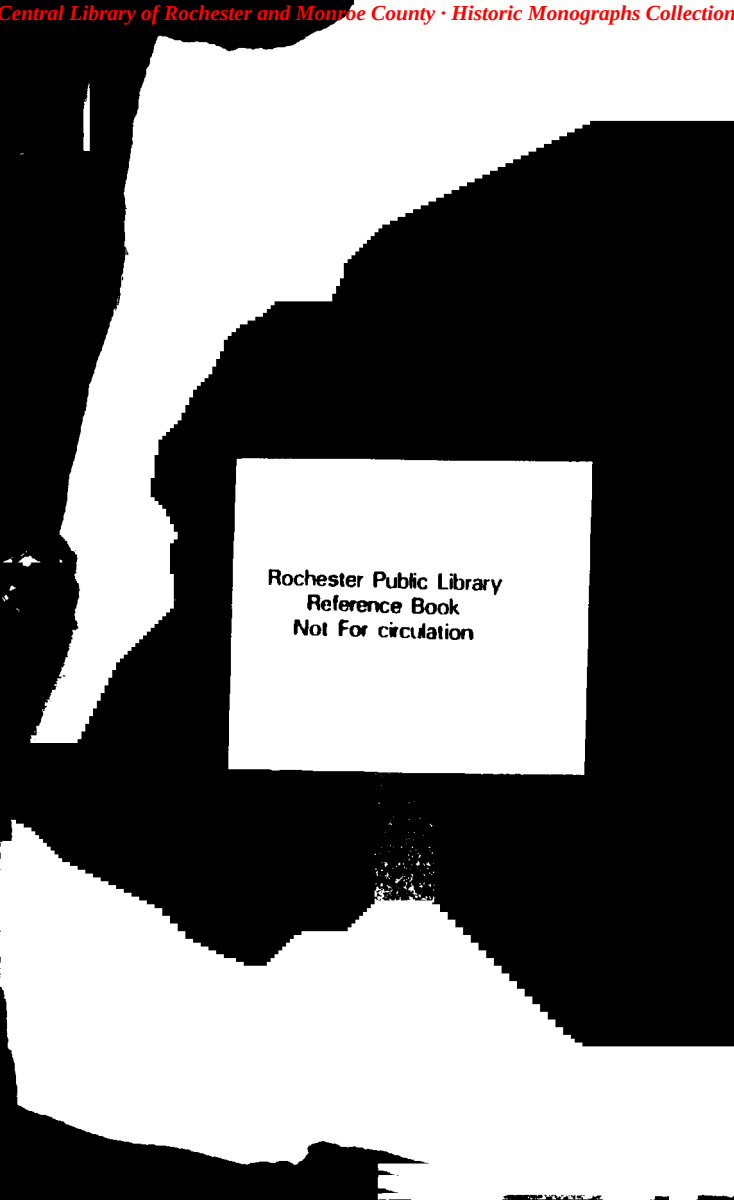

INTRODUCTION.

Geography rightly studied and correctly taught is one of the most interesting as well as one of the most valuable topics in our school curriculum.

It is not only fruitful in its practical, disciplinary and cultural results, but it becomes a powerful auxiliary to the other subjects taught.

Language, history, arithmetic and drawing can never be real to the learner without place and time—environment; and geography is preëminently a study of the natural environment of man, and its effects upon his civilization.

OBJECTS OF TEACHING GEOGRAPHY.

A recognized authority on this subject sets forth the following objects of teaching geography:

"First, to train the learner to see geographic facts or recognize geographic phenomena when he sees them; such as to see springs and know their causes, etc., etc.

"Second, and one which sequentially follows the first, is the training which will enable the learner to see geographic facts and to understand geographic phenomena from symbols or from the examination of maps and by reading text in connection therewith.

"An attempt to teach geography by reversing these steps (the old method) will prove fatal to educational success, for it anticipates the strength of mind and its power to receive.

"Third, is the acquisition of knowledge. This purpose is easily secured when the work for the accomplishment of the first two purposes has been systematically carried out."

It was precisely with these ends in view that our new course in geography was prepared two years ago. Owing to the brevity of the outline then given, and the difficulty since encountered by the teachers in determining with any degree of uniformity the method of procedure and the selection of subjects to especially secure these ends, it has been deemed advisable to prepare this manual which, it is hoped, will meet the demands of the teacher.

In its preparation there has been no intention of changing the course as formerly outlined; but in order that there may be no

The following, copied from the course of study in a neighboring city, is worthy of reproduction.

WEAKNESSES IN GEOGRAPHY TEACHING.

Among the faults in geography teaching are these:

1. Teachers talk too much. Lecturing pupils is of little value in promoting the mental growth of children.
2. Lack of definite aim in teaching. "What do I propose to teach and to clinch in this recitation?" is the question.
3. Failure to make use of the blackboard, map and globe.
4. Dwelling too much upon trivial details, such as comparatively unimportant cities, rivers, etc.
5. Dependence upon the text-book.

The teacher should have before beginning a lesson:

1. A definite idea of what she expects to accomplish in that lesson. To be able to state exactly to herself just what additional knowledge is sought for the child, is a guaranty of the teacher's success.
2. The successive steps planned to reach the desired results.
3. The apparatus for teaching should be at hand and ready for use—modeling table, maps, globe, colored crayon, etc.
4. A firm resolution to allow the children to do the talking.
5. One more firm resolution—to have the attention of *all* the class and not of a few only.
6. A thorough, concise knowledge or mastery of the lesson, so that she may teach without a text-book.

BOOKS.

Books are herein mentioned, some for the exclusive use of the teacher and others for both teacher and pupils. This department will use every effort to place as many of them at the disposal of the teachers and pupils as possible.

Besides those mentioned especially in the text of this manual, an appended list of some of the best books on this subject for teachers is given. They may all be found in the Central Library.

THIRD GRADE.

OBJECT.—To train the pupils to see geographic facts and to understand them.

Observation, investigation, and experimentation on the part of teachers and pupils comprise the chief work of this grade in geography.

The following leading topics constitutes the year's work. The interested teacher will by no means be confined exclusively to this outline; but she is expected to at least do this work and to teach with the object in view as stated above:

1. DISTANCE.

   (*a*) Train the children to comprehend one mile by referring to two well-known points a mile (about) apart.

   (*b*) One half of a mile, one fourth of a mile.

   (*c*) With these units fixed in their minds they may estimate short distances, two miles, five miles, distances between well-known points such as from the school house to Powers' Block, to South Park, Charlotte, etc.

   In this last exercise, do not tell them nor encourage them to inquire. Let them at first form their own judgment, no matter how much in error they may be. Most children at this age have no better idea of distance than "far," "near," "not far," "a little ways," "way off," and such like expressions. Many grow up with no better means of expressing distance. Fix a definite unit in the mind early and practice its use often. Do not attempt its extended use until the children are quite familiar with it. It should be walked or wheeled over frequently by them. Possibly the teacher may profit by the exercise. Occasionally allow the children to select for themselves another mile, then a half and quarter mile.

2. TIME.

   (*a*) Develop accurate ideas of *hour*, *day*, *week*, *month*, *year*, as units of thought in time.

(*b*) Discuss distance with relation to time; how long it takes to walk a mile, to ride it on a bicycle, on a train of cars, etc., and thus gradually get the pupils to comprehend long distances by translating them into units of time in connection with the various modes of traveling. How far is a "10 minutes walk", an "hour's ride by rail", etc.

3. DIRECTION.

(*a*) Teach the points of the compass, cardinal and semi-cardinal.

Draw a compass upon the floor with colored crayons.

(*b*) Have the pupils locate familiar places by pointing towards them and then referring to the floor compass and stating the direction (nearly). Practice this until the points are well known to the pupils without finding it necessary to refer to the compass.

4. LOCATION.

(*a*) Develop ability of pupils to locate familiar places by stating their direction from the school, home, etc., and from each other; the approximate distances; on which side of the street they live; on what street certain buildings, public squares, etc., are located.

(*b*) Locate on streets with reference to cross streets; as for instance, Plymouth Avenue between Spring and Troup Streets.

Develop well the idea of locality. It is often pathetic to hear grown people trying to locate places, say nothing of children in our upper grades. Certainly this is one of the fundamental ideas of geography.

Instead of teaching each of the above topics alone, it is suggested that as soon as a working idea of one is obtained another be taken up with it, and so on, working them all together. For example, in *location* use the units of distance, time, and points of direction freely.

Geographic language should be acquired in connection with geographic ideas. New words must be learned and used freely. Map drawing (plan drawing) and modeling, other forms of geographic expression may now be started.

(*c*) Draw a plan of the school room and locate objects—desks, teacher's desk, etc. Use a scale (teacher to furnish the scale). Draw other familiar ground plans, such as the streets in the immediate vicinity of the school house, home, "Four Corners," etc. Draw a plan of the streets through which the pupils travel on their way to school. In doing this use freely expressions of distances, direction, location and time.

The teacher is again reminded of the purpose of all the above work.

Don't spend too much time on any drawing. Ideas are what the children should acquire and a free and effective way of expressing them.

5. The Sun.

(*a*) Observe its location in the morning, at noon, and in the evening.

(*b*) Associate this apparent movement of the sun with time —day and night. Use freely such expressions as *sunrise*, *sunset*, *24 hours*, *noon*, *night*, *to-day*, *yesterday*, *to-morrow* in connection with the sun.

(*c*) Develop the fact that daylight is sunlight. Compare it with moonlight, electric light, gas light, lamp light, showing the difference in intensity.

(*d*) Observe the heat of the sun. Use a thermometer. Note the temperature in the sun, in the shade, at noon, at night. Find some places where it is always shady. Why? Locate these places as north side, etc. Note some of the effects of the sun's heat upon a plant; of the light upon plants and their form and color.

Experiment by covering up a small place on the lawn with a board or thick cloth for a few days. Imagine the effect of no sunlight for a long period.

(*e*) Observe the location of the sun at noon in autumn, winter, spring and summer. Associate the weather differences with this. Have the children imagine the sun high in the heavens at noon the year round and its effects. Tell them or read to them stories of other lands and people. (Seven Little Sisters.)

There are many beautiful lessons which may be observed at different times of the year, and which are not mentioned above.

The teachers are urged to impress upon the minds of their pupils the great importance of the sun to our life, without going too deeply into the why's, no deeper than the child can easily understand.

6. AIR, CLOUDS, RAIN, SNOW.

(*a*) The air, its manifestations.

The wind blows the branches of the trees, fans our faces, we breathe it, we move it easily with a fan, it is present every where we go. All life needs it. It seems to be very high above us. We know this by seeing birds and balloons above us. Sometimes the air is in a great commotion. Storm clouds, rain and snow are from the air.

(*b*) Moisten a slate, it soon dries. Sidewalks and streets soon dry after a shower. Clothes are hung out on a line to dry. Where does this moisture go? Show by simple experiments that it goes into the air. Show also how moisture can be taken from the air, by placing a glass of ice water upon the table, by "steam" upon the windows, etc. After such experiments the teacher in story form may tell how the sun warms the air and that when the air becomes warmer it will hold more moisture (vapor) which it will gather up as it blows across lakes, rivers, moist ground and anything wet. That vapor being lighter than air, rises high, and there, where it is cooler, forms clouds, etc., etc., etc.

Make this talk as simple as possible, using, however, the terms *vapor*, *evaporate*, *moisture*, etc., freely. Make the account strictly truthful without too many explanations.

It is taken for granted that the teacher is well informed in physical geography or that she will take occasion to so inform herself. She needs to know vastly more than she teaches in order to teach the little well.

7. SPRINGS, BROOKS, PONDS, RIVERS AND LAKES. (Effects of 6).

There is no other way that these subjects can be so well taught as by taking the children directly to them in nature. One afternoon's ramble may serve this purpose, although several would be better.

The teacher should first go over the ground and make notes of what she intends the children shall observe, and where and in what order they shall be seen. For a single afternoon Seneca Park, East, offers the most within a limited space. If several excursions are taken, no difficulty in finding objects need be encountered. Best results will always be obtained when only one, or at most two related objects are studied during a single outing.

(*a*) SPRING. (In the presence of a natural one.)

Note the following: The surrounding land, where dry, where wet, slopes, levels, etc. Where the water comes from; seems to come up out of the ground without any apparent cause; water will not flow up of its own accord; must have some underground cause; shape of ground may suggest a cause.

The infiltration of water through rock seams and shales may be easily studied from the lower river gorge.

Again, note the clearness of the water, its coolness; perhaps there has been no rain for several days, yet the water flows constantly in some, giving them the name of living springs; the possibility of some underground storage.

Note where the water goes; brooks are formed; imagine several brooks flowing together and the result.

(*b*) BROOKS.

Trace the brooklet flowing from the spring above observed. Find a quiet spot where nothing but the babbling of the water may be heard. Here read to the children the first four chapters of Brooks and Brook Basins. Make this reading effective. Perhaps some child can recite Tennyson's "Brook."

Observe the surroundings; the brook flows through the lowest place in the little valley. Note the slopes, the speed of the water, its direction (in all outings keep the directions in mind and use them frequently), straight or crooked. Examine a bend and determine its cause—some hard obstruction, perhaps. Drop some soil in the running water; observe. Trace the brook for some distance. Does it increase in size? Account for it, if it does. Observe that where the slope is more gentle the stream appears larger; why? Can any uses of a brook be discovered along the way? Let the boys construct a small dam.

(*c*) Ponds, Rivers and Lakes. (Treated as above.)

The teachers should take notes of all the interesting things observed by the pupils and pertaining to the subject in hand. These notes will furnish material for much class room work later. In the field little instruction can be given—sufficient only to keep the children alert to see. In the school room, for example, after the spring has been studied, the careful connection of rain and snow can be discussed and artificial devices and pictures may be employed to illustrate the phenomena more clearly.

8. Soil. In the fields, along the road, or by a brook.

(*a*) Sand.

(*b*) Gravel.

(*c*) Till.

(*d*) Loam.

(*e*) Combinations, etc.

Notice the difference; how plants have their roots imbedded in the soil; for what purpose? in which of the above kinds of soil do things seem to be growing most abundantly?

