

children seemed to enjoy the effort of recalling what had been found out and in most instances only a small amount of questioning was necessary to bring out the points covered.

For luncheon Hamburg steak, creamed potatoes and cocoa were prepared.

Number Work: The following recipe for white sauce being sufficient for two people, how much will be required for 8?
1 tablespoon flour, 1 of butter, $1/2$ teaspoon salt, $1/2$ cup milk. It takes 2 teaspoons sugar, 2 of cocoa, 2 tablespoons water and $3/4$ cup ~~XXXXX~~ milk to make cocoa for one person, how much will it take for 8?

OK

Miss Tough.

Cooking (b).

They began preparations for making bread. Josephine had frequently seen bread made and told the class about it. She said: "You simply make a dough with flour and water and then knead it back and forth for a long time and add flour so that it will not stick ~~xxx~~ to the board." She had no idea when the yeast was added nor why. When asked why the yeast was added the children said because it made bubbles in the bread and when we spoke of the bubbles formed in gluten wafers made a week before without yeast, they said it was because the wafer was so thin but a thick mass would be too heavy to raise and something would have to be added to fill the bread with bubbles. When asked what yeast was, none of the children knew. Gordon said a teacher had told him that yeast was made from hops, but he did not know what hops were; and when asked if we could keep yeast in the laboratory as we did acids and other chemicals, they said no because it would decay

They were then asked to think of other things that decay when they stand for a long time and they spoke of leaves, getting the idea of vegetable life and one child said, "Why, yeast must be a plant, something that grows." They were then told that they were to grow the plant. It was so small that they could watch it grow during the lesson. They wanted to know what it looked like and where it was found. They were told that the yeast plant is fond of sweet things and that in France, where they have large vineyards, and grapes are put in large vats to ferment, the yeast plant which floats about settles down in the vats and is collected as it forms a scum. They were then told how it is manufactured in the city in much the same way but as grape juice was rather expensive, crushed grains which sweetened as they fermented were used and the yeast was thus collected. As it was difficult to send it to all parts of the city in liquid form, it was mixed with starch paste and made into small cakes to distribute. Of its shape they were told that it had neither stems nor leaves but was in the form of a cell and they recalled the form and size of a starch grain, so had some idea of its size. Then they were shown by pictures on the board how it budded and how the little plant left the mother plant and how in this way it multiplied. They examined the yeast cake and could, not imagine that there were millions and millions of these plants in one small cake. They then mixed some yeast with water, put it into a flask, added sugar and syrup and flour for it to grow on. The two kinds of sugar were used to start fermentation more quickly. They were then asked what the plant needed beside these things to grow and they said that it needed to be kept warm.

They experimented to show how the cold retarded growth and how too much heat would kill it. To see what happened when the plant multiplied, they connected the flask with a flask of water by a glass tube and noted the large bubbles passing through. The character of the gas will be worked out in the next lesson. While the yeast plant was growing, they prepared tapioca cream for lunch. This was a combination of starch and proteid cooking. They were asked to give directions. The starch was cooked first in the liquid at a high temperature, then cooled and egg added and cooked at a lower temperature.

Next week each child made a small loaf of bread. They had required some help to get the proper constituency of batter and dough. They will make it entirely alone next time. In order to finish it during the lesson they forced the growth of the yeast plant by putting it in a pan of warm water.

Miss Harmer.

Textiles (b).

The reeds purchased from Marshall Field's were counted to get the number in a pound of the four small sizes. They counted by 3's, 4's and 5's at their option. They were told that the reeds were purchased by numbers to avoid sending a sample and we have a card with the different sized reeds and number and price per pound. They filled in the space left for the number of reeds. They are now to find out how many baskets of the size usually made can be made from a pound of reeds.

Miss Harmer.

Science (a).

