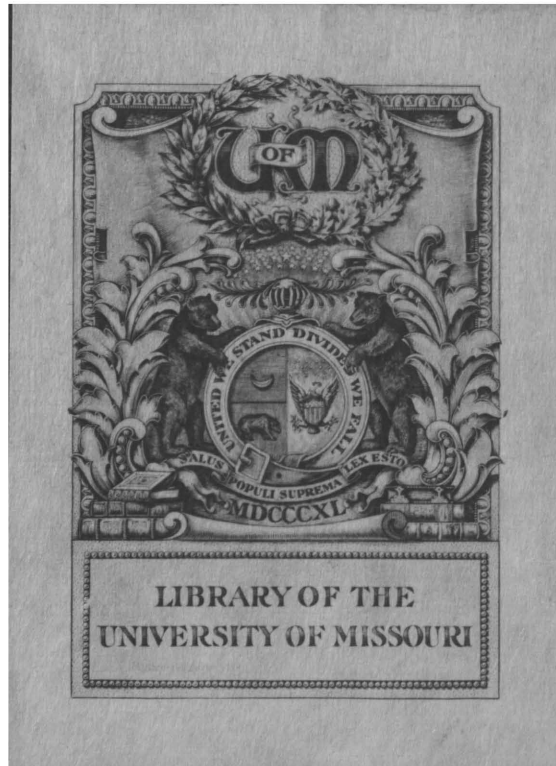


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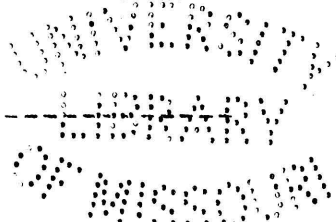
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Form 26

OBSERVATION
ONE OF THE ACTIVITIES
IN THE
THIRD GRADE OF THE UNIVERSITY ELEMENTARY SCHOOL

by

Katherine Mary Helm, A.B., B.S.



SUBMITTED IN PARTIAL FULFILLMENT

OF THE

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS

in the

GRADUATE SCHOOL

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J. L. Meriam*

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PREFACE

In various forms Nature-study has become a part of the curriculum of the schools, often holding an equal place with the "Three R's". Frequently the usual studies are too remote from the daily lives of the children to be of great interest to them. The problem of the University Elementary School is "to help pupils to do better in those (1) wholesome activities in which they naturally engage". The four activities, which in the first three grades, seem to fit in with the natural interests and needs of children up to the age of nine or ten are: 1) observing what goes on around them; 2) playing games; 3) making many things useful and ornamental; and 4) reading, telling, and hearing stories. The purpose of this paper is to give an evaluation of the first named activity, Observation, as taught in the Third Grade.

Observation is here used as a broader term than Nature-study, and includes more than the accepted meaning. The purpose of our Observation Work is to make use of the child's instinctive curiosity and instinctive interest in people and things in the study

(1) Meriam, J.L., Statement of University Elementary School.

of plant life, animal life, phases of the earth and sky, and people. "There are twenty best ways of teaching nature -study. We must define nature-study in terms of purpose, not in terms of its methods."⁽¹⁾

The plan for the Observation Work has been developed and worked out ~~and worked out~~ under the supervision and direction of Professor J.L.Meriam, whose encouragement and inspiration have made possible the carrying on of the work. To Professor Whitten, Professor Reed, and Professor Curtis acknowledgment is made for suggestions concerning the outline and for reference books for the teacher.

(1) Bailey, The Nature-study Idea, p. 5.

CHAPTER I

Review of the Nature-study Idea

Observation Work or Nature-study is a resultant of educational thought started by the reaction against "book-study and the discipline of the memory" commenced by Rousseau, Pestalozzi, and Froebel during the last part of the eighteenth centuries. Rousseau advocated the theory that the senses of the child be trained by self-activity and contact with the "forces and phenomena of nature"⁽¹⁾. Pestalozzi's "object study" was a step in advance of this theory. Partly from the "object study" of Pestalozzi has developed the nature-study movement which began in the United States during the last twenty years of the nineteenth century.⁽²⁾ However, a much more important influence upon the curriculum, in general, as well as upon Observation Work, has been the fundamental teaching by Froebel that "the basis for school work (should be found) in native interests and spontaneous activities of the child as these are called forth by objects of nature around him"⁽³⁾.

In the last fifteen years, much important work has been accomplished in the development of the pedagogical idea of Nature-study, thru the writings on

(1) Monroe, A Text-book in the History of Education, p.562.

(2) Bailey, L.H., The Nature-study Idea, P.7.

(3) Monroe, A Text-book in the History of Education, p. 665.

nature and thru the teaching of Nature-study.

The twentieth century idea of Nature-study is idealized by L.H.Bailey in "The Nature-study Idea." He no longer considers Nature-study synonymous with the old terms natural history, biology, or elementary science. (1) The latter are scientific terms; Nature-study is pedagogic. "Nature may be studied with either of two objects: to discover new truth for the purpose of increasing the sum of human knowledge; or to put the pupil in a sympathetic attitude toward nature for the purpose of increasing the joy of living." (2) The latter, of course, is Bailey's viewpoint. Spirit is the essence of Nature-study. Nature-study must be taught by the teacher and not by the book. Nature-study readers should be guides not texts. (3)

It is of great importance to see the birds and the flowers at home in the fields and the woods. After the child has seen and studied the bobolink, for instance, Bryant's poem "Robert of Lincoln" will mean much more to him than would a stuffed specimen.

(1) Bailey, L.H., The Nature-study Idea, p.4.
 (2) " " " " " " " "
 (3) " " " " " " " " 32.

After the thing is actually seen, the next important step is to try to understand it. ⁽¹⁾

"Nature-study exercises are not to be the dominant work in the school.---- The Formal school work will supply the drill in method and system; nature-study will afford relaxation, and it will be valuable because it is short and forceful." ⁽²⁾ The correlation of Nature-study with other subjects will be a step backward in method, unless a real study of natural objects is made; when this is done, correlation will be of greater benefit to the other subjects than to Nature-study. ⁽³⁾

In "Nature Study Lessons", (Mrs.) Lida B. McMurry gives practical suggestions for lessons in animal and plant life. The lessons are intended for the primary grades. Each lesson is presented according to the "developing plan of teaching". Old experience is called up in the mind of the child and the new is correlated with it. The child is encouraged by questions to tell all he knows about his pet cat. The Teacher has a definite aim for the study of "The Cat", an outline according to topics, and a close relation and sequence among the questions which she asks. The method of procedure is the same whether it be a pet, a bird or a flower. Reviews of the subject matter discussed are suggested frequently. Necessary facts for the observations

(1) Bailey, p.33.

(2) Bailey, p.30.

(3) Bailey, p.153.

are gained directly from the animals, the birds or the flowers.

In the "Identification of Birds" and the "Identification of Flowers" games are suggested, for the first grade, to make the learning of the names more enjoyable, to give a chance for exercise and to facilitate in the learning of the birds and the flowers. (1)

Mrs. McMurry has admirably made use of the three factors, suggested also by Bailey, in the teaching of Nature-study: 1) the fact; 2) the reason for the fact; (2)
3) the interrogation left in the mind of the pupil.

"Nature Study for Grammar Grades" is a Nature-study manual by W.S. Jackman, who, thru his writings and his teaching, did much for the rational and definite study of nature. The work is planned according to the seasons. Directions are given for field and laboratory work. The study is scientific in spirit. Elementary work in Zoology, Botany, Astronomy, Meteorology, Physics, and Chemistry is ably suggested. This work in the grades would be of great benefit to High School Science Work.