Observe that the land is not smooth over any great extent. Hills, mounds, knolls, valleys, plains, slopes, etc., may be seen in almost any open field.

During these studies do not fail to notice any connection between what has been studied on previous excursions. For example, the valley calls up the brook. Join the two—one cause, the other effect—and a valuable fact in geography has been reached. Again, vegetation calls up the phenomena of clouds, rain, snow, seasons, etc. The pupils should become accustomed to tracing these easily-found causes and effects. The teacher should ever keep in mind these interactions, and aim to realize herself the unity of nature; but the children can only see into reasons a little way. For instance, the child can easily see that water and soil are both necessary to plant life. How these sustain life, the ingredients of the soil and how the roots absorb them, is another study.

During the observations and study of water and land formations, such objects as *valley*, *hill*, *slope*, *divide* or *water parting*, *island*, *peninsula*, *cape* or *point*, *spring*, *brook*, *pond* or *lake*, *river*, etc.—things they have actually seen and described, should be defined and committed to memory.

9. LIFE.

(*a*) Study some plant. Observe the effects of light, air, soil, water, temperature. Depriving the plant of any of the necessary conditions will show the children what each does for the plant outwardly.

Temperature necessities are especially interesting and profitable. Some plants live out of doors all winter, others cannot, etc. This should lead to many interesting talks about other lands and what grows there, their seasons, etc.

(*b*) Discuss useful plants. At this point, children may have made a collection for the school room. Ears of ripe corn, samples of wheat, oats, barley, peas, beans, etc., etc., in the straw when possible, should be collected and preserved for school-room lessons. While the mere seeds secured at a seed house or mill would make a valuable collection, they are much more instructive when secured from the field. The teacher should plan ahead for this collection. These lessons should be very interesting because of the knowledge the

children already have of their uses. The dependence of man upon what soil produces, the labor that must be performed before it can be utilized by him, how all other labor reaches back to this, and many more kindred subjects, all, however, intended to show the adaptation of earth to man and *vice versa*.

(*c*) Discuss useful animals; the cow, sheep, horse, etc.; what they live upon, and how in turn they help to sustain human life. Confine this wholly to animals they have seen. Wool products, dairy products, etc., will furnish pleasing work for the children.

(*d*) Study the farmer, especially, since he comes nearer the main productions. Seed time, harvest, market, our food; how he looks for rain, watches against frost, stores up for winter, etc. Connect all this with climate and seasons so far as these things have become understood. What have you in your pantry that does not grow about Rochester? Short talks about tea, coffee, spices, etc., and the other lands of the earth where they grow, will here be profitable as a mere suggestion to the pupils of the fact of other lands and their interesting people and plants. Read "Aunt Martha's Corner Cupboard."

In connection with the study of the farmer, a valuable set of books for the children to read is Uncle Robert's Geography, Books I. and II.

The work here laid out should be presented in the order suggested so far as possible. It must be remembered, however, that the season of the year will frequently interfere with this arrangement.

The teacher is therefore directed to carefully study this whole course, keeping in mind its spirit and purpose, and to arrange so that out-door observation lessons may chiefly come in the early autumn and the spring. To do this may necessitate the going over of the greater part of the course, first for observation work alone, and then in the class room with notes and other mementoes study more extendedly what has been already observed.

The course in this grade may be called geographic nature study, rather than geography; but it is none the less an essential part of geography.

Teachers of this grade are referred to the following books which they should read entire, and master for themselves. They will teach directly but little that they find in them. What they do teach, however, must be backed up by this greater work in order to be well done and effective. Furthermore, their own knowledge of the subject will be so increased and withal their student habits so revived that the difficulties hitherto encountered will seem small.

First Book of Physical Geography—*Tarr.*
Physical Geography (Primer)—*Geike.*
The Teaching of Geography—*Geike.*
The Earth and Man—*Guyot.*
The Story of Our Continent—*Shaler.*
Waymarks for Teachers (General)—*Arnold.*

For the class-room:

Seven Little Sisters—*Andrews.*
Each and All—*Andrews.*
Uncle Robert's Geography (3 books)—*Parker.*

Upon the Teacher's Desk:

One or more text books in geography.

FOURTH GRADE.

Object.—(1.) To train the pupils to see geographic facts and understand geographic phenomena, an amplification and extension of the work of the previous year.

(2.) To begin the use of the symbols of geography, already prepared for them; such as globes, maps and text in connection therewith.

Redway's Natural Elementary Geography in the hands of each pupil.

The teacher should have at her command a globe, local relief map, and a map of the State of New York.

Geography proper begins in this grade; but before the teacher enters upon it she should test the powers of observation and understanding acquired in the previous grade.

She must therefore be as thoroughly acquainted with the work of the Third grade as are the teachers of that grade; and *all the directions given to Third grade teachers in this course are applicable to her.*

With this understanding of what the pupils have done the year before and its purpose, she will test the children, not in their knowledge but in their ability to recognize geographic facts and phenomena, observe them, describe them, and trace the simpler relations of cause and effect. For example, the child may have learned the definition of spring, brook, river, etc., by committing to memory the words as prepared for him by a teacher; but unless he can go to them, point them out, and explain their origin and relation, his knowledge would be verbal only, and practically useless.

As the teacher of the next grade will be called upon to test this grade's work by the same standard, the teacher of this grade will see to it that both the purpose and spirit as stated herein shall be carried out. Develop power first. Acquisition of knowledge is always a pleasure to one who has learned how to reach for it.

1. REVIEW THE WORK OF THE THIRD GRADE.

This does not mean that the same work shall be gone over.

(*a*) Prepare new exercises in which their ability to estimate *distance*, *time*, *direction* and *location* will be tested and further developed.

(*b*) Study anew the sun, the atmosphere, clouds, rain, snow and their relations to one another and to us.

(*c*) Visit spring, brook, river, lake, valley, hill, divide, slope, island and other formations some of which were not studied the year before.

As in (*a*), go further into causes and effects. Draw upon the imagination to construct greater objects such as mountains, volcanoes, river systems, great plains, etc.

All of the above calls for out door lessons and short excursions. The more of these the better, providing the teacher prepares for them before hand and makes the actual work of each short and interesting. Keep the play element of the child in check during the work. A little play spell after the work will make it all the more effective.

2. THE EARTH—its shape and size. In connection with the review the teacher will see the necessity of some knowledge on the part of her pupils of the size and shape of the earth. This is an introduction into the study by symbols. This first step of the kind calls for care and preparation on the part of the teacher. The children cannot look out upon the earth and see that it is round. Neither can they see its motions or its vast areas of land and water. A globe must here be used.

(*a*) Let the children handle, if possible, the globe, look it over, and become familiar with its mechanism before any attempt to teach from it is begun. The reason for this is obvious.

(*b*) Bearing in mind how well the pupils have observed the things they could see and comprehend for themselves, proceed to tell them how *we* know the shape and size of the earth. But little of this information will appeal at first to their intelligence. That men have traveled around it will come within their understanding. It is doubtful whether any have really noticed which part of a ship is first seen when it comes in view on the horizon; and even if they had so noticed, it would hardly prove anything to them without some simple demonstration, such as, what part of a boy would we first see if he were to come up the stairway at the other end of the hall?

(*c*) Show the earth's rotation. That the axis is inclined, and that the earth also moves about the sun may be merely noticed, not taught.

Some facts must be told the pupils. But unless these facts can be used repeatedly to explain others that the children see for themselves, there is no need of learning them.

For example, we are told that the earth is round and that it rotates upon its axis. These facts explain day and night and many other phenomena later on. Gradually, by using these facts to explain others, we become conscious that they must be true, they are so necessary to explain the others.

(*d*) Show the land and water areas and how upon a globe or map we may distinguish them. Use the terms *continent, grand division, island,* freely.

See text book, pages 5–22.

The number of facts and definitions to be committed to memory thus far is not great; but they should be thoroughly learned when selected for the purpose.

The written reviews must necessarily deal with the memory work; and as this may all be accomplished with but little understanding on the part of the pupil, it will readily be seen that such reviews cannot show the true character of this work. The real test comes in the work that follows. The teachers are therefore directed to keep in view the *purpose* of this work, rather than the review and examination results.

The above lessons having been completed, the next step should be to study some portion of home geography as a unit, and bring into requisition pictures, maps, and models. This will call for a practical use of the geographic facts already learned. Observations have been so extended that if the pupils see a valley in the distance they expect to see a stream of water or the dried up bed of one; clouds suggest rain or snow according to the season; direction of wind, north, cool or cold, south, warm, east, chilly and suggestive of storm, etc.

A stream of water calls up a whole train of connected ideas, spring, brook, river, lake, ocean, evaporation, rain and percolation.

There are no isolated facts in nature.

3. THE GENESEE RIVER BASIN.

The study of this basin as a type should be deliberate, systematic, and thorough; for upon this work depends that larger comprehension of geography which must be grasped through the imagination, aided by maps and books.

The Genesee Valley is a selection of real earth, a portion of which is in our sight daily.

It should be studied first out of doors.

(*a*) Select some point of observation where the valley formation may be plainly seen over quite a range of territory. Elmwood Avenue near Genesee St. is suggested as such a point. For a narrower view, Plymouth Avenue just below the rapids is very good. There are several good places to go, if one only sets out to find them.

At the point selected observe:

1. Direction of the valley.
2. Approximate width.
3. What makes the two sides or slopes of the valley.
4. Its principal stream.
5. Its probable length (long or short; why?)

This calls for an interesting discussion upon the probable source of the river, how it is fed, whether all the water that gets into it above reaches the point observed, etc., etc.

6. Along what line in the valley the river flows (lowest).
7. The fertility of the land on the flats.
8. How one may judge of this fertility.

Observe the condition of the river:

9. High or low water (discussion).
10. Muddy or clear (discussion).
11. Discuss rain fall, snow fall, droughts, and their effects.

12. Discuss the apparent usefulness of streams of water to the land as a system of natural drainage.

13. Talk of the uses to the farmer as a drink supply for his stock, etc. To the miller, and to the factory.

14. Discuss navigation, etc.

Visit at least one branch where it joins the river.

15. Tributaries. Mention Black Creek, Oatka Creek, and Honeoye Creek just a few miles above.

16. Study the valley below the point of observation; its termination; the falls and their causes and uses.

Is there any relation between these and the fact that Rochester is located where it is?

Visit the gorge:

17. What must have made it.

18. Time it took to do this (long or short).

19. Note the weathering processes along the upper edges of the banks.

20. How this gradually affects the width of the valley.

21. Where all this worn-away material goes.

22. Imagine how great changes are constantly in progress without our being conscious of them, so slow do these forces operate.

The above is by no means all that this grade might observe with profit. They are inserted here as a type of geographic nature study with a definite end in view. Any teacher will see that this cannot be well done during a single excursion. Most teachers will require three or more.

If careful notes are taken by the teacher, much of the discussions may be carried into the school room. Enough should be talked over in the field to make certain that the observations are well made by all

the class. The pupils should be encouraged to take notes of a few things. If this is carried too far, they will spend more time in writing than in looking. Hence the teacher's notes must be relied upon.

This will be all the more apparent when consideration is taken of the fact that field work must be done during the pleasant weather of autumn.

4. CLASS-ROOM GEOGRAPHY.

(*a*) While reviewing the Third grade work and after each excursion, talk over from note books what has been observed. Allow the children to do most of the talking. From these conversational lessons select and define accurately such objects and phenomena as are essential knowledge for the children to memorize.

All geographic knowledge cannot be carried in memory.

The child should memorize such facts and definitions only as are to become his working tools of thought in this subject—such as the names of which make a large part of his geographic vocabulary. For example, a child describes to his teacher and classmates what he saw from some point of observation: "I looked *up* the *valley* and saw on either side *hills sloping* toward a *river*. The *current* of this stream was rapid and quantities of *soil* were being carried down. Below, the river meets some obstruction and a *lake* is formed. In this lake not far from the *mouth of the river* is an *island* which has been formed by the soil washed down from the *banks of the streams* above, etc., etc."

Note the Italicized words, and what the children must know and remember in order to use them.

The memorizing work should proceed in a rational order and nothing should be so learned until its image is familiar to the child's mind. Hence definitions of latitude and longitude before studying locations on a map, or trade winds and ocean currents before understanding the motions of the earth, etc., etc, would be entirely out of time and reason.

The time to learn these is after they are understood and are entering into the child's vocabulary.

By this time, the pupils should have obtained enough geographic facts from nature to enable them to begin intelligently the use of globe, maps and text. They must *learn* to do this, and all the work upon maps and in books by this grade has for its main purpose this end in view.

A little of this work may have been done. Plain drawing and modeling as modes of expression ; the use of the globe to show the rotundity of the earth have been steps in this direction.

For the purpose of developing this skill a globe, a large hemisphere map, a large map of North America and of the United States should be at hand. Such text as the children should study will be found in the text book.

1. Test the pupils in their use of geographic terms. This can best be done by calling for descriptions of topography orally and in writing.

2. Examine the globe with the children and point out:

(*a*) The land surfaces.

(*b*) The water surfaces.

(*c*) Of which is there the more ?

(*d*) The two continents.

(*e*) Compare them in size.

(*f*) The grand divisions of each.

(*g*) Note the hemisphere map and find these hemispheres upon the globe. Associate the two and thereby transfer the study from the globe to a flat map.

With both the globe and hemisphere map before the class point out:

(*a*) Poles.

(*b*) Axis.

(*c*) Equator and its meaning.

(*d*) Other circles parallel to the equator (climatic circles).

(*e*) Zones.

Teach these circles as means of location only. Show how north of the equator and south, too, many more such circles could be drawn at certain distances apart.

Show that these are always like placed on every map and globe, and that they are not *really* on the earth.

Illustrate their use in locating places by reference to our streets. We speak now of South Avenue and North Avenue, always keeping in mind some street to start from. North Washington and South Washington, &c., &c. The word latitude should be freely used by the teacher in pointing out objects upon the globe or map until the pupils see that it means distance north or south of the equator.

Set the globe aside for a time and study from the

3. HEMISPHERE MAPS. Flat surface to be imagined round.

Perhaps one of the first things some bright child will notice is that the parallels found on the globe are not parallel, really, on the map. How can this be explained to such pupils?