They have spent their time in Number Work. The problem they had was the division of $2\frac{3}{4}$ into equal parts to

obtain the radius of their circles. Two of the class worked out a method of ^{finding} ~~obtaining~~ the center of an oblong box by drawing diagonals. The rest had to be shown. In the beginning of this work I found that only two had the idea of drawing a straight line by means of two located points and making one line parallel to another.

Miss Camp.

Science (b).

They reviewed what they had done to estimate the pressure of the air as due to weight and related it again, as they did in the beginning, to the difference in the pressure due to heat as the cause of currents in the air or water.

Miss Camp.

Science(b).

They spent one hour in reviewing the effects of gravitation and the ways of finding the gram weights, also the cause of the seasons. They looked over a catalogue of seeds and wrote down the names of those they would need for their garden.

Miss Andrews.

Shop Work (a).

They have been making some of the small looms and it is noticeable that their work in boring, planing, etc. is more easily done and better than that of the younger children, although they are practically doing the same work. They made shuttles for the loom out of parts of cigar-boxes, as these need to be very light. This required care in boring the holes. Some of the children made blotters and decorated the top with a set of carvers punches making an original design. Some of these were simply a mass of holes or indentations without any

design, but some of the others made designs that were purely original and very much resembled old samplers.

Mr. Ball.

Shop Work (b).

They have been finishing some boxes to hold paper and envelopes. This is a number of free curves that have to be tested by the eye alone to see if they are true. In the construction of this there is one place where the grain is very thin and the children have discovered that it is impossible to drive even a small brad here because it always splits off, so they have learned to be cautious and avoid it. I heard one of the children say to another: "I told you that it would split off there, but you wouldn't believe me".

Mr. Ball.

History.

They have spent this week on the story of Bacon's Rebellion as given in "Stories of the Old Dominion". The children have got the idea that this was a case where Bacon took up the cause of the people against the king as represented by Governor Berkeley and have shown some interest in the fact that it was a revolution just a hundred years before the great Revolution. The children have begun to take sides quite vehemently with the characters in the history and show a good deal of animosity toward those who happen to be on the wrong side. They are beginning too, as a class, to form better judgments in regard to events, though of course their feelings run away with them most of the time.

The number work has been a continuation of the diagram of the multiplication table.

They are reading now the "Stories of the Thirteen Colonies" by Guebber. This contains harder words than they have had before but as the stories are closely connected with their history I have thought it worth while to dwell upon them. We have taken one story and they have read it first to themselves and then we have read it out loud and we read some pages over three or four times, until we could go around the class, each one taking a sentence and have read it without many blunders. In about three readings some of the children had nearly committed the first paragraphs to memory and rather take pride in saying it instead of reading it. They object to the repetition but have not made much fuss about it, as I have insisted upon its being done and each time we are able to read further because they can read it more easily.

Miss Runyon.

Textile Work.

While they were waiting for the reeds to finish their baskets, they have worked the looms that have been finished in the shop.

Miss Harmer.

Cooking.

Same as Va.

Science.

They have spent two hours since the last report in Number Work incidental to the use of the siphon barometer and in writing their records of their experiments. The problem was to multiply 74 cm. by 14, the number of times mercury is heavier than water (13 and a fraction is the actual specified gravity but 14 was used for convenience, to be corrected later by experiment.) They multiply by taking first 74×10 equals 740, then 4×70 equals 280 and 4×4 equals 16 and adding all together. Then I gave them the height of the column of water supported by air pressure which they are to use in a large ~~xxxxxx~~ water barometer as soon as the weather is warm enough to permit its being made out of doors.

Miss Camp.

Science.

They spent their hour in drill on Percentage. It was necessary for them to find out the weights which would be equivalent to the percentages given in their formula for pewter which was 80% tin and 20% lead. They were to make 200 gr. of pewter and they did not know how to go to work to find out how much of each to use. It was explained to them that per cent

meant so many parts of a hundred, which I found they remembered perfectly well and were able to tell how much it would be for 200, 200 and 400. In reviewing we brought out that it would be just as simple to find the percent for 50, 75, 125, etc. The children worked this out by taking 20% as $1/5$. I only gave them per cents that could be reduced to a simple fraction. Paul said that if it took 20 gr. for 100, it would take 40 for 200, or it would take $1/2$ of 20 for 50. The children seem to like Paul's method better than calling it $1/5$. 80% they call 4 times as much as 20%. If the total number of grams they wanted was a simple fraction, no per cent gave them any trouble, but ~~any~~ in one of the formulae it required 4% which was not a 16 and this was found more difficult.