Mr. Jackman helped to make Nature-study of equal importance in the curriculum with the "Three R's". Not only that, - number work, painting, drawing, and writing become essential for a complete expression of

(1) McMurry, L.B., Nature Study Lessons, p. 86, p.141.

(2) Bailey, p. 24.

the observations made in the field and in the laboratory for the study of "nature at work".

One of the pioneers in the intensive study of nature is (Mrs.) L.L.Wilson, whose study of the personal needs of the child and of the method of teaching nature is actual and practical. In the manual "Nature Study in Elementary Schools", which is intended for use in the first four grades, Mrs. Wilson concludes that while observation with accurate "sense perception" is the basis of nature study, it should be the means of training the child's judgement and cultivating⁽¹⁾ his imagination.

The subject matter recommended deals with plant life, animal life, stones and weather. The specimens necessary for the study may be easily found in or near so large a city as Philadelphia. Nature-study, she believes, is enriched by the correlation of real literature, poetry or prose, by additional information, by oral language work, by written language records with insistence upon exactness, brevity and neatness, and by drawing and work⁽²⁾ in color.

The " Plan Book" by Marian M.George is a valuable compilation of songs, references for stories, poems, artists and picture study; monthly calendars for the birthdays of famous people; suggestions and references for special days; and monthly science lessons. The

(1) Wilson, (Mrs.) L.L., Nature Study in Elementary Schools
p.4.

(2) Wilson, pp.8-9.

monthly science lessons include plant life, animal life, forms and phases of nature, and minerals.

Under plant life, flowers, fruits, trees, birds, and vegetables are considered in much detail. The poems are appropriate and the information is correct tho scant. Animal life, including birds, insects, tame and wild animals, frogs, and fishes, are discussed with references given in much the same way as plant life. Such forms and phases of nature are given a place, as clouds, rain, hail, snow, wind, sun, moon, and stars. The minerals, which are inanimate objects, are given a minor place as compared with the space given to plant and animal life. This is as it should be.

The three books for autumn, winter, and spring, which are for the intermediate grades, are to assist the teacher in correlation of work, to save time and to save money in the buying of books. Good plans are necessary for good teaching, hence the value of the Plan Book.

The Nature-study course suggested in the "Education Department Bulletin, A Course of Study and Syllabus for Elementary Schools 1910", is not so rich in itself, but correlated with geography, literature, and drawing its range is more extensive. The work is arranged in three general divisions, grades one to three, four to six, and seven and eight. Since the Third Grade is the grade under consideration, the first division only, will

be discussed. "For grades one to three the key word
 to the work is Recognition".⁽¹⁾ Guided observation at
 first hand with books, pamphlets, poems, stories, and
 pictures for reference and suggestion will be of the
 greatest educative value for the child.⁽²⁾ Fifteen minutes
 is the allotted time throughout the year for nature-
 study but the suggestion is given that this may be
 shortened by correlation with English.

The outline includes a model detailed study
 under each of the general topics, birds, animals, plants,
 insects and trees, with valuable references. Under each
 of the general topics are sub-topics for "special study",
 and sub-topics to be "recognized". Besides this study
 the relation is to be shown "between a particular plant
 and a particular insect, bird and insect, or insect, bird
 or tree."⁽³⁾ The value of such instruction can hardly be
 overestimated. The success of nature-study largely de-
 pends upon the attitude and the enthusiasm of the teacher.

In "Nature Study and Life", D.F. Hodge expresses
 as his viewpoint the purpose of nature study to be,
 "Learning those things in nature that are best worth
 knowing, to the end of doing those things that make
 life most worth living".⁽⁴⁾ The beauty side, tho important,
 must not be given undue emphasis. "For elementary study

(1) (2) Education Department Bulletin, 1910, p. 125.

(3) Education Department Bulletin, 1910, p. 127.

(4) Hodge, C.F., Nature Study and Life, p. 1.

we must select those things that stand in fundamental associations with life and about which the children can find something worth while to do." (1)

Mr. Hodge is a specialist in two or more branches of biology. He has tested the theories of his manual in the public grade schools of Worcester. The subject matter covered is rich and varied, dealing entirely with plant life and animal life. Inanimate nature, which ^a may be later studied as geology, he feels is of less interest to the child than animate nature. Inanimate nature has also been represented in other manuals. The utilitarian side of nature-study is not neglected. Even his illustrations show this tendency. "Since spontaneous activity is fundamental to my plan of nature study, the majority of them (illustrations and photographs) are intended to suggest ways and means of doing something." (2) The courses are not divided according to the seasons because such a method tends to cramp and to show a formalistic tendency.

Instead, a detailed plan is worked out for nine different grades. The topics for each grade are those best adapted to the age and ability of the pupils. Under "lessons with animals", domestic animals, birds, frogs, and salamanders, fishes, and insects are the general topics chosen in each grade with subtopics under

(1) Hodge, p. 23.

(2) Hodge, Preface IX.

the general topics. Under "lessons with plants", competitive flower rearing, study of wild flowers, a flower calendar, garden work, fruit, trees, and flowerless plants are suggested with subtopics under each. The work is to be enriched by the correlation of myths, legends, stories, poems, and pictures of plants and animals.

Perhaps the keynote of the manual is this:
"The child that puts forth creative effort to make the world better, the child that plants a seed or cares for the life of an animal, is working hand in hand with nature and the Creator.⁽¹⁾

(1) Hodge, p. 31.

CRITICISM

The consensus of opinion, in the books just considered, seems to support the theory that nature-study should not be scientific, a study of elementary science. "Again, nature-study is studying things and the reason of things, not about things⁽¹⁾". Great stress is rightly laid, in each instance, upon going directly to nature to study nature. Nature books may be used for supplementary information after the observation has been made at first hand. People everywhere are beginning to love and study nature. The fact that so many nature-study books and manuals have been written justifies such a statement.

The purposes of the writings under consideration, to repeat, are to a great extent similar, tho different in method. Bailey in his Nature-study Idea deals with generalities and sentiment rather than direct methods. Nature work is to be incidental. The drill in method and system will be supplied by formal school work. Ten minutes of sharp, quick discussion is better than two hours a day. "Nature-study will afford relaxation."⁽²⁾ Its keynote is sympathy. In this work emphasis is placed upon the spirit and beauty of nature-study. While Hodge, in Nature Study and Life, altho not neglecting the beauty side of nature, shows a utilitarian tendency

(1) Bailey, Nature-study Idea., p.16.

(2) " " " " , p.30.

Lack of depth is shown to considerable extent in the course of study given in the Albany Education Department Bulletin which, in the program, gives fifteen minutes a day to nature-study, which time may be shortened by correlation with English. Too much cannot be said against taking a nutting trip, for instance, merely to be able to write a more effective composition. Such a use of nature-study is pernicious to the purpose of nature-study. Shortness of period and the use of nature-study as an exercise are likely to result in superficiality.

But why not make nature-study an activity using reading, writing, written and oral discussion, drawing, and picture study with the little quantitative work developing, as natural expressions which make the study of nature richer, more vivid and more real. In the manuals by Mrs. Wilson, by Marian George, by Wilbur S. Jackman, and by C. F. Hodge correlation of these studies is suggested with perhaps a formalistic treatment. Jackman for the higher grammar grades suggests much number work in connection with animate and inanimate nature.

Great care must be taken to keep nature-study informal. There is no doubt that correlation of those subjects that have been dry and formalistic with the natural, informal, vital subject of nature-study is a progressive step in pedagogic method.