The teacher will find an instructive account of the difficulties of map making in Huxley's Physiography, pages 317–336.

Observe:

(*a*) Divisions into hemispheres.

(*b*) For what purpose? How much can one see of a sphere at once?

(*c*) Why divided as it is.

(*d*) One Eastern, the other Western. Why?

As the map is much larger than the globe, develop the idea of scale. Afterwards when different maps are used consult the scale and explain the ratio (nearly) of the one to the other.

(*e*) Names of grand divisions in the Western Hemisphere or Continent.

(*f*) Which is in north latitude?

(*g*) Which or a part of which in south latitude?

(*h*) Locate North America (in the Western Continent, north latitude).

(*i*) Crossed by what climatic circles?

(*j*) The Zones. Where is it hot? Where cold?

Place before the pupils the large

4. MAP OF NORTH AMERICA, (SCALE).

(*a*) Compare it with the globe and hemisphere map in order to keep in mind its relative position.

The study of the structural features of North America may now be begun. As before, however, the teacher is reminded that the pupils of this grade are to acquire skill in interpreting maps. This is the main purpose at this point.

A relief map or the physical map on page 22 of the text book should first be studied. The questions on pages 23—30 are suggestive and the pupils should be required to find the answers to them. In doing so new geographic terms will come into use, which the teachers should carefully anticipate by causing them to be explained.

Ocean, *sea*, *gulf*, *bay*, *peninsula*, *isthmus*, *mountain*, *plain*, most of which can only be seen by imagination should now be learned. It is believed that if the observation work out of doors has been well done, the children can be easily led to form these images. Pictures and drawings are helpful. As with those they have seen, they are to become a part of their geographic language and accordingly when understood their definitions should be memorized.

The relief and physical maps easily show mountains, valleys, plains, etc. After any of these are pointed out and studied, turn the attention to the wall map and also the map on page 66 of the text book. Observe here the markings to denote these features. By this practice the children will become familiar with the use of any ordinary map.

Map drawing and clay or paper modeling will here be helpful in fixing in mind what has been learned. Whatever knowledge is acquired in this practice should be retained in memory.

As two of the climatic circles cross North America and as the pupils have already learned that they are zone boundaries, how to determine the climate of a place may here begin to be studied. This will lead to familiar talks about the countries named upon some of the maps just studied, and naturally focuses upon

5. THE UNITED STATES.

As the study of this topic is designed to be wholly upon its structural features, the text of the book to page 40 only should be used.

With the physical map of North America in view, place the wall map of the United States and note :

(*a*) Physical features. (What part of, already studied.)

(*b*) New York State.

(*c*) Lake Ontario. Do you see Rochester ?

(*d*) Physical features of New York State, such as the small lakes, Adirondack and Catskill mountains, Genesee and Hudson rivers, etc., etc.

A large wall map of New York State may here be used.

6. SOUTH AMERICA, EUROPE, ASIA AND AFRICA are to be treated in the same manner as North America, only rather more briefly.

(*a*) South America, text book, pages 72–76.

(*b*) Europe, " " " 84–89.

(*c*) Asia, " " " 110–113.

(*d*) Africa, " " " 124–126.

(*e*) Compare these grand divisions in shape and other important features. Children are quick to see resemblances, not so apt in finding differences.

7. REVIEW.

As the spring season will have now arrived, it is suggested that a review of the field work of the first semester be made out of doors. This will arouse their interest in nature anew, and greatly facilitate the review of the class-room exercises.

Besides the books mentioned for teachers in the Third grade, the following are recommended for teachers of the Fourth grade :

Child and Nature.—*Frye.*

Miss West's Class in Geography.—*Sparhawk.*

Methods of Teaching Geography.—*Crocker.*

For the class room :

Aunt Martha's Corner Cupboard.

FIFTH GRADE.

OBJECT.

1. To train pupils to see geographic facts and geographic phenomena, and to interpret them.

2. To train the pupils in the use of them to further ends.

3. To teach the pupils the use of geographic symbols, maps etc.

4. To acquire knowledge.

5. To associate this knowledge with the life of man. This last step marks the beginning of the study of earth and man, the completion of which is not in geography; but the foundation of which should surely be laid there.

The teachers of this grade should read carefully the instructions and suggestions to those of the Third and Fourth grades. They are applicable to them. They are urged to study, not use in class, the books prescribed for their special instruction.

The work of this year calls for a careful review of the work of the Fourth grade with amplifications as explained in the course for that grade with reference to the Third grade's work.

During the pleasant days of autumn there should be several out-door exercises, the same as are required of the other grades.

A typical out-door lesson is here suggested:

1. Take the class to some spot, already familiar to the teacher because of a visit to it beforehand, where a section of the Genesee Valley may be observed.

Note books in hand, especially the teacher's, take down after the pupils have indicated:

1. THE GENERAL DIRECTION OF THE VALLEY.
2. ITS APPROXIMATE WIDTH WHERE OBSERVED.
3. THE SLOPES.
   - (*a*) Steep.
   - (*b*) Gradual.
   - (*c*) Bare.
   - (*d*) Forest covered.

(*e*) Farm land.

(*f*) Smooth or rough.

(*g*) If cut up, by what.

4. The Height of Land on Each Side.

Hills, or a gentle rise.

5. The River.

(*a*) Its current and why any.

(*b*) Its course, straight or crooked, and why.

(*c*) Its banks, high or low, abrupt or slanting, and why.

(*d*) Water clear or muddy.

(*e*) Its approximate width, why narrower in some places than in others.

(*f*) Evidences, if any, of its having recently changed its course.

(*g*) The river bed.—Notice that where the current is swifter the river bed is composed of coarse gravel or hard clay; where slower, fine gravel, sand and mud; why.

The teacher will find many suggestions here for the explanation of soil formations in the lower valley (below the falls).

6. The Little Side Cuts Through the Banks into the River.

(*a*) Some have water flowing through them.

(*b*) Most of them are dry, (inferences).

(*c*) Their effects upon the banks.

(*d*) Where the detritus has gone.

(*e*) Where all this worn away soil goes.

7. Evidences of Weathering.

(*a*) By rain and melted snow.

(*b*) By frost (not likely to be recognized in the early autumn).

(*c*) By decay, etc.

8. Character of the Soil, Fertile or Not.

9. Evidences of Either.

10. Vegetation.

11. Occupations in the Valley.

Agriculture, Manufacturing, Railroading.

12. Domestic Animals.

13. Buildings, for What.

The above, with others suggested by the time, place and occasion, observed and taken down during one or more visits to the same locality, will furnish material for several class room exercises in geography.

In the class room, the things which they have observed will be present only in memory. Draw upon their imagination to see beyond. Draw their attention to the special map of the Genesee Basin. Locate the point of their observation. Show how much of it was actually seen. Point out other tributaries, falls, hills, and slopes larger and steeper than they saw on their visit. Perhaps some of the class have been up the valley as far as Avon, Geneseo, Mount Morris or Portage. If so, they will have something to tell to help make it real.

During these class exercises questions will arise which call for other trips. For example, erosion as seen on previous excursions may not have been very plain to the children. Visit Platt Street, Vincent Place, or Driving Park Avenue bridge. Erosion, all sorts of weathering processes and effects are there seen in a short time.

A visit to the lower gorge, down the road north and opposite the fire house on Driving Park Avenue, is especially recommended for a close view of these phenomena. Erosion by rain storms is often apparent in any street. A large example may be seen at the Pinnacle Hills between the Wide Waters and Monroe Avenue on Culver Street. The teacher will find there a number of other geographic facts well worthy of the trip.

The above is only suggestive of the value of such lessons. Many more can be easily mentioned and they will occur to the progressive teacher; such as, for example, the study of useful trees and a visit to the saw mill at the Wide Waters (eastern), etc., etc.

In doing this work, use, strengthen and increase the powers cultivated in the previous grades. The children should be led to inquire more deeply into causes and trace results further; to discover relations existing between facts and phenomena which were studied separately the year before.

2. In this grade the children should be required to make a series of observations extending through periods of time. For example:

1. Shadow Made by Some Stationary Object Before the Sun.

   (*a*) It increases in length during autumn. Mark these changes weekly and at, or nearly at, the same time of day.

   (*b*) When it reaches its maximum length.

   (*c*) When it begins to shorten.

   (*d*) When it reaches its minimum length.

2. Length of Day and Night.

   (*a*) The day shortens during autumn. Have the pupils observe this weekly and mark in note books the variations as well as they can.

   (*b*) The shortest days (nearly).

   (*c*) When they begin apparently to lengthen.

   (*d*) When they are longest (nearly).

3. Temperature. Use a thermometer.

   (*a*) Observe daily at a certain hour.

   (*b*) Make average for each week.

   (*c*) Note which month averaged warmest and which coldest.

The teacher will here notice that the variations of temperature are in the same order as the variations observed in 1 and 2; but that the minimum and maximum do not correspond in time. This will have to be explained when these phenomena are studied together.

4. Weather Conditions.

Make a series of observations, noting the time when there are more cloudy and stormy days.

(*a*) Number of cloudy days in each school month.

(*b*) Number of rainy days.

(*c*) When the first frost came.

(*d*) Number of days when snow fell.

(*e*) Number of days of skating, etc.

5. Changes in Vegetation.

(*a*) Ripening of fruits and nuts.
Perhaps some boys may go nutting. Let them tell their adventures.

(*b*) Leaves of trees coloring (note the month when they are the most beautiful).

(*c*) Leaves fall to the ground.

(*d*) Plants wither and dry up.

(*e*) Leaves first reappear.

(*f*) Fruit trees blossom, etc.

6. The People.

(*a*) Doors and windows open.

(*b*) When kept closed.

(*c*) Starting fires for warmth.

(*d*) Thanksgiving Day—Thankful for what?

(*e*) Changes of clothing.

(*f*) When doors and windows are again open (note time of all these and keep a record, etc.)

It will be noticed by the teacher that while these things are going on, the pupils will be studying from maps and text books; and that these observations will often time in with the lessons. For example, the last topic (6) will stimulate interest in coal and iron products, food and clothing.

As these observations progress, the teacher will also see that her pupils trace the connections between the different series. Revolution of the earth, inclination of its axis and their relation to change of seasons and climate will be easily developed when these observations are all brought together.

A better idea of the size of the earth should now be obtained. Leaving their conceptions of distance and time, take an imaginary journey around the earth by the Empire State Express, for example. We actually traverse the distance in 24 hours by standing still—a thousand miles an hour at the equator.

3. From the wall maps first, and afterwards from all maps, study latitude and longitude.

Show how these different lines crossing each other form small spaces which may be easily located. Note where latitude is reckoned on the map and from what to what points. The same of longitude. Study it as a convenience for locating places upon the map and give frequent drills in this exercise. Text book, page 139.

4. Study the physical features of the grand divisions more in detail. Note the inhabitants, their customs and manners.

This calls for a more extended study of the variations of climate.

(*a*) Perpetual heat at the equator and perpetual cold at the poles, causes.

(*b*) How the inclination of the earth's axis modifies the uniformity of climate in the temperate and frigid zones. (Seasons.)

(*c*) Other modifications.

1. Altitude.
2. Prevailing winds.
3. Shelter.
4. Proximity to large bodies of water.
5. Ocean currents.
6. Rain fall.

In studying the above facts at different stages of the year's work, go no deeper into explanations than the children can understand. For example, the child may know that high up in the air it is colder. They all seem to know that quite young. Omit all the whys here. Likewise they will have observed that the prevailing winds here are westerly. No attempt should be made here to explain why. On the contrary, the effects of shelter, proximity to large bodies of water and rain fall can easily be explained by simple illustrations. These facts and their explanations should not be studied abstractly. Whenever in the progress of the work any one or more becomes necessary to explain something else, then is the time to teach it. For instance, in the study of latitude the pupils will become accustomed to notice the location of the grand divisions in this way. In studying Europe and its people they will discover how much farther north it is than the habitable parts of North America. Why? Southern France and Italy have such a delightful climate. Compare it with New York State. Why the difference? With Germany and Russia. Why the great difference in so limited a distance, etc., etc.

The following order of map work and text book study is given with the understanding that all the previous work mentioned shall be carried along with this, put in at such times as the judgment of the teacher deems best. The guiding principle should be, *use what has been learned to explain what is to be studied; and make each new thing a stepping stone to another.*

(*a*) Study from large map the physical features of North America. Text book, pages 22–31.

(*b*) Divide it into countries as shown on page 31.

(*c*) Study the climate of each country and the people (very briefly).

(*d*) Study the United States, using a physical map, a large wall map and the text book.

As the study of North America and especially of the United States constitutes the chief work of the Sixth grade, the following is all the Fifth grade is required to do. Keeping in mind that the greater part of the work of this grade is disciplinary, study and converse upon the topics found on pages 32–65 of text book.

1. Historical,—introduction to the people.

2. Position and coast line, relief, drainage, heat and rain-fall to be studied with the concepts obtained from the field work in the Genesee Valley.

3. Sections of the United States,—not historical but according to physical features and conditions. A brief study of the natural productions of the soil and of the occupations of men.

It will be noticed that the boundary lines of sections on page 41, are state lines. Of course they cannot accurately separate physical conditions. It must be shown that the states around the border of these sections are mostly, not all, subject to the conditions described.

The text book does not state to the pupil the facts that are to be committed to memory.

The teacher is cautioned in this matter of selecting facts to be memorized :

(*a*) Do not load the children's minds with too many details—many rivers, cities, etc.

(*b*) Do not allow the children to mark in their books what is to be memorized. This places an emphasis upon certain parts to the exclusion of others. Study the whole text and let the drill work emphasize the salient points until they are memorized.

(c) Do not memorize isolated facts. Everything learned should be related to something previously mastered, and essential to the understanding of something to come.

(d) Do not learn the names of the states alphabetically. Whenever the names of states and territories are committed to memory there should be a systematic arrangement and order so that the pupil can see them in imagination while reciting them.

(e) Do not study the sections without frequently referring to a complete map, and noting the position of this section with reference to the whole.

The time element must enter largely into the teacher's calculations. Do not omit any of the nature and observation work.

The reason for this will be obvious to any teacher who will read, as all should do, the Sixth grade course and the first 43 pages of the Advanced Geography.