Miss Andrews.

Shop Work.

They are still working on their emigrant wagon. I told them they would find a good illustration of this wagon in the March Chautauquan. The wheels were formed from solid wood and then the spokes cut out as the simplest way of doing it, as it would not be possible for them to make a wheel. We talked about the use of the hubs on the wagons and by giving them some drawings of the different sizes of wheels, they soon saw ~~that~~ why a coal wagon had a larger hub than a buggy. The greater length of the hub helps sustain the weight. From the drawing they saw that when the weight of the wagon came down, if there was no hub the greatest strain would be on a portion of the axle directly under the tire, but by putting the hub on the other side of the spoke, it distributed the weight over a greater surface

and helped strengthen the wheel. Yet at the same time they saw that it would give more friction by the longer surfaces acting in contact with the axle. We then discussed the best method of fastening our pole to the wagon. We had three different sketches of different styles and discussed the weaknesses of each and finally decided on the simplest and most effective. The work has been delayed on account of the sickness of some of the children, but is now going on rapidly. The sides of the wagon are made with bars which can be removed if it is desired to have simply a board bottom or put on if a greater weight is to be carried.

Mr. Fall.

History (a).

This group has been doing a great deal of reading the past week. They took up the history of Col. Arnold's expedition against Quebec and read it from Coffin's "Boys of '76". They read of the equipment with which he started on his trip to the mouth of the Kennebec, about the long, tedious journey and the troubles he had going up the river, crossing the divide and going down the Chaudière. In making this out a great deal of geography was given. The children had their maps before them and traced the route and from time to time as they read of the difficulties of the trip and of his being obliged to unload all the camp equipment to carry it around the falls, they went to their geographies and picked out where they thought there were falls across the hills and mountains through which the Kennebec flowed. Whenever they had their geographies before them they were quite apt to take little side trips from the main ^{route} ~~point~~, but as great emphasis is to be placed on the geography this year, I allowed them to do it and we spent two half hours with geographies. In the trips they took they went over most of the New England colonies, ^{while} ~~though as~~ Arnold was on his way through the forest we went back to Lake Champlain and noted the direction, through what lakes and rivers Montgomery would pass in going from the central part of New York up to Montreal and down to Quebec. The reading so far has been done in class. O.K.

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One day when they were looking at their geographies to answer a question, they began to work down the coast to see if they had discovered the whole of America and found a strip along the western coast which they had not studied. They re-

viewed their previous knowledge of Spanish discoveries. They said they knew how South America came to be settled, the history of the discovery of the West Indies, Central America, Mexico and the eastern part of the United States and ~~then~~ they wanted to know who owned west of the Rocky Mountains north of the Columbia River. In this connection I gave them the history of the discovery of Alaska by Behring and of its possession by Russia. Then they asked how America came to own it and I said they were to look up ~~that~~ question at home. I referred them to the encyclopaedia and they all read it up with the help of their parents. ~~In this group~~ ^{of the children in this group} the parents are getting quite interested in the subject and nearly every day the children report that they have been looking up with their parents some question that arose in class. They spent one hour in writing up the history of the Hudson Bay Company and its territory, land, government and trading rights.

OK

Miss Bacon.

History (b).