CONSTRUCTIVE STATEMENT

The custom has been to expect pupils to acquire a knowledge for which they will find a use later in life. "The leading purpose of the University Elementary School is to organize a course of study more suited to the interest, the needs, the abilities, of individual pupils and more in harmony with present (1) social and industrial life".

In the first three grades the aim is to stimulate and to direct the interest which the pupils naturally have in 1) their games; 2) their handwork; 3) their stories; and 4) their observation work in the study of plant life, of animal life, of earth and sky, and of people. The four activities of playing, of working with the hands, of reading, hearing, and telling stories, and of observing those things with which they daily and habitually come in contact, take the place of the traditional studies of reading, writing, and arithmetic, which become the natural vehicles and means of expression for the four larger activities.

In the Third Grade the main activity is Observation Work or Nature-study in its larger outlook. It is the study, according to the time of year, of plant life, of animal life, of earth and sky, and of people.

(1) J.L.Meriam in a "Statement to Parents and Patrons Relative to the (Missouri) University Elementary School".

This activity is taught to cultivate appreciation and to give happiness rather than to impart scientific information.

In the first and second grades observation is made of those things in nature which are in the child's immediate environment without regard to its complexity of form. The child becomes a friend with the golden rod and the butterfly that stops to sip its nectar; with the sparrow and the snow that sometimes covers up its food; with the dandelion and the tree under which it grows. The objects observed are selected according to each month, from the bounteous supply of material that nature presents. In the third grade the aim is to get a more organized and a more general view of a greater number of related subjects. The study of nature is not neglected in the upper grades. Trips are made in the fourth grade to the harvest fields and the orchards to observe when products are harvested and how and why. The question arises what becomes of these products. They are followed to the mill and the grocer store. A dairy furnishes an interesting study. The pupils observe different kinds of cows, how they are kept and the use made of some of the products harvested. After a study of milk and its products, the question arises how it may be preserved. The study of ice is natural here. In the fifth grade much nature-study work is done in the study of hunting, fishing, lumbering, and farming.

Simple observation by smaller children develops into a real interest in the activities of adults.

Of primary importance is the observation at first hand and the study with a purpose. To study about nature from books, never studying the thing as it exists in nature, is unsound pedagogy. The inductive method is usually the best method of approach. The deductive method, however, may occasionally be employed for variety's sake and to arouse enthusiasm for actual observations in the field. A good story or oral discussion will bring more clearly to mind the purpose of the trip.

A trip should be for the purpose of observation rather than for the collection of specimens. Children should be taught when to collect and when to allow things to grow and live. The child should be taught the value of conservation and the pleasure of production and ownership.

When children learn to know and love nature, each changing season will be a joy. In spring every new bud unfolded, every returning bird, the first frog croak, when observed by them, will give a feeling of discovery and a thrill of happiness.

It is true that in different parts of the country the seasons and the time of plant development are not the same. As evidence, Lowell's poem "The Maple

Put^s her Coral on in May" might be noted. In Missouri "the maple puts on her coral in March", and the robins build their nests in April.

Hodge objects to the division into school terms or seasons because: "Nature's changes were not arranged according to school courses, and the predominant importance of subject matter precludes such cramped and formal treatment"⁽¹⁾. The intention, however, in the arrangement of the Outline is to suggest to the teacher the time when certain things may be observed. There is no reason why it should result in a "formal school task". The subjects are easily moved up a month or left until a month later. It is governed by no hard and fast rule. Each month and season gives its especial contribution to nature-study. What then is more natural than to make observations according to the months?

In short, to summarize, Observation is one of the four activities taught in the first three grades. Games, Stories, and Handwork constitute the other three Activities. One fourth of the time is devoted to Observation.

In this study good reading becomes essential to add further information to observations. Writing is learned by the pupils in order to preserve neat, concise records of the things observed by them. Drawings are

(1)Hodge, Nature Study and Life p.

frequently made in order to discover what the child really sees and in order to have him visualize his observations with accuracy. A good selection of words, clearly enunciated insures him attention and communicates to the other pupils more perfectly the observations he has made of bird or flower. Some quantitative work is necessary in the observation activity; Naturally only a limited amount is needed in such a study, but what is needed is used freely and with facility. However, the work in Observation is not twisted and arranged so that one of the conventional subjects may be used. They are employed only as the occasion demands, but they are employed frequently, naturally and informally.

From the observation point of view, little people see only what they are prepared to see. By constant observation, much becomes visible to them that was not seen by them before. This spring Sanford said "I never have had luck in finding bird's nests before, but this year I watched a robin build her nest in our attic window, I found a bluebird's nest in an old woodpecker hole in a telephone pole, I know where two jays have their nests, and with the help of a little boy I discovered where a brown thrasher has a nest in a japonica bush where the mother bird is sitting on four white speckled eggs now". The study of nature contributes so much more pleasure and happiness each season because eyes and ears are on the alert to see and to hear the new sights and sounds in the everchanging landscape.

CHAPTER II

Outline Month by Month of Observation Work in the Third Grade. A definite, organized plan of work, which, during three years of experience, seems of most intense interest to the pupils, is here presented.

The plant life, animal life, earth and sky observations, and people are noted under each month principally for the teacher's convenience. About one hour and a half is devoted to the activity of Observation. This is about one fourth of the time in the school day. As has been stated before, observations of nature are enriched by readings, oral and written discussions, drawings, poems, stories, and pictures.

Most observations are made from individual specimens. Excursions are taken to observe, and to collect such specimens as are necessary to be brought home from the fields, woods or waysides. Individual observations are strongly encouraged. The observation of animal life rather than of plant life seems to be the more interesting to the children as their morning reports deal with birds rather than flowers.

The topics studied under plant life, taken as a whole, are trees, flowers, grasses, seeds including nuts, fruits, and vegetables. The tree is considered as to general form, arrangement of branches, character of bark, size and age. Its leaves are studied as to form, character, color in summer and autumn, time of

fading in the fall, and appearing in the spring. The winter appearance of buds and their opening in the spring are especially noted. For flowers and grasses, the points considered are: where found, time of appearance, form, color, size and quantity. Fruits and vegetables are examined as to their form, size, color, substance, taste, and use. Seeds and nuts are collected and studied in order to observe facts about their germination, besides their size, color, time of ripening, and method of distribution.

The animal life presents for observation pets, birds, insects, frogs, snails, worms, turtles, crayfish, and wild animals (seen in circuses and zoos). In the study of pets the character and usefulness to man is considered as well as the proper care, food and shelter to be given them.

Our aquarium furnishes much pleasure not only as a legitimate reason for the collection of frogs, toads, frog eggs, crayfish, minnows, catfish, snails, and turtles, but as an opportunity to observe animals at close range. Mounted and stuffed specimens, while they will not take the place of living specimens, add to the information already obtained. Certain characteristics cannot always be observed at a distance nor can certain ~~stages~~ stages of development be recognized when seen in the open. Hence, the value of preserved specimens.

The study of the habitat, the shape, size,

color, food and habits of animals adds interest to the child's life. The hibernation and migration of animals life are interesting studies in the fall. In the spring the reappearance of animal life with the awakening of plant life is noted with thrills of pleasure.

Observation of earth and sky is interesting particularly on account of its effect upon animal life, plant life, and people. A monthly calendar is made upon which are represented the days of the week, the number of days in the month, the special month, and the special days or holidays which are indicated in red. Each calendar is upon a one page sheet divided off into spaces, at the top of which is a cartoon representing the month as appropriately as possible. On the calendars of the fall months, a note is made each day as to whether the day is sunny, cludy or rainy. Rain is indicated by a black umbrella. At the end of the month the number of sunny, cludy and rainy days is compared. In the measurements for the calendars and the comparison of kinds of days some quantitative work is necessary. The weather on the calendars of the winter months is indicated by various symbols: a yellow circle for sunny; black for rainy; white for snowy; grey for cludy; grey and yellow for half cludy and half sunny, etc. For the spring months the calendars have written in them the kind of day, -sunny, rainy, or cludy; the temperature taken at twelve o'clock; and the direction of the wind at that time.