5. Study the other countries of North America, pages 65–71.

6. Study all the other grand divisions, reviewing the Fourth grade work and amplifying as time will permit. Study the people briefly. Compare these grand divisions with North America. Compare some of the important countries with the United States. Compare the climate of these with our own. Read stories of other lands, and collect pictures and relics.

The division of this work into semesters and quarters does not seem advisable. Each teacher should grasp in mind the whole purpose, and work along in her own way, fully conscious of where she is coming out at the close of the year. If the instructions and suggestions herein offered are well understood and followed by the teachers, it is believed that all the grades of the city will be near enough together to answer the purpose of general supervision by the department.

For teachers:

First Book of Physical Geography.—*Tarr.*
Physical Geography.—*Geike.*
The Teaching of Geography.—*Geike.*
The Earth and Man.—*Guyot.*
Comparative Geography.—*Ritter.*
The Story of Our Continent.—*Shaler.*
Teachers' Manual of Geography.—*Redway.*
Child and Nature.—*Frye.*

For pupils and teachers:

North America.—*Carpenter.*
Asia.—*Carpenter.*
Picturesque Geographic Readers, 8 vols.—*King.*
The World and its People, 7 vols.—*Dutton.*
People and Places, 5 vols.—*Pratt.*
Geographical Reader.—*Rupert.*

The books herein recommended for "pupils and teachers" are very interesting and instructive to both adults and children.

SIXTH GRADE.

The work of this year marks the complete transition from learning how to study geography to actual study of the subject. In the previous grades the idea of training has been in the foreground. In this and the succeeding grades knowledge is the chief purpose held out to the pupils.

The teacher should bear in mind that, while the children seem chiefly bent on acquiring knowledge, the culture side of this subject must not be neglected.

No study is safely practical that does not teach more than a mere recital of facts. Hence, much of the power to see causes and trace effects, which has been cultivated in the grades before, should be kept employed throughout the whole course.

Redway's Advanced Geography in the hands of each pupil.

A considerable portion of the following outline will be found to be review. Present it in the same manner as the teachers of the other grades have done, keeping in mind, however, that more knowledge should be acquired.

1. THE EARTH.
   - (*a*) Form and size.
   - (*b*) Rotation.

   The teacher is urged to read for her own instruction, Jackson's Astronomical Geography (a primer).

2. THE UPHEAVAL OF THE LAND.
   - (*a*) The surface of the earth.
   - (*b*) The continental plateau.
   - (*c*) Highlands and lowlands.
   - (*d*) Coasts.
   - (*e*) Upheaval of mountains.

   For the teacher, The Story of Our Continent, by Shaler, is recommended.

3. THE WEARING AWAY OF THE LAND.
   - (*a*) The atmospheric agents.
   - (*b*) Ground water.
   - (*c*) Streams and lakes.
   - (*d*) Divides and slopes.
   - (*e*) Work of streams.
   - (*f*) Stream features.
   - (*g*) Glaciers.
   - (*h*) Waves and tides.
   - (*i*) The rocky layers of land.

   A visit to the lower river gorge during a single afternoon will do more for the children than several recitations in the school room can possibly accomplish.

The layers of rocks are nearly level there, but to see them and hear in their presence a short story of how they were formed, will constitute a lesson that children will always remember with profit.

Other localities, such as the Pinnacle Hills, and the southeast corner of Pike's quarry, for evidences of glaciation, Lake Ontario for waves, the middle gorge of the river (Vincent Place Flats) for fossils, should also be visited.

First book of Physical Geography, by Tarr, should be read thoroughly and mastered by the teacher before attempting to teach the above subjects.

4. CLIMATE.

(*a*) Seasons.

(*b*) Zones and heat belts.

(*c*) Winds.

(*d*) Rainfall.

(*e*) Ocean currents.

The causes of trade winds, belts of calms, prevailing winds, cyclones and ocean currents cannot be understood by the children of the grammar schools.

Teach the mere facts with such explanations to the children as will serve to emphasize them sufficiently to be memorized. These facts must be known in order to explain other phenomena of climate.

5. LIFE.

(*a*) Distribution of life.

(*b*) Great life regions. Use wall maps freely.

(*c*) The Australian region.

(*d*) The South American, African and Oriental regions.

(*e*) The Eurasian and North American regions.

(*f*) Island and ocean life.

6. MAN.

(*a*) Races of men.

(*b*) Density of population.

(*c*) Man's culture (brief).
(*d*) Government and religion (brief).
(*e*) Industries.
(*f*) Agriculture.
(*g*) Herding.
(*h*) Fishing.
(*i*) Lumbering.
(*j*) Mining.
(*k*) Manufacturing.
(*l*) Commerce.
(*m*) Towns and cities.

Treat all of this topic briefly. The facts to be memorized are few. In the detailed study of the United States frequent reference to this topic may often be required.

For the teacher's instruction, Guyot's The Earth and Man, and Ritter's Comparative Geography will be found especially helpful. Also for the following as well as the preceding, Redway's Teachers' Manual, Frye's Teachers' Manual and King's Aims and Methods of Teaching Geography (excellent), should be in the hands of the teacher.

King's Hand Book of the United States will be found a most useful book of reference for both pupils and teacher.

SECOND QUARTER.

Globe, hemisphere map, Mercator's map, map of North America and of the United States.

NORTH AMERICA.

A few test lessons on the pupils' ability to use maps should first be given.

1. LOCATION.

(*a*) With reference to Europe.
(*b*) With reference to South America.
(*c*) With reference to Asia.
(*d*) With reference to the Atlantic and the Pacific Oceans.
(*e*) With reference to Zones.

2. EXTENT OR SIZE.

(*a*) Compare with Europe and South America.

3. OUTLINE. Use outline maps.

(*a*) Location in outline of Arctic Ocean, Baffin's Bay, Hudson Bay, Hudson Strait, Atlantic Ocean, Gulf of St. Lawrence, Gulf of Mexico, Caribbean Sea, Isthmus of Panama, Gulf of California, Pacific Ocean, Bering Sea and Bering Strait.

(*b*) Which coast is the more irregular, the eastern or the western? On which coast would there be likely to be more good harbors?

(*c*) Cape Race, Cape Farewell, Cape Mendocino, Greenland, Newfoundland, Nova Scotia, West Indies, Vancouver, Bermudas, Bahamas, Aleutian Islands.

4. SURFACE OR RELIEF.

Use globe or relief or physical map. Main features only

(*a*) Rocky Mountains.

(*b*) Appalachian.

(*c*) Great Central Plain.

(*d*) Atlantic Slope.

(*e*) Pacific Slope.

(*f*) Great Interior Basin.

If the pupils fail to grasp these relief features, much of the work that follows will be useless. Have them get a good mental picture.

5. DRAINAGE.

Compare with surface or relief.

(*a*) Atlantic slope.
Great Lakes and St. Lawrence River.

(*b*) Great Central Plain.
Mississippi River (approximate length).
Nelson River.
Mackenzie River.

(*c*) Western slope of Appalachian Highland.
Ohio River.

(*d*) Eastern slope of the Rocky Mountain Highlands.
Missouri River.
Arkansas River.
Red River.
Rio Grande River.

(*e*) Western Slope of Rocky Mountain Highlands, or Pacific Coast.
Yukon River.
Columbia River.
Colorado River.

6. CLIMATE.

(*a*) Affected by latitude.

(*b*) Affected by altitude.

(*c*) Affected by ocean currents.
(Teach any other modifications of climate.)

(*d*) Winds.

(*e*) Rainfall.

(*f*) Proximity to large bodies of water.

(Guyot's "The Earth and Man" pages 105–111).
Make these lessons as objective as possible.

7. DISCOVERY. Use globe; very brief.

8. PEOPLE.

(*a*) English.

(*b*) Spanish.

(*c*) French.

Regions in North America where these races are. How does this happen to be so?

9. POLITICAL DIVISIONS.

Canada, including Newfoundland.
United States, including Alaska.
Mexico.
Central America.

10. MENTAL PICTURE OF THE WHOLE.

In the foregoing work use Redway's, pages 45–49, and supplementary information to which the pupils may refer. Several different text books on geography upon the teacher's desk will always be found useful for reference.

MEXICO AND CENTRAL AMERICA. (Very brief.)

1. POSITION

With reference to the United States.

2. SIZE.

Compare Mexico in area with New England.

3. OUTLINE.

(*a*) Bordering United States, Gulf of Mexico, Caribbean Sea, Isthmus of Panama, Pacific Ocean, and Gulf of California.

(*b*) Rio Grande River, Yucatan Peninsula.

4. SURFACE AND DRAINAGE.

(*a*) General.

(*b*) No large rivers. Why?

(*c*) Sierra Madre Mountains.

Popocatepetl Volcano.

5. CLIMATE.

(*a*) Affected by latitude.

(*b*) Affected by altitude (important).

(*c*) Affected by rainfall.

6. PRODUCTION.

(*a*) Animal.
Horses, cattle and sheep.

(*b*) Vegetables.
Coffee, cotton, tobacco, sugar and fruits.

(*c*) Minerals.
Silver and gold (important).

7. Occupations.
   (*a*) Agricultural.
   (*b*) Mining.

8. People and History.
   Can you explain the backward state of the country?

9. Political Divisions.
   Mexico.
   Central America.

10. Cities.
   Mexico.
   Vera Cruz.

11. Special.
   Nicaragua Canal.
   Discuss its uses if ever completed.
   Redway's, pages 97–101.

West Indies.

1. Why So Called.

2. Position.
   (*a*) With reference to the United States.
   (*b*) With reference to Spain and England.

3. Divisions.
   (*a*) Cuba, to whom does this belong?
   (*b*) Porto Rico, to whom?
   (*c*) Jamaica and many of the smaller islands to Great Britain.

4. History.
   Reasons for the Spanish possessions here and why Spain has lost them.
   Columbus and San Salvador.

5. Climate.

6. Productions.

7. CITIES.

HAVANA.

8. SPECIAL.

Relations between the United States and Cuba. The Hispano-American war. What was its chief cause?

How has it affected geography?

Review Bahama and the Bermudas.

Why do so many people of the United States visit the Bermudas in winter?

CANADA is to be studied in the Seventh grade in connection with Great Britain.

UNITED STATES.

See at the outset of this special study of our country that a definite mental picture of the relief of North America is had by the pupils. *This is important.* As a test they should be required to model with clay or paper pulp a relief map of North America.

But little time will be required on the relief of the United States if the above is thorough.

The physical features of the United States, as well as of all other countries, determine the productions, occupations, distribution of population, and to a large extent the manner of life of the people. Hence, the importance of knowing the *essential features* of the relief of a country.

1. POSITION.

(*a*) In North America.

(*b*) With reference to Europe. (What advantage is this?)

(*c*) With reference to Asia.

(*d*) With reference to South America.

(*e*) With reference to the Atlantic and Pacific oceans.

(*f*) Its latitude limits.

2. EXTENT OR SIZE. (Do not include Alaska.)

Compare with Europe.

Compare with Australia.

Approximate distance across the country east to west, north to south.

Approximate time it takes to cross the country by rail.

3. OUTLINE.

CANADA, GREAT LAKES (by name and in order).

St. Lawrence River, Atlantic Ocean, Chesapeake Bay, Delaware Bay, Gulf of Mexico, Rio Grande River and Mexico, Pacific Ocean, Cape Cod, Hatteras, Sable, Mendocino, Bermudas, Bahamas, West Indies, Cuba, Vancouver.

A very good way for the pupils to learn these outlines so as to picture them in their minds is to draw outline maps from memory and locate the above. The pupils should be able to recite this outline from memory, not verbal, but from a definite picture of the map in their minds.

4. SURFACE OR RELIEF AND DRAINAGE.

(*a*) Atlantic slope drained chiefly by Connecticut, Hudson, Delaware, Susquehanna, Potomac, James and Savannah rivers.

(*b*) Appalachian Highlands, drained by foregoing rivers and rivers flowing into the Mississippi river; Ohio.

(*c*) Mississippi Valley, drained by the Ohio on the east; Missouri, Arkansas and Red on the west.

(*d*) Pacific Highlands, drained by rivers flowing into the Mississippi from the west and by the Rio Grande, Colorado and Columbia rivers.

(*e*) Smaller drainage systems.
Gulf of Mexico slope.
Great Lakes and St. Lawrence river.
Red River of the North.
Great Interior Basin.

5. CLIMATE.

(*a*) Latitude.

(*b*) Altitude.

(*c*) Ocean currents.

(*d*) Rain fall.

See Redway's, pages 46, 49, 54, 57. Show these small maps on a large map of the United States. Empha-

size the fact that west of the 100th meridian and east of the Pacific coast states, the rainfall is deficient, so that farming cannot be carried on successfully except where it can be done by irrigation. Find this meridian. Note what it marks the western limit of (page 57, small map).

Make use of relief map *here*. There is no topic of greater importance than the above, nor is there one from which the children can more easily reason the effects.

6. PRODUCTIONS.

(*a*) Vegetable.
Cotton, Wheat, Corn, Tobacco, Fruit, Rice, Sugar, Lumber.

What is the relation of climate and physical features to each of these productions? Redway's, pages 57, 61.

(*b*) Animal.
Horses, Cattle, Sheep, Hogs, Fish.

(*c*) Mineral.
Iron, Coal, Silver, Copper, Gold, Salt, Petroleum, Natural Gas.

(Study the production maps.)

7. PEOPLE.

(*a*) White race.
Show that our ancestors came from Europe and settled here. With a globe trace the routes by which they came.

(*b*) Negro race.
History of their coming. Trace on globe where they came from.

(*c*) Chinese.
Trace route by which they have come. Do they come now? Why?

(*d*) Indians.
Did they do anything to develop the resources of the Country?

(*e*) Distribution of population.
Affected by physical causes.
Negroes chiefly in the South. Why?
Chinese on the Pacific coast.
Indians in the West now.

(*f*) Population of the country.
Center of population.

8. Occupations.

Agriculture.
Stock raising.
Manufactures.
Transportation and commerce.
Mining.
Professional employments.