They continued the English explorations in America and have reviewed the trip of Hudson up the Hudson River, ~~and then~~ of his being taken by the English and forced into their navy and his discovery of Hudson Bay. At that point the children went to the map and located Hudson Bay and Hudson Strait. Then they were asked when a discoverer found a river or a bay ~~on~~ what terms he generally took the land for his country and after some discussion they said that he generally took the land drained by the rivers which flowed into that bay. We then traced what land would rightfully belong to England from the discovery of Hudson

and found the divide between Hudson Bay and the St. Lawrence River system. From their knowledge of the formation of the East and West India Companies they judged that there would be some company to take charge of the trade of this new territory and from a study of the land and its climate and soil, they judged ~~they judged~~ that the company would be a company trading in furs. They also thought that they would be given the same rights as had been given to the East India and other large companies and named the rights of trading and government. They had been told that the French had founded a trading company and were trading up the branches of the St. Lawrence. The children asked of their own accord whether the English and French traders did not come into collision; and found the places where they would be apt to conflict--the land about the sources of the two river systems. They followed the trading company up to the time when the land rights and government rights were taken away. Then they looked up in their encyclopaedia to see how long the company lasted and found that it still exists.

OK.

Miss Bacon.

Cooking (a).

Oysters were taken as a type of proteid and an example of low temperature cooking. We talked a little about the structure of the oyster and its composition. The points emphasized were the muscle, which should be cut across to make the oyster more tender and should be cooked at a low temperature until the mantle curled. White sauce was made in large quantity by one child. Then each child prepared a portion of the oysters. They were drained in a sieve and then after they had scrubbed their hands thoroughly, the oysters were passed between the fingers to remove

particles of shell. The juice was then clarified. The impurities were stated to be of an albuminous character and they were asked to give the manner of clearing them. They suggested boiling it and that the albumen would rise to the surface. This was done and the scum taken off. The oysters were then added to the clear liquid and cooked and the whole added to the white sauce. They gave as the composition of the oyster upon examination mineral salts, water and albumen.

Their next lesson was a review and preparation of tapioca cream and potato soup.

Miss Harmer.

Cooking (b).

Review of Albuminous Foods: 1. Eggs (cont'd); 2. Milk.

The egg-shells from which the lime had been removed by the action of the acid in the experiments of last week were examined and found to have lost all their hardness and to resemble the skin which is inside the shell. There had been some discussion as to whether or not the shell was pure lime and those who had claimed that it contained other substances were eager to call the attention of their opponents to the fact that there was still something left after the lime had disappeared.

Milk was then talked about and the children remembered that it contained water, fat and albumen; they knew that by adding an acid to the milk a part of it would become thick but had forgotten the name of that part. Then the natural thickening by long standing was talked about and the taste of such milk recalled, when it was agreed that it must contain an acid.

One child suggested that an acid was formed in some way by the entrance of the carbon dioxide of the air. The explanation of the entrance from the air of spores and their development into tiny plants forming an acid in the milk and thus thickening it was the occasion for so much discussion and questioning that no further points were touched upon.

For luncheon tomato bisque, junket and cocoa were prepared.

Number Work: From the following recipe which is sufficient for 1 person, make enough cocoa for 6--2 teaspoons sugar, 2 cocoa 2 tablespoons water, $\frac{3}{4}$ cup milk.

The recipe for tomato bisque is sufficient for 2 people, how much will be required for 6? 1 tablespoon flour, 1 of butter, $\frac{1}{2}$ saltspoon salt, $\frac{1}{3}$ cup milk, $\frac{2}{3}$ cup tomato juice.

at. Miss Tough.

Science (a).

This group has spent all its time on Number Work. They have had problems in percentage involving multiplication: as, for instance, to find 27% of 382. At first the children were very much confused as to the different values of the units tens and hundreds places likewise moving to the right, to tenths and hundredths. At first I had them multiply separately by the hundred tens, etc. and add afterwards, that is, in the above example they would multiply by .20 and then by .07 afterwards adding the results. When they had done it this way a few times they had no further difficulty about carrying, putting numbers in their proper places, etc. It takes them a long time to multiply, as every time they have to calculate over again. An hour, therefore, I have spent in drilling them upon their tables, once letting them have a multiplication match in which

some of the children who had been extremely slow before became almost quick without losing in accuracy, while the one usually most rapid and exact in his calculations was so excited that he gave a wrong answer nearly every time. In drilling them I would ask how much 4×7 were? then 8×7 ? 10×9 ? 9×9 ? 3×12 ? 6×12 ? so that usually the right answer could easily be calculated from the preceding example. They have also had problems to find what per cent one number is of another. Here too the successive examples were related, for instance--5 is what ~~part~~ per cent of 10? of 20? of 40?