A study is made of the sun with the time and place of its rising and setting. The phases of the moon are also noted. The stars are studied especially in December in correlation with Christmas and "the Star".

Different clouds are observed and what they bring, such as, rain, snow, hail, and sleet. Frost and dew are discussed. The winds, their causes and directions, are of much interest to the pupils. The mystery of the wind appeals to them.

"I saw^w the different things you did,

But always you yourself you hid." (1)

The outline for the study of people is still in a formative stage. This year such subjects as vacation activities, the frolics and traditions connected with Hallowe'en, Thanksgiving, Christmas, New Year's Day, St. Valentine's Day, Washington's Birthday, Lincoln's Birthday, St. Patrick's Day, Easter, Arbor Day, and May Day are considered. As to whether observations, in a general way, should be made in the third grade in regard to people's houses, public buildings, and employments in the town in which the children live is still under consideration. The peoples in other countries are studied in connection with the activity of story reading and story telling.

(1) Stevenson, R.L., A Child's Garden of Verses, p.

SEPTEMBER

1. Plant Life

1. Flowers: sunflowers, milkweed, goldenrod, asters, thistles.

2. Trees

1. Leaves

1. Shade Trees: hard maple, soft maple, elm, oak, black locust, sycamore, oak, black locust, sycamore, poplar, honey locust, willow, birch, catalpa, box elder, ash, osage orange, tulip tree, red bud, linden, cottonwood.

2. Nut Trees: walnut, hickory, oak, buckeye.

3. Fruit Trees: peach, apple, cherry, plum, pear, mulberry.

2. Seeds

1. Fall Shade Trees: hard maple, ash, linden, locust, red bud, box elder, catalpa, tulip tree.

2. Animal Life

1. Insects

1. Grasshopper

2. Cricket

3. Katydid

4. Cicada

3. Earth and Sky

1. Calendar
4. People
 1. Vacation Activities
 1. plays
 2. trips

Note: The use of two insect cages made the study of the insects of September very much more interesting. The base of the cage was a wooden frame constructed by the older boys. The sides were of glass and the top was of screen.

OCTOBER

1. Plant Life.

1. Flowers and grasses: water grass or five fingers, fox tail, red top, bronze grass.

2. Trees

1. Leaves: nut trees, shade trees

2. Nuts: walnut, hickory nut, butternut, chestnuts, pecans, acorns.

3. Galls

2. Animal Life.

1. Birds: migration

2. Insects: wasps, bees, spiders, butterflies, caterpillars, cocoons.

3. Earth and Sky

1. Calendar

2. Frost(the effect)

4. People

1. Hallowe'en

2. Harvest

Note: Under plant life the collection of nuts made was very interesting. Great quantities of walnuts hickory nuts, butternuts, chestnuts, acorns, and buckeyes were brought in, observed, discussed and drawn.

NOVEMBER

1. Plant Life

1. Flowers: chrysanthemum
2. Grasses and seeds: cockleburs, sticktigitlets, Spanish needles.
3. Vegetables: celery
4. Fruits: apple, pear, cranberry, pumpkin.

2. Animal Life

1. Hibernating, Torpidity, Winter Homes:
fishes, frogs, snakes, snails, squirrels, bears.
2. Turkey

3. Earth and Sky

1. Calendar
2. Clouds
3. Rain
4. Frost

4. People

1. Harvest
2. Thanksgiving
 1. Public thanks
 2. Feast

DECEMBER

1. Plant Life
 1. Evergreens
 1. Cedar
 2. Fir
 3. Hemlock
 4. Holly
 5. Mistletoe
2. Animal Life (see Christmas under 4. People)
3. Earth and Sky
 1. Calendar
 2. Stars: star of Bethlehem, North star, big dipper.
4. People
 1. Christmas
 1. People of other nations: their Christmas customs.
 2. Animals: reindeer, camel.
 3. Madonnas.

Note: The December calendar was taken home by the pupils to fill in each day during the Christmas holiday. The January calendar was prepared so that its records could also be kept until school began on the sixth.

JANUARY

1. Plant Life

1. Trees

1. Evergreen: pine

2. Fruits

1. Banana

2. Orange

2. Animal Life

1. Birds(list of winter birds): sparrow, slate colored junco, pigeon.

3. Earth and Sky

1. Calendar

2. Precipitation: rain, snow, ice, sleet, hail.

3. Winter winds

4. Thermometer

5. Position of the sun

4. People

1. Christmas' and New Years' Dinners

2. New Year's Resolutions

3. Winter sports

Note: An unusually heavy and sever sleet storm in January furnished very interesting observations such as, the direction from which the storm came, the force with which it came, the length of the storm, and its effect upon animal and plant life.

FEBRUARY

1. Plant Life
 1. Fruits
 1. Lemon
 2. Grape fruit
2. Animal Life
 1. Animals
 1. Cat
 2. dog
 3. pony
 2. Birds: blue jay, chickadee, titmouse, cardinal.
3. Earth and Sky
 1. Calendar
 2. Sun
 3. Phases of the Moon
4. Peoples
 1. Valentines
 2. George Washington's Birthday.

Notes:- The pine was studied for its leaves, its branches and the shape of the tree. The leaves were drawn after observation from individual specimens. A short concise record was written of the observations made. This study was a continuation from January. An

excursion was taken at two different times to note, 1) the arrangement and number of needles on different species of pines, and 2) to get the general shape of the tree by a sketch which was worked out more perfectly in the school room as the weather was very cold. The buds were studied to note particularly the color and arrangement of the bud scales, and the size and shape of the bud. The seed was also examined and drawn.

By way of comment on the observations made of the activity of people- on St. Valentine's Day, after having made and appropriately decorated at least two Valentines, the pupils of the seven grades had a valentine party in the large "common room". The valentine box which was constructed by the older girls was opened. The children took charge of the distribution. Fun and happiness was experienced not only in receiving valentines but in observing those received by others.

MARCH

1. Plant Life

1. Trees (winter appearance of buds)

1. Shade trees: horse-chestnut or buckeye, hickory, maple, elm, tulip tree.

2. Fruit trees: peach, cherry, apple.

3. Evergreen: pine

4. Shrubs: lilac, pussy willow, red bud, paponica.

2. Flowers: crocus, daffodil, dogtooth, violet, bloodroot, spring beauty.

2. Animal Life.

1. Birds (a record begun noting first appearance and song): robin, meadowlark, grackle, fox sparrow, buzzard, blue bird, flicker.

2. Animals

1. Frog

2. Rabbit

3. Earthworm

3. Earth and Sky

1. Calendar.

2. Winds

4. People

1. Easter

2. House Cleaning

1. Cleanliness in house.

2. Cleanliness in person

Note: Several warm, sunny days caused the elm and maple buds to open about the twelfth of March. Trips were taken to observe the signs of spring. The various birds appeared and began their songs telling of spring. The frogs began to call. But again the weather became cold which caused March flowers to put off their appearance until April.