9. Leading Commercial Cities.

New York,
Chicago,
Boston,
New Orleans,
San Francisco,
Philadelphia, Baltimore, Cleveland, Atlanta, Duluth, Minneapolis, Cincinnati, St. Louis, Denver, Buffalo, Rochester.

10. Divisions of the United States Into Five Regions, According to Physical Differences.

(*a*) North Eastern section.
(*b*) Northern section.
(*c*) Southern section.
(*d*) Plateau section.
(*e*) Pacific section.

Forty-five states, three territories, besides Alaska, Indian (not organized), and District of Columbia, Hawaiian Islands, Porto Rico, and the Philippine Islands.

(With globe trace all these possessions and how we reach them.)

11. Advantages of the United States From its Location. (Let the pupils discover these if possible).

(*a*) Nearness to Europe.

(*b*) To Asia.

(*c*) No powerful neighbors very near.

(*d*) All varieties of soil, climate, vegetable products and minerals.

(*e*) The people (intelligence).

(*f*) Government and schools (free).

(*g*) Good harbors on Atlantic coast.

Suppose the good harbors were all on the Pacific coast, what then?

12. Government (very brief).

13. Capital and District of Columbia.

14. Exports.

Cotton, wheat and wheat flour, corn, iron, petroleum, live stock, and live stock products.

The teacher should at this point compile from the many and easily available "year books," "almanacs," and "consular reports," a table of export values to different countries in some recent year.

Our exports for the year ending ———

were valued in round figures at $ ———

$———went to Germany.

$——— to France.

$——— to the Netherlands.

$——— to Great Britain and Ireland.

Of the total exports

Cotton was valued at $ ———

Wheat and wheat flour at $———

Iron and steel at $ ———

Petroleum at $ ———

Live stock at $ ———

Hog products at $———

Beef products at $ ———
Copper at $———
Tobacco at $———
Manufactured articles of wood at $———
Sugar and molasses very little. Why?

Treat imports in the same way.
Notice the nature of these imports.
Why do we import these products?
See that children understand the terms "*export*" and "*import.*"

The figures thus obtained by the teacher are not to be committed to memory. Their real use will be obvious to the teacher.

At the close of the study of the United States as a whole, a thorough question and answer review, not by topics, will be found helpful in fixing certain definite facts in the minds of the pupils.

THIRD QUARTER.

Constantly keep before the minds of the pupils the relation of each region studied to the rest of the country. Do not allow the pupils to think of any region as an isolated one. Keep the globe and maps in constant use.

North Eastern Section (New England.)

1. Position (Globe and wall map).
   - (*a*) With reference to the remainder of the United States.
   - (*b*) With reference to Europe.
   - (*c*) The countries of Europe in the same latitude.

2. Extent or Size.
   - (*a*) Compare with New York State.
   - (*b*) With California. England.

3. Outline.
   - (*a*) Canada.

(*b*) Massachusetts Bay.
Cape Cod Bay.
Narragansett Bay.
Long Island Sound.

(*c*) Cape Ann.
Cape Cod.

(*d*) Nantucket.
Martha's Vineyard.
Long Island.
Block Island.

4. SURFACE AND DRAINAGE.

(*a*) Appalachian Highlands.
White.
Mt. Washington.
Green.
Mt. Tom.
Mt. Holyoke.

(*b*) Atlantic slope.

Drained by Penobscot, Kennebec, Merrimac, Connecticut, Thames, Housatonic.

Winnepesaukee Lake, Lake Champlain to St. Lawrence River.

5. CLIMATE. AFFECTED BY—

(*a*) Latitude.

(*b*) Proximity to ocean.

(*c*) Rainfall.

Observe to what extent 3, 4 and 5 determine the conditions of life in New England.

6. PRODUCTIONS.

(*a*) Vegetable.
Lumbering in northern part.

(*b*) Animal.
Not important when compared with other portions of the United States. Pupils have already learned of the animal products of the western plains.
Fishing.
Dairy products; good market for such. Why?

(*c*) Mineral.
Quarrying.

7. Occupations.

(*a*) Manufacturing. Why? (Emphasize.)

(*b*) Agriculture. Compare with other regions.

(*c*) Commerce and transportation.
Numerous railroads. Coast trade by water.

(*d*) Quarrying. What kind of stone? Have you ever seen any of it? Where?

(*e*) Fishing.

8. Political Divisions.

The six states and relative positions.
Pupils should get a mental picture of New England, both in relief and in outline as seen on a map.

9. Leading Cities.

The six capitals; Portland, Manchester, Lowell, Cambridge, New Bedford, Fall River, Worcester, Springfield, Pittsfield, Newport, New London, New Haven, Norwich, Middletown, New Britain, Meriden and Waterbury.

10. Places of Interest.

White Mountains, Plymouth, Bunker Hill, Concord and Lexington, Harvard University, Yale University, Newport and Hoosic Tunnel.

11. Advantages

(*a*) Great manufacturing. Why?

(*b*) Atlantic coast. Why is this an advantage?

(*c*) Good markets. How does this compensate for the poorer soil of this region?

(*d*) Good schools and many colleges for both sexes.

(*e*) Beautiful natural scenery.

12. SPECIAL.

(*a*) Close relation with Canada.

(*b*) The rail routes, two from Rochester to Boston. The large New England towns one would pass by taking either.

13. AS FAR AS TIME WILL PERMIT, THE RELATION OF THE HISTORY OF THE COUNTRY TO ITS GEOGRAPHY.

14. POPULATION OF BOSTON (round figures).

NORTHERN SECTION.

1. POSITION. (Wall map before the class.)

(*a*) With reference to New England.

(*b*) With reference to the Southern Section.

(*c*) With reference to the Plateau Section.

(*d*) With reference to the Great Lakes.

(*e*) With reference to the Mississippi Valley.

(*f*) With reference to Europe.

2. SIZE OR EXTENT.

Compare Illinois or Ohio with New England.
Compare Iowa with New England.

3. SURFACE AND DRAINAGE.

(*a*) General features.

(*b*) Atlantic slope, drained chiefly by the Hudson, Susquehanna, Delaware, Potomac and James.

(*c*) Eastern slope to Mississippi River, by the Ohio.

(*d*) Western slope to the Mississippi River, chiefly by the Missouri River, into which numerous small rivers flow.

(*e*) The slope north, by the Red River of the North.

(*f*) Slope of the Great Lakes.

Note that only very short streams flow into the lakes. What does this show? Note further at Chicago how close the divide between the Mississippi drainage and the Great Lakes is to Lake Michigan. (The new drainage canal.)

(*g*) Appalachian Highlands on the east.

(*h*) Rocky Mountains on the west.

Again this calls for a good mental picture. Study the relief map.

4. CLIMATE.

(*a*) Affected by latitude.

(*b*) A portion of the Great Lakes.

Get from Observer Parker the value in coal of the heat storage of these lakes in one season.

(*c*) Compare with New England.

(*d*) Little agriculture west of the 100th meridian. Why?

5. PRODUCTIONS (important).

(*a*) Animal.

Cattle.
Sheep.
Hogs.

Why are these found in this section?

(*b*) Vegetable.

Wheat.
Corn.
Oats.

Where are these products sold?
What elements contribute to make this region especially productive?

Lumber.

(*c*) Mineral.

Natural Gas.
Iron.
Coal.
Copper.
Salt.
Petroleum.
Lead.

6. Occupations.

(*a*) Agriculture (chief and foremost).

(*b*) Manufacturing.
Why? (Iron, coal, wood in abundance).

(*c*) Commerce.

(*d*) Mining.

7. People.

(*a*) Mostly descendants of those who came from New England and other Eastern states. Why not from the Southern section?

(*b*) Foreigners from Europe.

How would schools, colleges, etc., probably compare with those in the Eastern section?

8. Political Divisions.

(*a*) Relative locations of the different states. Pupils should be able to name those bordering on the Great Lakes, those on the right and left banks of the Mississippi River. Children should form a mental picture of the whole.

9. Cities.

Capitals: New York, Buffalo, Rochester, Syracuse, Jersey City, Newark, Philadelphia, Baltimore, Washington, Pittsburg, Cleveland, Toledo, Cincinnati, Detroit, Chicago, Milwaukee, Duluth, Minneapolis, Kansas City, St. Louis, Omaha. Population of Chicago (round numbers).

10. PLACES OF INTEREST.

Pictured rocks on the shores of Lake Superior; Lincoln's tomb at Springfield; a great wheat farm; cattle yards at Chicago; tunnel under the St. Clair river; the new drainage canal at Chicago. How would a considerable portion of the eastern part of this section be affected if the waters were diverted to the Mississippi River? Niagara Falls; the power tunnel at the falls; Washington and Mount Vernon; Thousand Islands; Yorktown; Appomattox; Mammoth Cave; Bull Run; Jamestown; Natural Bridge in Virginia.

11. SPECIAL.

Emphasize the similarity between the people of this region and those of the Eastern or New England section. Compare their occupations with those of the Eastern region.

Note the transportation facilities. Why are such facilities needed?

1. By rail: From Chicago (and thus the entire Northwest) to New York: (*a*) via Detroit or Cleveland to Buffalo, and thus to New York; (*b*) via Pittsburg and Philadelphia and thus to New York.

2. By water: Great Lakes to Buffalo and thence by Erie Canal and Hudson River to New York.

Pupils should describe these routes with accuracy. Have them tell what freight cars going east carry; and what those going west; also what the lake vessels carry; Trace the water route from Duluth to New York.

Note the great iron industries of Chicago and Northern Ohio. Why are these industries where they are? Emphasize the importance of Chicago as the center of all this region as New York is of the eastern and ask children to think of reasons why there is a great city there.

Manufacture of flour in "Twin Cities." Illinois has more railroads than any other state in the Union.

12. PART OF THIS REGION IS A PART OF THE FAMOUS LOUISIANA PURCHASE.

SOUTHERN SECTION.

1. POSITION. Wall map of the United States.

2. SURFACE AND DRAINAGE.

(*a*) Appalachian Highlands.
Mt. Mitchell.

(*b*) Atlantic Slope.

(*c*) Slope to the Mississippi River.

(*d*) Slope to the Gulf.

(*e*) Drained by the Savannah, Mississippi, Rio Grande, Red, Arkansas, Tennessee and Cumberland to the Ohio.
Notice some large rivers in this section. What does this fact show? Good water power? What relation has water power to manufacturing?
Children should form a mental picture of the relief of this section.
Delta of the Mississippi. Cause of Deltas.
Emphasize the importance of the Mississippi River.

3. CLIMATE.

Affected by what? Compare with that of other regions.

4. PRODUCTIONS.

(*a*) Vegetable.
Cotton.
Rice.
Sugar.
Molasses.
Tobacco.
Corn.
Fruits in Florida.

(*b*) Cattle products in Texas. (See an account of the X.I.Z. ranch in *Outlook*, September 2d, 1899.)

(*c*) Minerals.
Coal.
Iron.

5. OCCUPATIONS.

Compare with Eastern section.

(*a*) Manufacturing not great. Why?
Cotton manufacturing increasing. Why?

(*b*) *Agriculture.*
Why is this occupation preëminent?

6. POLITICAL DIVISIONS.

The relative location of states. Name those on the Atlantic coast, those on the Gulf coast, and those on either bank of the Mississippi river.

The bounding of individual states, except our own, should not be called for.

Children should form a mental picture of this region.

7. LEADING CITIES.

Richmond, Charleston, Savannah, Atlanta, Jacksonville, Mobile, Vicksburg, New Orleans, Galveston, Memphis, Chattanooga, Louisville.

8. PEOPLE.

(*a*) Negro population largely; why is this so in comparison with the North?

(*b*) Indians of Indian Territory.

(*c*) Few foreigners. Why?

9. PLACES OF INTEREST.

St. Augustine, Lookout Mountain, Fort Sumter, Levees of the Mississippi, a cotton plantation.

10. ADVANTAGES.

Climate.
Soil.

11. The teacher will find this section especially interesting in its historical relations to the whole country. Short, simple, but accurate stories may be here read of:

(*a*) Settlement at Jamestown.

(*b*) Introduction of slavery.

(*c*) The Civil War.

(*d*) The cotton gin. Any others which may occur to the teacher. This is only suggestive and should be entirely optional and not be made a topic for review or examination.

FOURTH QUARTER.

PLATEAU SECTION.

1. POSITION. Large map in view with reference to other parts of the United States.

2. SURFACE AND DRAINAGE.

(*a*) General.

(*b*) Eastward to the Mississippi Valley.

(*c*) On the Pacific slope.

(*d*) Gulf of Mexico slope.

(*e*) In Great Interior Basin.

(*f*) Rocky Mountains, Pike's Peak; height of.

Drained by Missouri, Columbia, Arkansas, Red, Rio Grande and Colorado Rivers, Humbolt River and Great Salt Lake.

3. CLIMATE.

(*a*) Affected by latitude.

(*b*) By altitude, (important).

(*c*) Rainfall.

Large regions entirely destitute of rain. Why?

4. PRODUCTIONS. (Emphasize irrigation.)

(*a*) Animal.

Horses.
Cattle.
Sheep.

Read about the wild animals, especially the buffalo and grizzly bear. Why are these animals becoming extinct?

(*b*) Vegetable.

In the valleys and by irrigation.

(*c*) Minerals.

SILVER.

GOLD.

COPPER.

5. OCCUPATIONS.

Depending on 4. Which occupation is preëminent?

6. POLITICAL DIVISIONS.

7. PEOPLE.

Indians and Chinese.

8. CITIES.

Salt Lake City, Denver.

9. PLACES OF INTEREST.

Yellowstone Park, Pike's Peak, Garden of the Gods, Great Salt Lake, Colorado River Cañon.

10. EMPHASIZE THE IMPORTANCE OF MINING IN THIS SECTION.

Emphasize the rainless regions and the reasons for lack of rain. Vast areas like a desert. Influence of irrigation. Scenic attractions. Compare with New England. Colorado a health resort.

11. A PART OF THE LOUISIANA PURCHASE.

A part of the Mexican Cession.

PACIFIC SECTION.

1. POSITION. Large map in view.

(*a*) With reference to the Pacific Ocean.

(*b*) With reference to China and Japan.

(*c*) With reference to eastern states.