Miss Hill.

Science (b).

They have done practically the same work as VIIa. excepting that with one exception they have not needed the same drill on the multiplication tables. They were, however, rather more hazy in their ideas of numerical rotation.

In addition to their Number Work they have treated milk in test tubes with hydrochloric acid and pepsin, heating to a temperature of 98° .

Miss Hill.

Art Work (a & b).

We have continued the work ~~far~~ on the color scheme as given for the entire group last week.

Miss Cushman.

French (a & b).

We have been looking at pictures, some representing animals and another a family. After explaining each picture I have opened a conversation with them by means of very simple questions to get them to use the words learned. This exercise seems to interest them and some answer rapidly and well.

Mlle. Delpit.

History.

Same as VIIb.

Cooking.

Same as VIIb.

Textiles.

They spent one period in reading of the making of straw and felt hats from "Stories of Industry". Another period was spent in writing on the making of tappa cloth and the making of straw and felt hats.

Miss Harmer.

Science.

Following the work on the lever they have been working out the use of the pulley and of the wheel ^{and} axle. They began with finding the advantage and convenience of a fixed pulley then of two fixed pulleys with one movable pulley, then of a block of two movable pulleys with three fixed pulleys. From these experiments they formulated the following laws:

1. The power will be equal to the weight divided by the number of strands supporting the movable pulley.
2. The distance the power moves is equal to the distance that the weight moves.

(The number of strands supporting the movable block) having been found by working out the amount of work theoretically performed and subtracting that from the amount actually measured with the spring balance the amount of friction in each of these devices, they performed several simple experiments to demonstrate that friction depends upon the ^{amount} kind of surface in contact with the two bodies concerned, upon the character of the surface and upon the speed maintained. They also found the relation in

each experiment of the amount of pull required and the amount of weight used, friction being constant. L.M. is not able to carry over from one day to another even the simplest of these problems, that is, the gain in the use of the one fixed pulley is that of convenience and direction, while the one movable pulley involves a gain through one-half the power over twice the distance.

Miss Camp.

French.

The same work as Groups IX. & X. except the written exercises.

Mlle. Delpit.

History.

While discussing the history of the Massachusetts Bay Colony some of the children expressed an unwillingness to leave the history of the Pilgrims for that of their neighbors. The same feeling was shown again on the casual mention of New York as the subject of the next quarter's work. One of the children declaring his wish not to leave Plymouth until we should have gone "clear through the Revolution". He was asked how it would be possible to study the Revolution as the history of one colony. He saw his mistake but insisted that New York at any rate was of little importance in the war. Another member of the group objected that it was as impossible to study one settlement by itself as it would be to write the life of one man without talking about other people too. This incident was made the occasion for a further study of the outlying colonies in order to build up the conception of a group of inter-related settlements. Mr. Blackstone, whom the children had already heard of as turning over his Massachusetts home to the Puritans, was followed to his new site and Roger Williams was introduced as his neighbor of a few years later. The children were struck by Williams' ideas of tolerance in religion and government and one of the group characterized him as a "true American", this term being repeated again and again, as was the term "diplomatist" which impressed them in reading of Edward Winslow.