APRIL

1. Plant Life

1. Flowers: daffodil, narcissus, wake robin, common violet, yellow violet, Jack-in-the-Pulpit, wild ginger, anemone, wild geranium, wild berbena, buttercup, bellwort, wild hyacinth, Dutchman's breeches.
2. Trees,, opening flower and leaf buds (see list under trees in March)

2. Animal Life

1. Snail
2. Birds: catbird, brown thrasher, wood thrush, chippy, red-headed woodpecker.

3. Earth and Sky

1. Calendar
2. Rains

4. People

1. Arbor Day
2. Hans Christian Anderson (Apr.2)
3. Alice Cary (Apr. 26) (Cary Tree)
4. William Wordsworth (Apr7) (Daffodils
(The Rainbow

Note: A trip to the woods was greatly enjoyed by the pupils. The purpose of this two hours trip was to observe and collect the flowers then in bloom. This excursion was taken during the third week of April. The wake robins, common and yellow violets, and buttercups

were more plentiful this year than last year.

MAY

1. Plant Life

1. Flowers: May apple, snowdrop, clover, rose, fleur-de-lis, yellow star grass, wild columbine, Dutchman's pipe, wild pepper grass, ferns, dandelion.

2. Trees

1. Buds
2. Blossoms
3. Fruit

3. Vegetables

1. Radish
2. Lettuce
3. Potato

2. Animal Life

1. Birds: oriole, grosbeak, ringbird, swallow, yellow warbler.

2. Insects

1. Bees
2. Plant-lice or aphides.

3. Animals

1. Turtle
2. Crayfish

3. Earth and Sky

1. Calendar
2. Dew

4. People

1. May Day- may baskets.

Notes: Flowers, gathered on a May Day field trip, were put in May baskets made by the children.

The day when our first baby robin flew from its nest in the elm tree just outside of our window will long be remembered.

OUR TRIP TO SEE FALL LEAVES

NOTES ON TREES, 1913.

THE ROBIN WITH REFERENCES

The study of "Our Trip to See Fall Leaves", Notes on Trees, 1913 and "The Robin" are presented in order to show some of the results in Observation Work. No greater care was taken in the work presented than would be taken for their own folders or the work kept for the school folder. The work of as many pupils as possible is used.

"Our Trip to See Fall Leaves" was a story to record the trip and to preserve the drawings made on the trip of a leafless tree against the trees in autumn splendor and of an oak. The trip was made in one hour. The story was the first written expression that the pupils had ever made in their own words. Those words which the pupils did not know how to spell correctly were placed on the board. The idea was to have words spelled correctly, however, the ideal was held up that as few words as possible be asked. Those words which were spelled incorrectly were studied and spelled several times for here was the real need for drill.

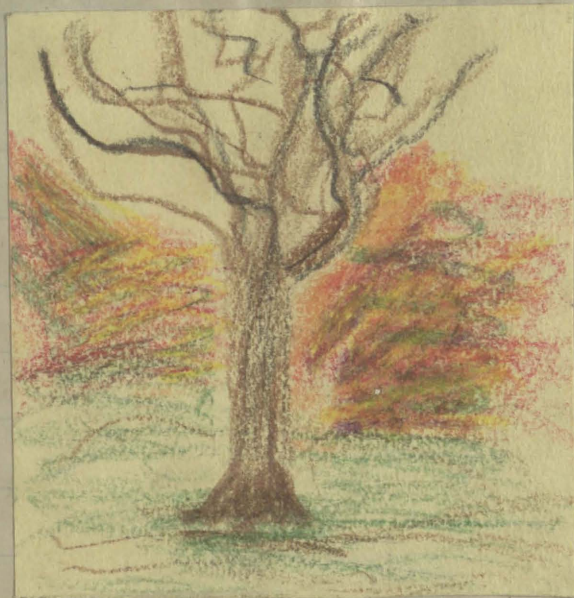
"Notes on Trees, 1913" is a part of the spring record which we kept on trees. Only the shade trees are here given. Those trees which it was possible for most of the class to observe are listed. When a

tree showed its first leaf, a trip was taken to observe it. The report of a tree in flower would result in group or individual observation. The dates recorded are approximate rather than exact. One tree of a species we found to be far earlier than another. Again different species in the same family varied in time as to the appearance of leaf and flower. Difficulty was found in making a record under willow in the space allowed, - for the pussy willow had its first blossom about April 3rd, a willow by the Hinkson was found in blossom April 13, and one on the campus, May 7. The purpose, however, is accomplished because the children are constantly on the alert to note the change in the trees.

When robins first appeared ~~their~~, their song, appearance, and habits were closely observed. In the meantime, for about thirty minutes a day, a few references were read because the children wished to read stories about robins, so that they would know more about them. Besides the descriptions of the food, size, appearance and habits of the robin, two Indian legends seemed to be repeated and stand out prominently. One legend was the story of "How the Robin Got its Red Breast". The references for this legend are given in 11, 18, and 20. After having read and told these legends orally, some of the pupils wrote and illustrated the story of "How the Robin Got its Red

Breast"; others wrote about "The Origin of the Robin" and illustrated it. Sanford had the best story so it is given. The song, "Rollicking Robin" added much to the pleasure of studying the robin. After the robin had been observed carefully, it was drawn by the pupils in order to see if they had observed correctly. With the color of crayolas in their boxes, it was impossible for the pupils to get the shade of the breast. The robin is the bird to which birds larger than a sparrow are compared. The robin usually measures nine or ten inches from the tip of its bill to the end of its tail. The drawings of the robin were made to scale. Some of the robins were one-half real size; some were three-fifths; some, seven-tenths. Soon after our robin's nest, which we watched the robin and his mate build of grass, a few small twigs and mud, was completed, and the mother bird was sitting on the nest, we drew the fork of the elm and the nest where the mother robin was sitting. The description of the size of the bird, its song, food, nest and eggs was written, in order to keep a record of the facts observed concerning the robin. It was a very exciting morning when the first baby robin learned to fly. One of its enemies, a dog, had to be frightened away. Finally the nest would hold them no longer. The last nestling fluttered to the ground to try its fortune. Our nest in the elm tree is deserted.

Our Trip to See Fall Leaves



M.W.

Yesterday the Third Grade went to see autumn leaves. First we saw some box elder trees. Next we saw some cypress trees that were still green. Then we came to a field which had some hay-stacks in it. Back in the distance there were some pretty trees which were red, yellow, orange, and brown. Finally we came to an old hollow tree. Three of the boys got in it, then we went a little way and drew some pretty trees. Then we drew an oak tree.

Miss. Gilles and I went up to it and got some leaves. Then we went back to where the rest of the party who had been drawing

H. G.
Grade II.
Oct. 29, 1912

it.



Drawn by
Marian Williams

The Tree

Next we saw the tops of some trees, and when we came up to them, they grew larger and larger until we saw the whole trees. Then we came back to school.

H. A.

Grade III.