Railroad route should be described accurately from San Francisco to New York, via Sacramento, Salt Lake, Denver, Omaha, Chicago, etc.,; via water, Panama Isthmus and water to New York, describing the route ; by water around Cape Horn to New York.

(*d*) With reference to Alaska and the Klondike region.

2. OUTLINE.

(*a*) Bordering on the Pacific Ocean.

(*b*) On Canada.

(*c*) On Mexico.

San Francisco Bay, Golden Gate, Mendocino, Puget Sound, Vancouver Island.

3. EXTENT OR SIZE.

Compare California with New England ; with New York, New Jersey, Pennsylvania, Delaware, Maryland and Virginia together.

4. SURFACE AND DRAINAGE.

(*a*) General characteristics.

(*b*) Pacific slope.

(*c*) Colorado, Sacramento, San Joaquin and Columbia rivers.

(*d*) Coast Range, Cascade, Sierra Nevada Ranges.

(*e*) Mountains.

Shasta, Whitney, Hood, Rainier (height of).

Pupils should form a mental picture of the relief features.

5. CLIMATE.

(*a*) Latitude.

(*b*) Altitude.

(*c*) Ocean currents (very important).

(*a*) Rainfall.

6. PRODUCTIONS.

(*a*) Vegetable.
Wheat.
~~Fruit.~~
Lumber.

(*b*) Animals.
Salmon in Columbia river.

(*c*) Minerals.
Gold and silver (important).

7. OCCUPATIONS.

(*a*) Agriculture and fruit raising.

(*b*) Mining.

8. PEOPLE.

Chinese.

9. POLITICAL DIVISIONS.

States in order on the Pacific Coast. (Mental picture.)

10. CITIES.

Sacramento, Los Angeles, Portland, Tacoma, Seattle, San Francisco.

11. PLACES OF INTEREST.

Southern California, Yosemite Valley, big trees, Golden Gate, Columbia River, Mt. Rainier (Mt. Tacoma).

12. SPECIAL.

Discovery of gold and the settlement of California. Relation of the Pacific Coast to China and Japan. The Mexican Cession.

ALASKA, HAWAIIAN ISLANDS, PORTO RICO AND PHILIPPINE ISLANDS.

(Very brief.)

1. Position of each.
2. Extent or size.

3. Climate.
4. Productions.
5. Occupations.
6. People.
7. Cities.
8. Special.

How to go to each from Rochester.

How came each into the possession of the United States. Their importance to this country.

There should be frequent *oral* reviews during each quarter.

It is believed that too much written work has been required of the pupils in the years past. While written work has its place, it must be remembered that it is a great time consumer; and that, if emphasized too much in the memorizing process, it eventually becomes necessary for the children to resort to the pen or pencil to learn anything. This is manifestly wrong.

Examination or review at the close of the year will be upon the course of this grade as outlined.

The numerous geographical readers mentioned in the Fifth grade course will be found especially useful here. Read only the parts referring to the United States.

So far as possible the pupils should visit some of the prominent factories, stores and foundries of this city. This should constitute the observation work of the second semester.

In the study of occupations, etc., the teacher will find it profitable to spend some time upon those of our own city and vicinity. In this way the child builds up in his mind a series of types which aid him greatly in comprehending the conditions of other localities. He will then compare other places with what he has in mind and can note resemblances and differences readily.

The pupils will take great interest in looking up all sorts of information about the industries of Rochester.

A collection of pictures illustrating all parts of the country and its industries will be found useful. The teacher should retain the best of these from year to year.

Teachers of the Seventh and Eighth grades will find the above equally helpful.

SEVENTH GRADE.

Teachers should read this whole course of study.

The directions and suggestions found in each grade's course apply in some form to all.

Redway's Advanced Geography in the hands of each pupil.

The advance work of this year will be South America and Europe. Before entering upon it the teacher should first test the pupils upon their knowledge of the first 43 pages of Redway's Advanced Geography.

To accomplish this with profit, out-door lessons should be given by visiting the same or similar places recommended for the Sixth grade. *This is a very important feature of this work.*

The pupils should be more acute in their observations than they were the year before, and should understand the reasons for things better.

The success of these lessons, as in the previous grades, depends upon the preparation the teacher makes for them.

FIRST QUARTER.

1. Physical Geography, Redway, pages 1–43.

2. Test the pupils in their skill in the use of globe, maps, and in drawing outlines.

3. Review North America as a whole. Especially its relief and its effects upon population. Climate and its causes and effects.

4. Review the United States as a whole. This will be found important as a basis of comparison in studying other countries. Correlate geography with United States History.

SECOND QUARTER.

SOUTH AMERICA.

1. POSITION.

   (*a*) With reference to North America.

   (*b*) To Europe.

   (*c*) To Asia.

   (*d*) To Africa.

(*e*) With reference to two great oceans.

(*f*) To the equator.

(*g*) To zones.

Use globe for all of this.

2. SIZE AND EXTENT.

(*a*) Compare with North America.

(*b*) With Europe.

3. OUTLINE.

Caribbean Sea, Atlantic Ocean, Strait of Magellan, Pacific Ocean; Cape St. Roque, Cape Horn, Cape Blanco.

Compare this outline with that of North America.

Terra Del Fuego, Juan Fernandez.

4. SURFACE AND DRAINAGE.

How does it resemble North America?

(*a*) Andes Mountains make the backbone of the continent with short slope to the Pacific Ocean.

Very small and short streams on Pacific slope. Why small?

(*b*) Highlands of Brazil.

(*c*) Of Guiana.

(*d*) Valley of the Amazon.

(*e*) Of the Orinoco.

(*f*) Of the La Plata.

(*g*) Plains.

Llanos, Silvas, Pampas.

Children should form a mental picture of the whole.

(*h*) Mt. Chimborazo, Aconcagua, Cotopaxi. Learn height of these.

(*i*) Lake Titicaca.

Are there many rivers? If so, what does this show?

5. CLIMATE.

(*a*) Affected by latitude.

(*b*) By altitude (important).

(*c*) By rainfall (important).

(*d*) By ocean currents.

Would you call the climate a healthful one?

(*e*) Effect of the Andes Mountains.

Suppose the Andes were on the eastern coast of South America, how would this affect the climate of the interior?

6. PRODUCTIONS.

Vegetable.

(*a*) Coffee, Peruvian bark, sugar, cotton, tobacco and tropical fruits.

(*b*) Luxuriant vegetation of the equatorial region.

(*c*) Wheat.

(*d*) Fine Brazilian woods.

(*e*) India rubber.

Animal.

(*a*) Horses, cattle, and sheep.

(*b*) Llama and condor.

(*c*) Birds and insects.

Emphasize the prevalence of animal life. Why so numerous?

Minerals.

Gold, silver, copper, diamonds.

7. OCCUPATIONS.

(*a*) Agriculture.

(*b*) Mining.

8. PEOPLE (very brief).

9. HISTORY (very brief.)

10. POLITICAL DIVISIONS.

Relative location of each.

(*a*) Name countries in order on Pacific coast.

(*b*) On Atlantic coast.

No boundaries.

11. CITIES.

Rio de Janeiro, Para, Valparaiso, Buenos Ayres, Santiago, Lima, Quito, Caracas.

Compare the size of some of the above with cities of the United States.

12. SPECIAL.

Undeveloped resources of South America, mineral and fine woods. Why undeveloped?

Few railroads. Why?

The ancient Peruvians.

Prevalence of earthquakes.

13. GOVERNMENTS. General features only.

Separate study not to be made of each country.

The following topics should be preceded by a brief treatment of Eurasia and of Europe, Redway, pages 112–121, using the form of the first eight topics given for South America. Use the globe and wall maps.

GREAT BRITAIN.

1. POSITION.

(*a*) With reference to Continental Europe.

(*b*) To the Atlantic ocean.

(*c*) To the United States.

(*d*) To South America.

(*e*) To China and Japan.

(*f*) To Australia.

Use globe and Mercator's map and trace the usual routes of travel and commerce.

Advantages of its position.

(*a*) In the middle of the most progressive and most civilized regions of the earth. Why is this situation an advantage?

(*b*) By form an island, near to Europe, but yet separated from it? Why is this an advantage?

2. OUTLINE.

(*a*) Atlantic ocean, North sea, Strait of Dover, English channel, Irish sea, Ireland, Hebrides, Orkney and Shetland Islands.

Draw an outline and indicate divisions between England, Scotland and Wales.

(*b*) Note the number of good harbors. Why important?

3. SIZE AND EXTENT.

Compare with New England and the United States.

4. SURFACE.

Very brief. Enough to see that with the abundant rain, there must be numerous streams which would furnish water power if the surface is not flat.

5. CLIMATE.

Latitude. Compare with New England.

Modified by

(*a*) Gulf stream.

(*b*) Great rainfall.

(*c*) Proximity to sea.

At this stage teach the simplest explanation of winds and their influence. Westerly winds bring moisture to Great Britain and Ireland. Why?

Omit trade winds in general.

Advantages of climate.

Note the great agricultural productions of Great Britain.

6. PRODUCTIONS.

(*a*) Vegetable.

What are the causes of fertility of soil.

(*b*) Mineral (very important).

(*c*) Animal.

What are the advantages to Great Britain in the abundance of the surface and under surface products?

At this stage the pupils, knowing the position, the climate, the resources, the surface, the accessibility to the sea by means of its insular position and good harbors, should draw inferences as to why England is a great and powerful nation.

Compare with the United States.

Observe the small area of Great Britain. Note that the great resources have been developed by the hard work of men, just as the resources of our country are being developed. Did the Indians do that here? Note also that the earliest settlers of New England brought their habits of work with them, a fact of great advantage to New England.

Suppose that these early settlers had been Spaniards?

Suppose the coal supply of Great Britain should fail?

What causes have contributed to make England a great maritime nation?

Such questions should be put to the children. Do not tell the answers.

7. PEOPLE.

(*a*) Compare in number with the United States.

(*b*) A combination of the native races and continental races.

(*c*) Compare in respect to (*b*) with the United States.

8. Occupations.

(*a*) Manufacturing.

Pupils should note the location of coal beds near the sea and to the iron ore. What are these advantages? Compare with the iron and coal districts of the United States.

Review pages 36–43, text book.

(*b*) Agriculture.

(*c*) Trade and transportation. Railroads very numerous. In trade with the United States, what does England buy of us and we of them? (See Sixth grade with reference to the compiling of a list of exports and imports.)

What are some of its principal imports and exports? What effect did our civil war have upon cotton manufacturing in England? Why was England interested in the Suez canal?

(*d*) Mining.

9. Cities.

London. Population in round numbers. Compare with New York, Liverpool. United States exports more to Liverpool than to any other one city.

Manchester.

Edinburgh. Compare with Buffalo, Glasgow.

10. Places of Interest.

Southampton, Windsor Castle, Oxford, Cambridge, Stratford, English Lake Region, Scottish Lakes, Fingal's Cave, Hastings, Ship-building on the Clyde.

Noted Persons (very brief).

William the Conqueror, Alfred the Great, Cromwell, George III., Victoria, Gladstone, James Watt, Shakespeare, Daniel Defoe, Robert Burns, Charles Dickens, Walter Scott, Alfred Tennyson.

11. Government (very brief).

Compare with the United States.

12. LARGE ARMY AND NAVY (brief).

13. EDUCATION (brief).

14. ENGLISH POSSESSIONS.

IRELAND.

Why called the Emerald Isle? Compare with Labrador.

(*a*) Position. Compare with Labrador.

(*b*) Differences of climate in same latitude.

(*c*) Resources.

(*d*) Manufacture of linen.

(*e*) Dublin and Queenstown.

(*f*) Question of Home Rule.

(*g*) Giant's Causeway.

CANADA AND NEWFOUNDLAND.

Redway's, pages 92–95.

1. POSITION.

(*a*) With reference to the United States.

(*b*) With reference to England.

2. HISTORY.

To whom does Canada belong and how does this happen to be so?

3. SIZE AND EXTENT.

Compare with the United States.

4. OUTLINE.

Arctic Ocean, Baffin Bay, Davis Strait, Hudson Bay, Hudson Strait, Labrador, Newfoundland, Gulf of St. Lawrence, Cape Race, Nova Scotia Peninsula, Bay of Fundy, United States, Pacific Ocean, Vancouver and Alaska.

5. SURFACE AND DRAINAGE.

Very general features only.
St. Lawrence River and Great Lakes (in order), Nelson River and Lake Winnipeg, Mackenzie River.
Study these features with a wall map of North America.

6. CLIMATE.

(*a*) Affected by latitude.

(*b*) By ocean currents.

Notice the current off Labrador flowing south. Warm or cold?

7. PRODUCTIONS.

(*a*) Vegetable.

Wheat.
Lumber.

(*b*) Animal.

Fisheries.
Salmon in the west.
Cod, mackerel, etc., in the east.

8. OCCUPATIONS.

(*a*) Agriculture.

(*b*) Fisheries.

(*c*) Lumbering.

9. PEOPLE.

Many French. Why?

10. POLITICAL DIVISIONS.

Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Newfoundland.

11. CITIES.

Ottawa, St. John, Montreal, Quebec, Toronto, Halifax.

12. PLACES OF INTEREST.

Quebec, tides in Bay of Fundy, Saguenay River.

13. CANADIAN PACIFIC RAILROAD, an independent route across the continent. Importance of this route to England. Why? Welland and St. Mary's Canals.

AUSTRALIA.

(*a*) How it happens to belong to England.

(*b*) Area—compare with the United States.

(*c*) Large desert area.

(*d*) Why is Australia of value?

(*e*) Products: gold, wool.

(*f*) Peculiarities of its animal and vegetable life.

(*g*) Melbourne and Sydney, compare in size with Boston. These cities are English speaking and as civilized as our own cities.

(*h*) How reached from London? From the United States?

BRITISH INDIA.

(*a*) Position. How reached from England? From the United States?

(*b*) How does it happen to belong to England?

(*c*) Large native population. Caste distinctions.

(*d*) Climate.

Have pupils discover reasons why the rainfall is continuous during a certain part of the year. Text book, pages 26, 27. Pupils should discover the reasons for monsoons blowing with such regularity. What happens when a monsoon is weak or fails?