The children now began to ask whether there were not other colonies by this time in addition to those already mentioned. One thought the older colonies would want to "spread" out as more people came and the settlement grew crowded; and

they were told briefly of the settlement of the Connecticut and New Haven Colonies. Another asked why the colonists did not do more exploring. They were asked to answer this question for themselves, and gave fear of the Indians and wild beasts as deterring reasons. They were then reminded of the early history of Plymouth and asked what would have happened if they had left their fields to go on long journeys; and then answered that their provisions would have given out. They were also reminded of the mistaken idea of the early settlers that North America was only a narrow strip of land and that there was little beyond them on the west.

In order to emphasize still more clearly the idea of the inter-relation of the colonies, we discussed briefly the Indian troubles in Connecticut and the assistance rendered by the Massachusetts Colony. The children were then led to recall the Dutch neighbors on the south and decided that the encroachments of the English would be likely to lead to trouble from that direction. They reasoned in a similar way with regard to the French settlements to the north and then were told of the threatening attitude of the English government and asked what the colonies could do that would insure greater strength. They said at once they ought to unite. Accordingly they were told of the Federation of 1643. This roused great excitement, one boy exclaiming, "Why, that would lead right up to the Revolution". When asked if they thought that the colonies would give up their separate governments, the children said they would not need to, that it could be "just the way it is now", referring to our state and federal governments.

At the next lesson advantage was taken of this interest in the Revolution to develop the change in the forms of early colonial government. The children's attention was roused by the mention of a story that would remind them again of the coming war. As a means of understanding it they were asked to describe the early form of government, ^{the town-meeting} and then to consider whether that could be continued. They said at once that as the colonies grew and settlements increased, it would be necessary to elect representatives as the Virginia settlements had done. Then they were told of the incident of the Watertown tax and the cry against taxation without representation. Some of the children were familiar with this war-cry of revolutionary times. One had connected it with the Emancipation Proclamation and asked the meaning of the latter expression.

The sense of the growing strength and independence of the colonies found expression in the children's surprise that the king did not interfere with their proceedings. This led to an account of the appointment of a commission with power to revoke charters, and of the warlike preparations which followed in New England. The children were asked whether the colonies could do anything more than to prepare to fight, but had no suggestion to offer until they were asked whether the best way to get what you want is to demand it roughly. One said then: "No, ask for it decently, of course." It was decided accordingly that an ambassador be sent to England, and Edward Winslow was selected without hesitation as the man to intercede in behalf of colonial rights and privileges. Some of the children asked, however, why the colonies didn't fight right away.

The subsequent attacks upon the Massachusetts charter, the final loss of it and the union of the Plymouth and Massachusetts colonies were touched upon hurriedly for lack of time. The children had many questions as to the English history during this period. One asked why Oliver Cromwell did not come to America himself.

For their writing the children were given as their subject a summary of the early history of the Massachusetts colony. The experiment was tried of putting on the blackboard a brief topical outline to guide them. The result was very unsatisfactory in spite of the fact that the subject was talked over and reviewed with unusual care before they began to write. The outline seemed to cramp rather than to aid their power of expression. In one or two cases the children expressed their satisfaction with the outline but wrote papers not differing noticeably from their usual standard.

A map containing the more important settlements was eagerly studied by the children and was of great value in giving a clear idea of the growth of the colonies.

Miss Hoblitt.

Science.

They finished their experiments in the making of alloys and are ready to sum up the general principles involved. This will be given from among the children's papers later. The alloys have been solder in three combinations of lead and tin, pewter in two combinations, type metal and fusible metal in two combinations.

Miss Camp.

Shop Work.

These children are anxious to do something for the new club-house, so they will make some of the furniture. They are going to make some ~~new~~ chairs. They are now studying the designs with Mrs. Brown and making some models in the shop. Some of the members in this group have been making furniture for dolls' houses. This was given them first to fill up some vacant time and then because the idea enables them to see the real construction of furniture. They have learned considerable about the weak spots in the short grain of wood and the work as a whole has, I think, been as valuable to them as any other.

Mr. Ball.

French.

I have continued telling them short stories and asked them questions concerning the same and they have re-told them. Sometimes the children are asked to ask questions themselves. They have had some written exercises on the plural of nouns and on verbs.