Oct. 29, 1912

Notes on Trees

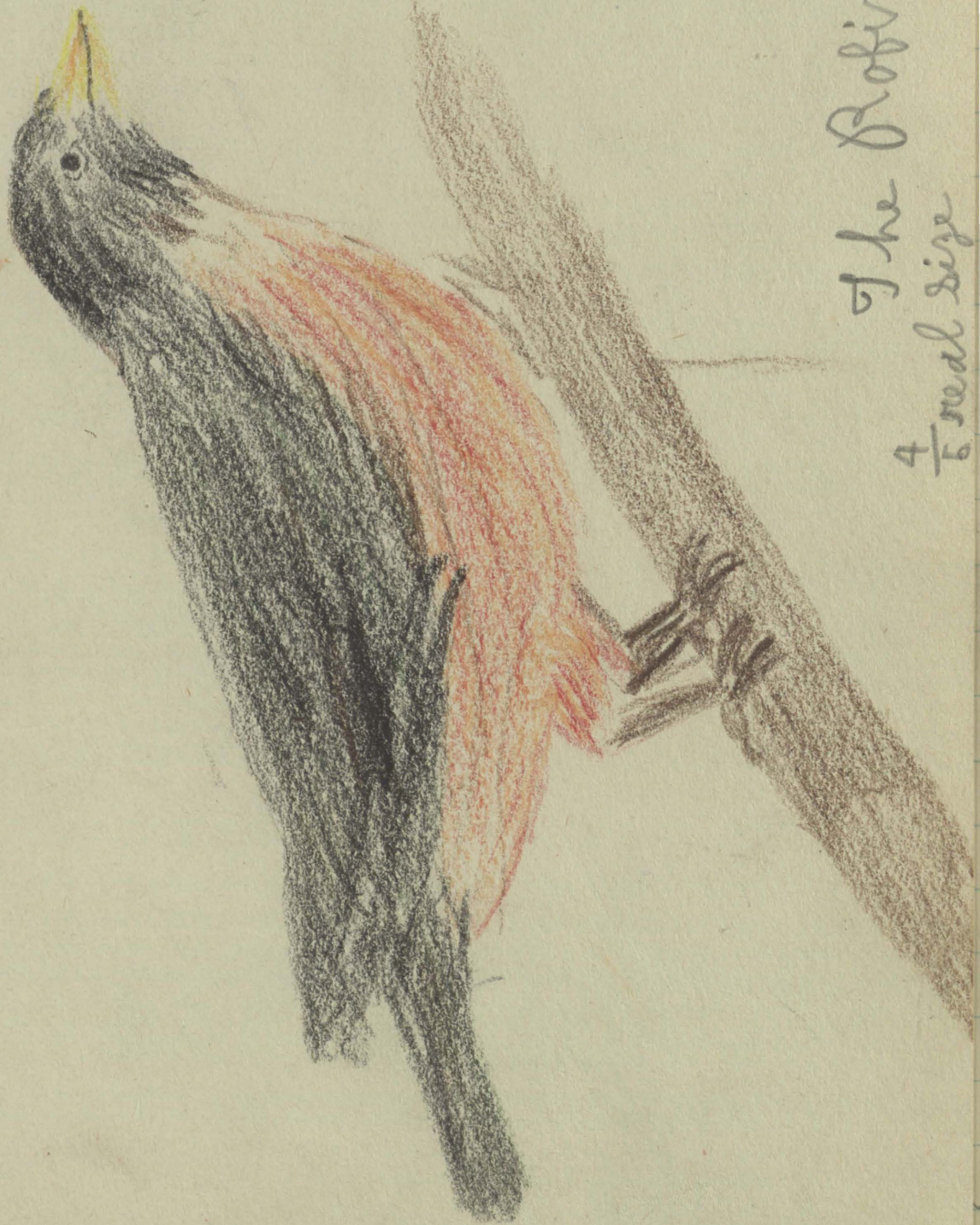
Names of Trees	first leaf	tree in f. l.	first f.
I. Shade Trees		leaf	
1. hard maple	Apr. 17.	3rd wk Apr	
2. soft maple	April 15.	3rd wk Apr	Mar. 10.
3. elm	April 21.	May 8.	Mar. 12.
4. oak	April 12.	May 8.	May 1.
5. locust (black)	April 21.		May 7.
6. sycamore	April 21.	May 7.	
7. poplar	April 18.	May 3.	April 1.
8. honey locust	April 23.		
9. willow	2nd wk Apr	May 8.	April 3.
10. birch	April 21.	May 5.	April 22.
11. catalpa	April 22.		
12. box elder	April 7.	April 22.	April 4.
13. ash	4th wk Apr	May 7.	April 21.
14. osage orange	May 1.		
15. tulip tree	April 18.	May 7.	
16. red bud	April 22.		April 20.
17. linden	May 5.		
18. cottonwood	April 22.		April 15.

f. l. means first leaf
 l. l. means last leaf

Martha Whitten

Grade III.

May. 12, 1913.



The Robin
 $\frac{4}{6}$ real size

mes Schwabe
Karte II. Apr. 3/1913

Pollicking Robin.

Pollicking Robin is here again
What does he care for the April
rain?

Care for it? Glad of it.
Doesn't he know

That the April rain carries off the
snow,

And coaxes out leaves to shadow
his nest,

And washes his pretty red Easter
vest,

And makes the juice of the cherry
sweet,

For his hungry little robins to
eat?

"Ha! Ha! Ha!" Hear the jolly
bird laugh.

"That is not the best of the story
by half!"

Gentleman Robin walks up and
down,

Laura Stephens

Grade III

April 1, 1913

Dressed in orange, tawny and
black and brown.

Though his eye is so proud and
his step is so firm,

He can always stoop to pick up a
worm.

With a twist of his head, and a
strut and a hop,

To his Robin wife, up in the peach
tree top,

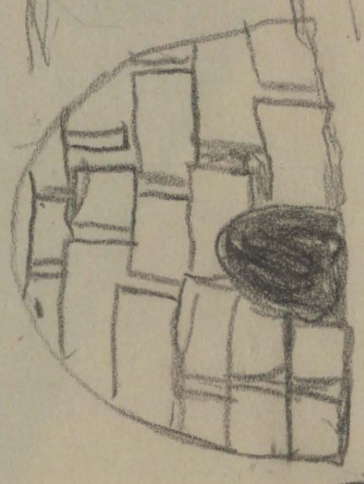
Chirping her heart out, he calls;
My dear, you don't earn your
living! Come here! Come here!

Ha! ha! ha! Life is lovely and sweet;
But what would it be if we'd
nothing to eat?"

How the Robin got her Red Breast

Once there was only one fire in the northland. A boy and his father kept the fire, night and day. Finally his father became sick. The boy had to keep the fire burning. One night the little boy was so sleepy that he could not watch the fire any longer. So he went to sleep. The white bear always did want the northland to himself and now he had a chance. So he went in and rolled on the fire until he thought the fire was out. A little robin was watching. She flew in and looked for a tiny spark. The robin fanned and fanned until there was a big blaze. Then she took a spark and flew to all the huts in the north. When the robin was fanning she scorched her breast. And ever since the robin has had a red breast.

Sanford Conley
Grade III.



The Robin fammed with
her wings to make
the fire blaze.