(*e*) Resources.
Wheat and cotton are the principal crops for export and these compete in the markets of London with wheat and cotton from what country?

(*f*) Himalaya Mountains, Indus, Ganges, Irrawaddy and Brahmaputra rivers. Why are these large rivers? Delta of the Ganges. What is a delta?

(*g*) Calcutta, Bombay.
Why is British India or Hindustan so isolated?

OTHER POSSESSIONS.

New Zealand, Cape Colony, Ceylon, British Guiana, Gibraltar, etc., etc. Locate each, using a globe and Mercator's map.

THIRD QUARTER.

Teach the following four countries.

RUSSIAN EMPIRE.

1. POSITION.
   (*a*) With reference to remainder of Europe.
   (*b*) With reference to Asia.
   (*c*) To the United States.
   Use globe.

2. EXTENT OR SIZE.
   Compare whole empire with North America.
   Compare Russia in Europe with United States. Siberia with United States.
   Approximate length of the empire. Is there a railroad across it?

3. OUTLINE. Use globe.
   Trace the route of a vessel from Odessa to London.
   Arctic Ocean, Bering Strait, Kamchatka Peninsula, Okhotsk Sea, Chinese Empire, Caspian Sea, Caucasus Mountains, Black Sea, Austria-Hungary, Germany, Baltic Sea.

4. SURFACE AND DRAINAGE.

See it as a whole. Very simple.

(*a*) Northern slope.
Lena, Yenisei, Obi.

(*b*) Southern slope.
Volga, Don, Dnieper, Caspian Sea.
Compare the Volga with the Mississippi; with the Amazon.
Trace the divide in Russia. Pupils should do this.
Ural Mountains.
Caucasus Mountains.
Rivers all generally navigable.

5. CLIMATE.

Affected chiefly by latitude. St. Petersburg and Christiania have the same latitude. Would there likely be any difference in climate? If so, why? What hindrance to navigation in Russia?

6. PRODUCTIONS OR RESOURCES.

(*a*) Agricultural.
Wheat.
Competes with American wheat in what market naturally?

(*b*) Petroleum.

The pupils should themselves discover from reading that Russia has great resources which have been little developed. Therefore, great as the country is, and enormous as the resources are, there is little trade or commerce with other countries.

Pupils should also be led to see why the country is in such a backward state.

7. PEOPLE.

8. STATE OF EDUCATION.

9. GOVERNMENT.

10. CITIES.

St. Petersburg, Moscow, Odessa, Nijni Novgorod.

11. SPECIAL.

(*a*) Large army and navy.
Discuss the Peace Conference.

(*b*) Siberian railroad.

(*c*) Attitude toward China.

(*d*) Our purchase from Russia.

(*e*) Peter the Great.

(*f*) Napoleon's Invasion of Russia.

(*g*) Contrast the civilization with the United States or England.

GERMANY.

1. POSITION. Wall map of Europe in view.

(*a*) With reference to Europe.

(*b*) To the United States.
Compare in size with California and Nevada.

2. OUTLINE.

North Sea, Denmark, Baltic Sea, Russia, Austria, Switzerland, France, Belgium, Netherlands.

3. RELIEF.

Make sure that the pupils have a correct idea of the relief which is simple in character, Note the direction of the rivers. Teach the Rhine river.

4. CLIMATE.

Affected by:

(*a*) Latitude.

(*b*) Altitude.

(*c*) Ocean currents.

5. RESOURCES AND PRODUCTS.

(*a*) Agricultural.

(*b*) Iron and coal.

6. OCCUPATIONS.

Dependent upon 5. Germany has probably surpassed England in its iron manufacturing. Why? Bring out the idea that industrial conditions are not stable. Note the competition of the South with New England in the manufacture of cotton goods.

(*c*) Trade and transportation.

Large trade with the United States.
In what?
System of canals.

7. PEOPLE.

Have many come to the United States? Why?

8. CITIES.

Berlin, Cologne, Hamburg, Bremen, Dresden. Compare in population with some of the cities of the United States.

9. EDUCATION.

Emphasize this, especially the industrial side.
Any effect upon the rapid development of its manufacturing?
Do the people of this country realize this?

10. ARMY AND NAVY. Compare with England.

11. GOVERNMENT. Compare with our own.

12. SPECIAL.

(*a*) Rhine river.

(*b*) Great Krupp works at Essen.

(*c*) Bismarck.

(*d*) Art and musical interests.

(*e*) American students in Germany.

FRANCE.

1. POSITION.

(*a*) With reference to the rest of Europe.

(*b*) To the United States.

(*c*) To England.

(*d*) To the Mediterranean sea.

Use globe and wall maps.

2. OUTLINE.

Its harbors and sea coasts.

Mediterranean sea, Biscay, English channel, Strait of Dover, Corsica.

3. SURFACE AND DRAINAGE.

General features only.

Loire, Seine, Rhone, "One hundred navigable rivers," canals connect all principal rivers. What is the advantage?

Alps, Mt. Blanc.

Review glacier, avalanche and iceberg, page 19, Redway.

Is it of any advantage to France to have this *wall* on its southern border?

4. CLIMATE.

Note the wide range. Its advahtage. Its causes. Compare with same latitudes of the United States.

5. RESOURCES.

(*a*) Much good soil.

Wheat, mulberry and olive.
For what is the mulberry grown?
Why is the olive important?
Production of wine.

(*b*) Considerable mineral wealth. Coal and iron chiefly.

Infer what the natural advantages of France are from all the foregoing. Pupils should do this.
What constitutes a good harbor?

6. OCCUPATIONS.

(*a*) Agriculture.

(*b*) Manufacturing. Rank.

Emphasize the skill of the French workman in producing fine and beautiful goods.

(*c*) Fisheries. (Newfoundland.)

7. CITIES.

Paris (population; compare with London and New York), Havre, Lyons, Bordeaux, Marsailles. Associate these cities in memory with American cities of about the same size.

8. PEOPLE AND THEIR CHARACTERISTICS.

Napoleon, De Lesseps, Charles Martel, Charlemagne. Very brief.

9. GOVERNMENT. Very brief.

10. LARGE ARMY AND NAVY.

Why do the larger nations of Europe have a large army and navy? Disarmament.

11. EDUCATION.

Relation of to (*b*) in 6 above.

12. What goods do we principally exchange with France?

13. There is a region in North America where the people are almost exclusively of French descent and speak the French language. Where is this region and how does it happen to be French in character? The city of New Orleans has its French quarter. The Mississippi Valley has many towns with French names. How did they happen to be so named?

FOURTH QUARTER.

ITALY.

1. POSITION. Wall map in view.

(*a*) With reference to Europe.

(*b*) To United States.

(*c*) Mediterranean Sea.

2. OUTLINE.

Switzerland, Austria, Adriatic, Mediterranean Sea, France, Sardinia, Sicily, Alps Mountains.

Compare in size with one of the United States.

3. RELIEF. (Important.)

Teach the Po river. How is this river fed? Apennines Mountains, Alps Mountains, Mt. Vesuvius.

4. CLIMATE.

Affected by :

(*a*) Latitude.

(*b*) Altitude.

(*c*) Shelter.

(*d*) Rainfall in northern part.

Why would there likely be a heavy rainfall there? Why is the rainfall north of the Alps less than on the southern side?

5. PRODUCTIONS.

(*a*) Silk, mulberry tree.

(*b*) Olive oil.

(*c*) Macaroni.

6. OCCUPATIONS.

(*a*) Chiefly agriculture.

(*b*) Manufacturing comparatively unimportant, because, in part, there is little coal. Would there be water power? Is there any other reason why manufacturing is not important?

7. PEOPLE.

Do many come to the United States?

8. CITIES.

Rome, Venice, Florence, Genoa, Naples, Milan. With what cities of the United States do these cities compare in population?

9. ARMY AND NAVY. How does its navy rank with that of the United States? How do you account for this when comparing in size the two countries?

10. EDUCATION.

11. WHAT DO WE TRADE PRINCIPALLY WITH ITALY?

12. ITALY IN ANCIENT TIMES WAS A GREAT COMMERCIAL NATION.

What advantages did it have by way of situation? Why do not the same conditions make it a great commercial nation now?

Emphasize the fact that natural advantages *alone* do not make a nation great. Spain, for instance.

13. SPECIAL.

(*a*) Po, fed by glaciers. What is a glacier? Were there any ever here? Are there any in North America now?

(*b*) Fertility of the northern plain remarkable. Why is it so fertile?

(*c*) St. Gothard and Mt. Cenis tunnels.

(*d*) St. Bernard pass.

(*e*) Historical eruption of Vesuvius. What is a volcano? What is an earthquake?

(*f*) Rome as an ancient city.

(*g*) Leaning tower of Pisa.

(*h*) Julius Cæsar, Michael Angelo, Dante, Garibaldi.

Pupils should study the following very briefly, in connection with pages 124–133, Redway.

Location of Spain—Madrid.

Gibraltar. To whom does it belong, and how does this happen to be so?

The current is constantly flowing from the Atlantic into the Mediterranean. What does this fact show about the latter body of water?

Location of Portugal—Lisbon.

Location of Switzerland. Magnificence of its scenery. Why so fine?

Location of Austria-Hungary—Vienna, Danube river.

Location of Greece—Athens.

Location of Turkey—Constantinople, Dardanelles.

Location of Denmark—Copenhagen.

Location of Belgium—Antwerp, Brussels.

Location of Holland—Rotterdam.
Peculiar features of the country.

Location of Norway and Sweden—Hammerfest, Stockholm, Christiania.

Why is there an abundance of rainfall on the western side of the Scandinavian peninsula and little on the eastern side?

Suggested geographical reading matter:

Dunton's "Modern Europe."

King's Geographical Reader, No. 6—"Northern Europe."

King's Geographical Reader—No. 7.

Pratt's "Stories of India."

Pratt's "Stories of Northern Europe."

Pratt's "Stories of England."

Rupert's "Geographical Reader."

EIGHTH GRADE.

The teacher should read carefully this entire manual.

She should have easy access to Tarr's First Book of Physical Geography, manuals of commerce, year books, almanacs, etc., which will be found necessary in the study of commerce, manufacturing, transportation, etc. Much of the material collected for this purpose in the Sixth and Seventh grades will be helpful during the review.

FIRST QUARTER.

Same as first quarter of the Seventh grade, with some amplifications as suggested below.

Redway's, pages 1–43.

The pupils are older and can now take quite extended trips of observation.

The teacher needs to be familiar with the local geography. This can only be accomplished by her taking frequent trips alone or in company with other teachers. As all the teachers of geography need this information, it is suggested that the teachers of each school organize themselves into a class for this purpose. In addition to the first 43 pages for this quarter, Redway's, pages 112–121, inclusive, should be reviewed. Use maps and globe.

SECOND QUARTER.

CHINA.

1. LOCATION WITH REFERENCE.
   - (*a*) To the United States.
   - (*b*) To Great Britain.
   - (*c*) To the Philippine Islands. Use globe and Mercator's map. Pupils should make imaginary journeys from Rochester and London to Hong Kong.

2. OUTLINE.

   Siberia.
   Korea.
   Pacific Ocean.
   French Indo-China. Why so-called?
   British India.
   Himalaya Mountains.
   Mt. Everest and its approximate height.

3. EXTENT, COMPARE WITH UNITED STATES.

4. RELIEF FEATURES.

Plateau of Tibet.
Why is Tibet so cold and dry and the country south of it, over the mountains, so warm and productive?
Desert of Gobi.
Amoor River.
Hoang-ho River.
Yangtze River.
Plain of China. How has this been made?
Himalaya Mountains—Mt. Everest, Altai Mountains.
Note the boundaries of the empire are chiefly natural. Is China peculiar in this respect, or are there other countries with natural boundaries?
Has the fact had any effect upon the people as a whole?
What problem does China now present to the powerful nations of the globe? Is the United States interested in this problem? In what way?
Relief features are of great importance, and the pupils should form a good mental picture of them.

5. CLIMATE.

The pupils should find out for themselves by means of the relief of Asia what the modifications of the climate must be and the causes for the same. Rainfall should of course be included. Dwell especially upon the causes of the climate. Compare with that of Europe and of North America in the same latitudes.

6. PRODUCTIONS AND RESOURCES.

Agricultural.
Tea.
Rice.
Sugar.
Opium.
Mineral.
Great resources of coal and iron, but are little developed. Why so?
Animal.
Silk.

7. OCCUPATIONS.

(*a*) Chiefly agricultural.

(*b*) Manufacturing, mostly by hand.

(*c*) Trade and transportation.

Few or no railroads. Why?

Little foreign commerce. Why?

8. PEOPLE.

What have they invented?

Note what Dr. Schurman said of them on his return from the Orient in August, 1899.

"China should maintain its independent position, but its doors should be kept open. It means much to England and Japan and not less to America. There is a hope in the Orient among reading men that China itself may become aroused so that it may itself hold its domain intact. But it is not yet sufficiently awakened. That is the sad phase of it. The Chinese are a patient, industrious people. They can live in any climate, away in the arctic or far south in the tropics. They can make money anywhere. Such a race, it is felt, ought to arouse itself in this dilemma."

Compare in population with the United States. Inference, when so compared, considering their relative sizes.

9. EDUCATION (interesting but brief).

10. GOVERNMENT (very brief).

11. RELIGION (very brief).

12. CITIES.

Pekin, Hong Kong, Shanghai, Canton. Compare in population with cities of our own country.

13. SPECIAL.

Great wall.

Recent events.

Relation of Russia and England to China.

JAPAN.

Island Empire.
Volcanic.

(*a*) Is its climate moist or dry? Why?

(*b*) Main productions and resources.

(*c*) Chief occupations.

(*d*) People. Compare with Chinese.

(*e*) Education.

(*f*) Tokio and Yokohama.

(*g*) Commodore Perry.

(*h*) Recent history.

REVIEW.

Singapore.
Arabia.
Persia.
Jerusalem.
Mecca.
Palestine.
Bay of Bengal.
Arabian Sea.

PERSIAN GULF.

Tigris and Euphrates Rivers. These are to be treated very briefly.

AFRICA.

1. LOCATION.

With reference to United States.
With reference to Europe.
With reference to Asia.
Use the globe.