Mlle. Delpit.

History.

They are gathering together their knowledge of the geography of the Atlantic slope and working out some small points. The geography work of this class has been so irregular that it is not safe to take anything for granted, as for instance, one of the children (Ruth) located the Potomac in New England. They have spent one hour in class locating places and getting the relation of different places and have spent half an hour at home. Preparatory to the revolutionary period they have spent an hour in reviewing the government of the different colonies in order to see in which colonies the clash would most naturally come between the home government and the colonial. They divided them into royal provinces and into proprietary and as they called them "free colonies", not knowing what to call Connecticut and Rhode Island. They have also reviewed from the map the land that is in possession of the English, of the Spanish and of the French in order that they may get in mind where the trouble of overlapping of the land would come in later years.

In Current Events the interest is centered about the troubles in South Africa and the question of the tariff in Porto Rico. One half hour has been spent on the trans-continental railways. The children were very much interested in the ~~present~~ ~~present~~ ~~present~~ railways which had been built and those that are in the prospect of building. When they came to the railway along the west coast of Africa, they had quite a time deciding whether they should build a bridge across the Straits of Gibraltar or tunnel under, but when they looked at the distance across they concluded that tunneling would be the most practicable, which

is indeed the idea of the prospectors who are thinking of putting it through. I had the children find what railroads had already been built in order to make the line complete. In connection with the railway through China and through the southern part of Asia, they wondered that it had not been built before and were told of the antagonism which the Chinese had to railways and in this connection arose quite a little discussion of the lack of progress in China and they asked what China had done for the world. Ralph made the remark that "nations are just like people: they are little, then they grow big and then they die and then another nation comes along and takes up what they have done and goes on". In connection with their work on the government of the different colonies they have used Fiske's History and have read at home. Their writing has consisted in making memoranda of the different questions they were working up.

Miss Bacon.

Sanitation.

They spent their time on plans for the house during one period and then two of the children began working out the plans in detail. The others are preparing designs for furniture. One of the children is working on Ventilation, which he will give to the class.

Miss Harmer.

April 6, 1900.

Social Occupations:

They have begun quarrying and mining, playing it out on the sand table, making hills and filling them with stones and talking about the processes necessary to get the stones from the ores. Most of this work has been done with Miss Lackerstein and Miss Dolling, who will report upon it.

In the number games, they have had multiples of 2, 3 and 5. In the game of ring toss they ^{had rings counting} counted, some 2, some 3 and some 5, and wrote their scores on the board. Nearly all of the children were able to perform the addition without any difficulty. 52 was the highest number that any of them reached. This work brought in addition of 10's by other numbers than multiples of 5 and 10. All of the children can count by 10's when it is simply 20, 30 or 40, but had difficulty in adding 10 to such numbers as 28, 36 etc. Time was spent in impressing the fact that 28 was 2 10's and an 8 and one more 10 would be three 10's and an 8, which they knew how to write.

They played with the blocks building a railroad track. These blocks were 2, 3, 4, 5 and 8" and they had to add them together and tell the sum. I ~~found~~ ^{found} that some of the children confused the cube and square and we spent ^{15 min} ~~half an hour~~ in making the difference clear.

Miss Andrews. *JK*

Art Work (a & b).

They have been drawing from still life--some plants they have been growing with Miss Andrews.

Miss Cushman. *C. R.*

History (a).