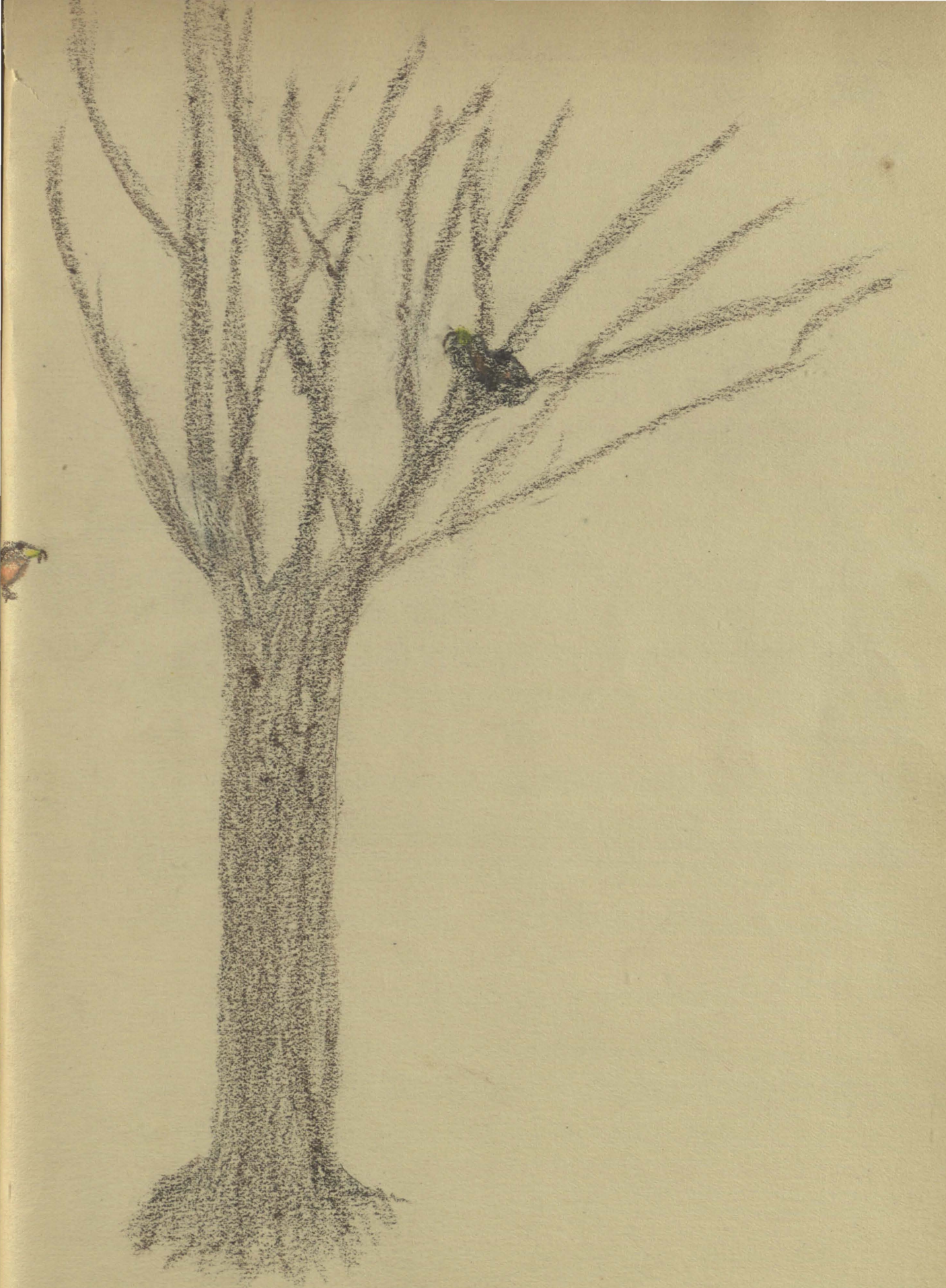


James Schwabe
Grade II.



The nest was made out of twigs and dry grass. The mother robin has been sitting on the nest a week or a little more.

Myron Spahr
Grade III.



Funno melle
3 read III
Apr. 22/9/3

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24. Smith, Elanor, Songs for Little Children

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CHAPTER III

References for Teacher and Pupils: The reference books listed are taken from the school library. It was our purpose to classify the books according to their use. This would have resulted in much repetition. The title of the book usually indicates whether the book will be useful in the study of plant life, of animal life, of earth and sky, or of people.

A ~~star~~⁽¹⁾ marks the books particularly appropriate for teacher's use. These books are not separated from the others, since several may be used by the pupils, as well as the teacher.

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in Wonderland.
41. Griffis, W.E., The Firefly's Lovers and Other
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Sayings.
(1)
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(1)
44. Hazard, Bertha, Three Years with the Poets.
(1)
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(1)
46. Hodge, C.F., Nature Study and Life.
47. Holbrook, Book of Nature Myths.
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48. Holden, E.S., Real Things in Nature.
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CHAPTER IV

Discussion of Outline with Evaluation in Terms of the "Three R's", the Value of Nature Study in the Third Grade, Its Relation to Other Grades:-

If such a curriculum as our four activities, Games, Stories, Handwork, and Observation were to be proposed for the course of study in the first three grades of the public schools, the question would immediately be raised- when will reading, writing and arithmetic be taught. They will never be taught as formal subjects. In each activity, however, good reading, good writing, good oral expression, good drawing, and good quantitative work will be the result, for the pupils naturally have an intense interest in activities which are suited to their individual needs, abilities and interests.

There is much value to be gained from the enrichment of Observation Work by reference reading. For example, after the child has made his own discoveries in regard to the cricket, brought to school for the other pupils and the teacher to examine, he will be glad to have his observations verified and his imagination aroused by several good accounts of crickets observed by other people. Interesting references cannot be found for a great many subjects studied. But even

if a long list of good descriptions and poems could be obtained for each topic, they would not all be read in one year by every pupil, because such a course would result in monotony and formalism.

So long a list of references as found under the special topic, "The Robin" in the Outline, may be handled in several ways. Each child may select a story best suited to his ability and interest. After silent study, - from one half to three quarters of an hour may be spent in the reading and the discussion of a part of the stories. Again some of the best stories will be read, while others will be told. If the story and story teller interest them, the children will find occasion to read the story which pleased them. Or, the pupils may try to read as many of the best references as possible. Each may afterwards read or tell the one of most interest to him. A poem found among the readings the pupils may wish to memorize. Their judgment is very sure as to the true worth of stories and poems. During the reading the pupils are usually seated in an informal circle on chairs that may be moved freely from the tables at which the children are seated for making written records, and at other times, when a more or less formal seating is necessary.

There is a real motive for good reading. The subject is of interest because it deals with something in the child's actual experience. New facts about the thing under observation are presented upon which the child

will like to pass judgment. He, therefore, desires to read to himself and to others the thoughts of the writer. Also his desire for the approbation of the other children makes him exert every power to pronounce clearly, distinctly, and expressively.

Oral expression, of course, is used in the telling of stories. Care is taken in the correction of mistakes when informal discussions are the result of observations made over Saturday, and Sunday, or at any time in the study of snow, rain, or whatever the subjects especially interesting at the particular season of the year may be. Some of the pupils are almost as particular as the teacher about the purity of language used. During the Handwork hour the teacher overheard Laura correct Jennie for saying, "I and Frances are going to sit together". Jennie corrected her mistake. Then Martha, who was sitting near Laura remarked to her, "Laura, you are more careful about the way you talk than some of the other children". The value of correct usage may be seen in all conversation, and oral and written expression in every activity, instead of the narrow study of language in a short period during the day. On a morning when jokes were told for opening exercises, Laura told, with much enjoyment, about the little boy who would say, "I have went". A teacher in a ward school said, "Johnnie, you may stay after school and write "I have gone" on the board one hundred times".

In the meantime the teacher was called from the room. Johnnie wrote his list to which he added this statement: "Dear teacher, i have written I have gone on the board a hundred times and i have went home".

There is no difficulty in getting the children to have animated and thoughtful discussions about the subject under observation. However, great care must be exercised in keeping the discussion upon the subject. For when the dog is the real topic for discussion the cat, rabbit, pony or pet bear may soon be the main topic of conversation.

The written records kept of the work in Observation are simple concise statements following an oral discussion. After observations have been made of the chrysanthemum for instance, the result should be brief, concise sentences written with neatness, descriptive of the beauty of that flower. Later in the year three pointed paragraphs tell of the different flowers observed on a trip to the woods on a spring day. The penmanship of pupils who have come from the public schools to the Elementary School, during the year has shown great improvement. The muscles of the Elementary pupils seem to be under better control, their letters are formed more evenly and legibly, and they are able to observe that the line is the guide and not the middle of the space. No copy books are used.