2. REVIEW BRIEFLY THE OUTLINE.

Mediterranean Sea, Suez Canal, Red Sea, Gulf of Aden, Mozambique Channel, Madagascar Island, Cape of Good Hope, Gulf of Guinea, St. Helena Island, Cape Verde, Canary Islands, Madeira Islands, Strait of Gibraltar.

EXTENT.

Compare

(*a*) With Asia.

(*b*) With North America in size.

Pupils should be required to make these comparisons by measurements and by reference to statistical tables.

CLIMATE.

Pupils answer the following questions:

In general, what must the climate be with reference to heat and cold?

Are there many large rivers and are their sources in the same region? If so, what does the fact show?

What kind of vegetation would you expect to find in the central parts? Why in central parts rather than in southern or northern?

Why is the Sahara region a desert?

Locate and name four great rivers of Africa. Nearly all the large rivers have falls or cataracts. Would this have any effect upon the development of the country?

The Nile drains a larger area than the Congo. If the areas are in the same region which river would naturally discharge the greater amount of water? The Congo, however, discharges more than the Nile. How do you account for this?

Most of these rivers have deltas. What is a delta? What are the causes? What river in North America has a delta? Of Asia? Has the Amazon a delta?

5. PEOPLE. Very briefly of the natives.

What connection with some of the people of the United States?

5. CONTEST OF EUROPEAN NATIONS FOR AFRICA.

Why are they so eager to secure this territory? What does this fact show as to the value of Africa? Why is it that the United States takes no part in this? Why is it difficult to trace the political boundaries of Africa? What are political boundaries?

7. Has Africa all been explored?
   Dr. Livingstone, Stanley.

8. Will the climate of Africa hinder its development by Europeans?

9. What is the value of Cape Colony to the nation which controls it? What nation is that?

10. EGYPT.

    SPECIAL.

    (*a*) Very briefly its history.

    (*b*) Pyramids.

    (*c*) Dependence upon the Nile.

    (*d*) Alexandria and Cairo.

    NOTE—Nothing is to be taught concerning the names or details of the mountains of Africa.

SECOND SEMESTER.

General geography and review and special geography of New York state.

1. MOTIONS OF THE EARTH AND THEIR EFFECTS.

   (*a*) Revolution causing succession of seasons.

   (*b*) Rotation causing day and night.
   General idea of solar system, but very brief. Use globe.

2. LATITUDE AND LONGITUDE.
   Use globe and train pupils to find a given latitude and longitude.

3. DEFINITE IDEA OF ZONES. Globe.

4. THE EARTH IS ADAPTED TO THE NEEDS OF MAN.

   As civilization advances does man become more or less independent of nature?

   Pupils should name the various means by which man seeks to overcome the forces of nature, such as canals, tunnels, breakwaters, lighthouses, etc., etc.

   See Ritter, pages 59 to 68; also Tarr's Elementary Physical Geography, chapter XXII.

5. LAND CHANGES, as erosion of rocks, deltas, alluvial plains, sand bars, earthquakes, volcanoes.

See Redway, pages 12 and 13 : also 17 to 20.

6. RACES OF MEN AND WHERE THEY LIVE.

Use globe.

7. RELIGIONS (general terms only).

8. DISTRIBUTION OF ANIMAL LIFE BY GRAND DIVISIONS.

Distribution of plant life by grand divisions.

(*a*) Forests.

(*b*) Used for food.

(*c*) Used for clothing.

Redway, pages 28 to 30. Use globe.

9. RELATIVE LOCATIONS OF GRAND DIVISIONS.

Relative locations of oceans.

See Guyot's "The Earth and Man," chapter V. and especially the closing pages of the chapter.

10. EVAPORATION, CONDENSATION.

(*a*) Rain.

(*b*) Fog.

(*c*) Clouds.

(*d*) Dew.

(*e*) Frost.

(*f*) Snow.

11. PROPORTION OF LAND AND WATER.

Distribution of land in zones.

Proportion of land in northern and southern hemispheres. Name the three "pairs" of continents extending north and south.

12. What island southeast of the southern extremity of South America? Is there a corresponding island southeast of Africa? Of Australia? Of Asia?

Locate important peninsulas that extend in a northerly and southerly direction, and which narrow down toward the south. What ones, if any, extend east and west?

In what general direction does the principal land mass in the Eastern Hemisphere extend? In the Western Hemisphere?

In which of these two land masses would you find the greater difference in animal and plant life, and why?

Which grand division has the most irregular coast? The most regular? What effect would great irregularity of coast have upon the life of the people?

Do the long slopes (and therefore the long rivers) slope toward the Atlantic or the Pacific Oceans?

13. Principal Ocean Trade and Other Routes.

(*a*) New York to London, Liverpool, Southampton, Havre, Antwerp, Rotterdam, Bremen, Hamburg, Genoa, Marseilles, Rio de Janeiro, Havana.

(*b*) San Francisco to Yokohama, Hong Kong, Bombay, Singapore, Sydney.

(*c*) London and Liverpool to America, Hong Kong, Bombay, Singapore, to Australia (two routes). See New York, San Francisco and London daily papers. (Departure and arrival of steam ships.)

Canals.

Suez.

Have pupils show the advantage of a canal across American isthmus.

14. Journey Around the World.

(*a*) By water, (use globe). New York to England; to Japan via canal; to San Francisco; to New York via Cape Horn.

(*b*) By water and rail. New York to Havre; to Brindisi by rail; to Aden; to Singapore; to Yokohama; to San Francisco; to Denver; to Chicago; to New York, via Detroit and Niagara Falls, to Buffalo, Rochester and Albany, or via Cleveland to Buffalo, or Chicago to New York via Pittsburg and Philadelphia.

In these routes around the world teach important places at which one would be likely to stop on such a journey.

Rochester to Boston (two ways). Rochester to Washington.

15. Review Principal Cities of the World.

Washington.	Atlanta.	Athens.
New York.	Havana.	Vienna.
Chicago.	Rio de Janeiro.	Montreal.
Philadelphia.	Buenos Ayres.	Venice.
Boston.	London.	Hamburg.
San Francisco.	Glasgow.	Canton.
St. Louis.	Edinburgh.	Hong Kong.
New Orleans.	Liverpool.	Bombay.
Baltimore.	Southampton.	Calcutta.
Buffalo.	Copenhagen.	Halifax.
Pittsburg.	Paris.	Peking.
Cincinnati.	Marseilles.	Madrid.
St. Paul.	St. Petersburg.	Yokohama.
Minneapolis.	Berlin.	Melbourne.
Denver.	Constantinople.	Cairo.
Cleveland.	Rome.	Alexandria.

16. Review Leading Commercial Products and Where They are Chiefly Found.

Wheat, cotton, wool, sugar, tea, coffee, rice, iron, coal, salt, cattle, gold, silver, copper, petroleum.

Principal manufacturing regions of the earth.

(*a*) Western Europe.

(*b*) Northeastern United States.

17. REVIEW THE FOLLOWING:

Rivers.	Mountains.	Islands.
Amazon.	Andes.	Newfoundland.
Misssissippi.	Rocky.	Cuba.
St. Lawrence and the Great Lakes.	Alleghany.	Bermudas.
Connecticut.	Alps.	Ireland.
Hudson.	Green.	Iceland.
Colorado.	White.	Java.
Columbia.	Mt. Blanc.	New Zealand.
Nile.	Mt. Washington.	Porto Rico.
Rhine.	Pike's Peak.	
Thames.	Himalaya.	
Danube.	Mt. Everest.	
Volga.	Mt. Rainier.	
	Aconcagua.	

18. REVIEW UNITED STATES BRIEFLY.

LOCATION.

(*a*) With reference to Europe and other grand divisions.

(*b*) Latitude limits.

(*c*) Area (compare with Europe).

(*d*) Length east and west, north and south.

(*e*) Population.

Simple facts of boundary.

SURFACE PICTURES.

(*a*) Atlantic coast.

(*b*) Appalachian Highlands.

(*c*) Mississippi Valley.

(*d*) Pacific Highlands.

PEOPLE.

(*a*) Mostly descendants of Europeans.

How did this happen to be so?

(*b*) Negroes.

(*c*) Chinese.

(*d*) Indians.

How does each of these three races happen to be here and why is each in the part of the country it is?

ADVANTAGES OF THE UNITED STATES.

(*a*) Variety of climate. Why does it have such a variety?

(*b*) All kinds of productions which furnish the chief wants of man—food, clothing and shelter. Idea of thankfulness that we live in such a country.

(*c*) Advantages of situation.

Review principal production areas of the United States, as *grain*, *coal*, *sugar*, etc.

Review relative location of principal states, very briefly.

Make constant use of globe in all this work.

The geographical reading matter for other grades will be useful for this.

SPECIAL GEOGRAPHY OF NEW YORK STATE.

POSITION. Wall map of the United States.

(*a*) With reference to the United States.

(*b*) To Europe.

(*c*) To the Great Lakes.

(*d*) To the Atlantic Ocean.

EXTENT OR SIZE.

Area in square miles (round numbers).

Distance from Buffalo to Albany.

From Ogdensburg to New York city.

OUTLINE.

(*a*) Vermont, Massachusetts, Connecticut, Long Island Sound, Atlantic Ocean, New Jersey, Pennsylvania, Lake Erie, Canada, Lake Ontario.

(*b*) Niagara, St. Lawrence, Delaware River, Lake Champlain.

4. SURFACE AND DRAINAGE.

The pupils should form, through a relief or physical map, a complete mental picture of the relief of the state. Adirondack and Catskill Mountains, Lake Champlain north, Hudson, Delaware, Susquehanna and Allegheny Rivers south, Genesee, Clyde and Black Rivers north.

Numerous lakes in the interior, mostly long and extending north and south. Why sometimes called Finger Lakes? See map.

Trace the divide between the slope that drains north and the south slope drained by the Delaware, Susquehanna and Allegheny Rivers. Nearly 2,000 feet above sea level. What is the height above sea level of Lake Ontario.

5. CLIMATE.

Western part affected by the Great Lakes. Central and eastern part chiefly by latitude. Long and Staten Islands and New York city, proximity to the ocean. Does this give a variety of climate? Rainfall.

6. PRODUCTIONS OR RESOURCES.

(*a*) Agricultural.

Wheat. How does it compare with the west in this particular?

Barley, rye, oats, potatoes, corn, garden products. Great market for these. Why?

Fruit in the western part. What relation has this product to the lakes?

A large number of minor agricultural products are raised in the state. Pupils will think of many not mentioned above.

(*b*) Mineral.

Petroleum. Olean; meaning of the name.
Natural Gas.
Salt.

(*c*) Manufactures (important).

Ranks first in the Union.

. OCCUPATIONS.

. PEOPLE.

Mixed population in New York city. Why?

. EDUCATION.

(*a*) Its public school system.

(*b*) Colleges and Universities.

(*c*) Industrial education.
Cornell University, Columbia.

0. GOVERNMENT.

Teach a brief outline of the government showing in this connection its similarity to all the other states and to the general government. Show the dependence upon the general government. Its home rule.

These constitute a harmonious whole styled a federal republic.

Who is now governor?

1. CITIES.

New York, Buffalo, Rochester, Syracuse, Albany, Troy, Utica, Elmira, Binghamton, Oswego. Do not attempt to memorize all the cities of the state.

An outline map of the state as published by Rand & McNally should be in the hands of each pupil to fill in from memory. Show the importance of the city population to the state. What does it show? There are more than twice as many cities in New York State than in the whole South. Why should this be so? Has slavery in the South had anything to do with this fact?

2. COUNTIES.

Do not attempt to have the pupils learn all the counties. Teach the number, 61. Show them all in connection with other facts. The border counties may be learned. Counties bordering on New Jersey, Lake Ontario, etc.

13. HISTORY. Very brief.

(*a*) Dutch.

(*b*) English.

(*c*) Indian.

Trace the connection between the characteristics of the early settlers and the development of the state. What did the Dutch come for? What natural advantages of the state have contributed to its greatness. Why called Empire State.

14. SPECIAL.

Railroads, canals, water power, all important. Teach only the trunk lines of railroads.

New York harbor.

15. PLACES OF INTEREST.

Niagara Falls, Chautauqua Lake, Silver Lake, Portage, Watkins Glen, Saratoga, Lake George, Ausable Chasm, Trenton Falls, etc., etc.

The teacher is at liberty to place this work before the general review given above if she so chooses.

BOOKS ON GEOGRAPHY.

Arnold's "Way Marks for Teachers," pages 187 to 203.
Carver's "How to Teach Geography."
Compayre's "Lectures on Pedagogy," pages 362-378.
Crocker's "Method of Teaching Geography."
DeGarmo's "Essentials of Method," chapter on geography founded on observation, pages 126-132.
Fitch's "Lectures on Teaching" chapter on geography.
Frye's "Child and Child Nature."
Geikie's, "Elementary Lessons in Physical Geography."
Geikie's, "Physical Geography" (Science Primer).
Geikie's "Teaching of Geography."
Guyot's "The Earth and Man."

Hutchinson's "Story of the Hills."
Huxley's "Physiography."
Jackman's, "Nature Study."
Jackson's, "Astronomical Geography."
Jackson's "Field Work in Nature Study."
King's "Handbook of the United States."
King's "Methods and Aids in Geography."
Klemm's "Chips from a Teacher's Workshop."
Klemm's "European Schools."
Longman's "School Geography."
Marsh's, "The Earth as Modified by Human Action."
McMurry's "Special Method in Geography."
Nichol's "Topic in Geography."
Parker's "How to Teach Geography."
Parker's "Talks on Teaching."
Patton's "Natural Resources of the United States."
Prince's "Courses and Methods," chapter on geography.
Redway's "Manual of Geography."
Ritter's "Comparative Geography."
Shaler's "Nature and Man in America."
Shaler's "Story of our Continent."
Tarr's "Elementary Physical Geography."
Tarr's "First Book of Physical Geography."
Thornton's, "Elementary Physiography."
Tilden's "Commercial Geography."
Trotter's "Lessons in the New Geography."
White's "Elements of Pedagogy," chapter on geography.
Wicks and Boyer's "How to Teach and Study Geography"—
North America.
Same Authors—South America.