Written work is preserved in tablets and folders. A great deal of the work which goes into the

Observation folders which may be of "Flowers", "Birds", "The Weather", etc. is done at first hand. And how the pupils dislike to have mistakes in their work. Then again the records made in the tablets are corrected. Errors in language and spelling are noted. This is the time for drill in usage and spelling. This is the place for drill because here is a real motive for it. The child realizes the need. Drill must not be continued so long, however, that the correction, which was the motive, is lost sight of.

To make drawings of those things observed gives much pleasure to the child. Imitation is one of the strongest instincts in the child at this time. Drawings are made in black and white, and in color. The pencil, crayolas, ink, and paints are used.

The golden rod and the grass hopper and cricket are usually the first objects observed in the fall. The golden rod, after having been carefully observed, as to line of growth, position of flower, and leaves, color of stem, leaves and flower, is drawn with crayolas to get the general effect together with line of growth and color, rather than a detailed and scientific representation. Hallowe'en and Thanksgiving observations will call for enrichment by the making of compositions and designs. The wish to show an old witch riding a broom stick will result in very clever paper cuttings showing the old lady and perhaps her cat. January and February

furnish rich material in observation for snow scenes, enlivened by such activities as coasting, skating, and snowballing. The later sports, altho belonging essentially to games or the activity of play, make fine designs for calendar cartoons. Good lettering and cecoration is required in making the covers for the booklets in which the Observation work is preserved. Great rivalry is shown in the desire to have the neatest, the best designed, the most beautiful folder cover.

There is some demand for quantitative work in Observation. In the study of plant life measurements will be made of the length of a stem, the width of a blossom, the length and width of a leaf- so that judgement as to relative sizes may be developed. A knowledge of a large and small orange may be gained by a measurement of the diameter and the circumference. But what would be the value of this? Other fruits may be compared with the orange in size, just as the inch is a measure for short lengths.

All birds are compared with the sparrow or the robin. The children in trying to explain an unrecognized bird will say, "It was smaller than a robin but larger than a sparrow. It was a dark grey with a darker head. It was imitating the songs of other birds." "O! yes", another child will say, "I saw that bird; that was a catbird."

In the construction of calendars accurate

measurements are necessary. The number of days in a month must be carefully recorded and ability must be gained to read and record correctly the temperature. A comparative study must also be made of the number of sunny days and rainy days, etc. in order to summarize the records kept for each month.

And, altho, as has been stated before, the demand for quantitative work is not so great in the activity of Observation, still there is more than one would judge at first thought. Of necessity only a suggestion of the quantitative work used is given here.

If in the reading of this evaluation there seems to be no great departure from the method of teaching the "Three R's", this difference must always be kept in mind. When the work will be enriched by the reading of references, references are read; when a legible concise record is needed to summarize observations, writing is done; when quantitative work becomes necessary for a clearer understanding of the study of nature, arithmetical work is used. Drill in the formalistic subjects is not used until the need arises in the work of the child, when it is employed to clear up the difficulty and impress the correct usage. The drill, however, must not become drill for drills sake. The child must continue to remember his mistake as the reason for the drill.

Observation is an activity which is suited to the interests, the needs and the abilities of the individual pupil, and it must of necessity cultivate his appreciation and put him into harmony with nature and the life about him. Naturally little people, as well as grown-ups, enjoy doing those things which they can do skillfully; and observing those things which will bring them pleasure.

Observation makes use of the instincts which are prominent in the child of this age such as curiosity which is a desire to know about people and things, love of praise, imitation, and the developing, collective instinct.

The child's constant question, "why", will be adequately answered by the study of nature. His judgement and thinking ability will be trained so that he will ponder the question, then search out the answer for himself. His inquisitive disposition will not be turned into self initiative researches in one year, but with the activity of observation as one of the aims throughout his early training he will be able much more independently to carry on his work at all times no matter what it may be. This curiosity and desire to continue similar observations on the outside of school is shown when Marion persuades a grown-up bird lover to take her on his trips in the fields and woods. Also the bringing in of wild flowers, moths, and bird's nests shows a continuation of the activity outside

of school hours.

All of his Observation work will be influenced by his desire for the praise and commendation of his fellow pupils and the teacher. One little girl is getting keen enjoyment out of her work because she herself realizes how much she is improving. Looking over backwork will spur on to greater effort, - which results in satisfaction when the effort is noticed and approved.

Imitation helps to fix and furnish practice for the perfection of the child's observations. The drawing of a tree makes the tree more real to the child. It becomes his tree. By this bit of self-expression he realizes the need of close and accurate observation. The good reader of observation stories is imitated by others because they too wish to be called upon and appreciated by their classmates.

Children of about third grade age, altho the collective instinct is more prominent in later development, enjoy collecting things. The bringing in of specimens by individuals is cultivated and directed. Discrimination in the collection of specimens is very important. When all of the most perfect flowers are gathered in a spot, a poorer and less hardy growth of flowers is likely to be the result the following year. When the four eggs of a pair of robins are taken by the collector, half of the baby birds, which they would have produced that

season have been destroyed. The children are taught to protect the song birds and to collect the specimens which will work no harm to plants or animals. In the study of plant life they bring separate leaves and blossoming twigs, flowers, flower and weed seeds, nuts and other seeds of trees, fruit and vegetables; then snails, frogs, frog-~~eggs~~, turtles, crayfish, moths, butterflies and other insects, caterpillars, worms, birds' nests, etc. they bring for the study of animal life.

This of course keeps the children on the alert, studying the place to find their specimens, also their habits of life in order to be able to obtain those which they desire, in the easiest way possible and in the best condition.

Finally if the pupils learn, in this way, to control themselves and select outside conditions, much is gained. On trips in a group searching for specimens, great freedom of action is permitted. The response is quick and ready whenever the pupils are called together to make some observation. There is no roughness nor rudeness. Help is given each other in getting over the rough places. Generosity is shown in dividing up the space where specimens may be found, and in ownership of specimens, after the trip is over.

There is not only freedom of action on excursions but also in the school room. The children are encouraged to remember the golden rule and

carry it out in their relation with one another. At times freedom of discussion is allowed among the pupils. Again when another class would be disturbed by such method of work, absolute silence is necessary as the children realize. Self control as opposed to control by the teacher is taught. The children learn to respect the rights of others which results in a harmony of action. In feeling responsible for the work to be accomplished the pupils show an ability to find some work which will keep them busy, even without the teacher's assistance. This results in an industry which is not seen in a school room where formal discipline is the ruling power.

The Third Grade is one of the intermediate grades in the school scheme, that is, it is one of the grades when pupils are changing from infant into more grown-up ways. This change in attitude should be reflected in the work. The Observation Work in the Third Grade gives a more general view and shows a relation between different subjects that the first and second grades do not show. The activities in the first three grades are selfish activities from the point of view that the pupils are engaged in activities which develop from their own interests. The activities of children are naturally, playing; making things; reading, hearing, telling, and acting stories, and observing everything that goes on about them whether new or old.

The fourth grade pupils begin to have a wider interest, in the town in which they live and the many activities engaged in by grown people about them. From the selfish observations of the third grade, the fourth grade progresses into an observation of the activities of other people near their homes; how they are assisting in the production and distribution of 1) food and 2) clothing; how people are 3) sheltered in the town in which they live; and how people are protected and aided by the 4) city in such activities as the fire department, post office, etc.

The fifth, sixth, and seventh grade pupils have a still wider chance of observation, especially from books. They study the industrial and social activities throughout the world. And the purpose of all this is "to help the pupils to do better in those wholesome activities in which they naturally engage, first at home, later in social and industrial life at large."

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