They spent all their time in organizing spring planting in their semi-agricultural village. The number work involved was as follows: They found the actual length of the garden by stretching a string from one end to the other. The string was brought in and its length found in two ways: two members of the class measured the room and found it to be 8 yards long; two other children measured 9 yards of the string off and then with a great deal of questioning said that instead of measuring all the rest, they could double into 9 yd. lengths and find how many 9's there were across the yard. While they were stretching this across the room to do the doubling, as soon as they had got to the end of the first doubling one child said: "It is 18 yds. to here because two 9's make 18"; and then finding that there were 9 yds. more added that to the 18 and began to find how much over three 9's there was in the whole string. They found that the measurement of the 9 yds. by the 1 yd. process was wrong. This was found out in stretching the string across the room, which was 8 yds. long, as there was a piece of the 9 yd. string left over which measured 2 ft. They decided that the easier way was to measure by 8 yds., that is, the length of the room. They stretched it back and forth and found that the string measured 24 yds. This limit of 24 yds. for the garden had to be given, as there is a strip at the one end near the barn which cannot be used as a garden and the width of this they had no means of determining. They were then told that this distance was to be divided into four parts, of which IV.a & b were to have one. I asked them how many yards they would have if they had half and one child answered, "12, since there are two 12's in 24".

Others were helped to the same conclusion by getting 2 10's for the 20 and 2 2's for the 4 and they then found that there would be 3 yds. for 6 children; that is, as one child said, "2 children for 1 yd." Then with the help of a foot ruler and a 36" stick they found that there would be 1 ft. at each end and something over in the middle. They found that the space in the middle was 1 ft. long and 1 of the quicker children said, "It would be 1 1/2 ft." and another, "It would be a ft. and 6\"", apparently not seeing that 1 1/2 ft. is 6". In planning the division of the garden the assignment was made to each child as representing a family. After getting the places in the garden, they made totals for each family and proceeded to count and find out how many people there would be in the tribe. In going rapidly around the class for the number in each family they represented, the children gave such numbers as 4, 5, 6 and then seeing that they increased by 1's went on in sport to 7 and 8. The last child seeing that was an advantage in having a larger family gave 10. Some discussion followed as to what each person in the family should do in this garden and one child said he wanted some more people to help him and increased his number to 12; they then discussed who would be in their family and we took a census of their families: father, mother, three grandmothers (1 great grand-mother), 2 grandfathers, 6 uncles, 7 boys and 6 girls, 5 cousins and as an afterthought, 3 aunts. They then added these up and were much amused to find how large their family had grown when they had named the people they wanted. In going through the class the numbers were about as follows: 16, 20, 33, 39. Next week they propose to find out how many people there are in the village.

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Art Work (a & b).

Groups a & b have been combined in their art work. One section has been drawing men threshing wheat and the other is ~~modelling in clay~~ *drawing designs for the* figures to put in their brush huts. So far I have conducted the combined class by having them sit in line after they have finished their work and look at the work of their group and criticise it. This is not called "criticising" but "helping", the child telling how he thinks the drawing ~~might~~ might be improved.

Miss Cushman.

History (a).

As this is the first time I have had these children and several had come back after a long absence, I tried to get them to tell me how far they had gone in the story of the life of Columbus and they said that they had come to his second voyage. I asked some of the children to re-tell the story and they made such gaps in it that the children who had not heard it complained. The child who volunteered to tell it began with Columbus' leaving Spain and said that he came to some islands. One of the children insisted on knowing something of the voyage, but the narrator could not give it, and after some attempts on the part of the other children, I told them that I would begin and tell them the story and they were to tell me when any parts were new to them. Three of the children from Vb. who had a free hour came in to help in the review. Most of the children showed considerable interest in the merely human side of the story. I began by asking where Columbus lived, when a boy. Only one of the children said, "Italy", which we found on the map, and then found what oceans were known to the people of his time. In telling the story I began with his boyhood as helping his father in wool-combing and studying Latin and Mathematics in school. I told them that Genoa was a large seaport and that many sailors stopped there and that undoubtedly Columbus heard many stories about the sea. I gave them a few of these, giving the popular theories of the ocean at that time, its limits and the dangers that threatened the too adventurous navigator. When it came to the description of the three ships in which Columbus sailed on his famous voyage, Stephens insisted that the ships in Jackson Park were the identical ones used by Columbus, but Robert said, "Don't you remem-

ber the Santa Maria was destroyed? Are any of those ships destroyed?" An hour was spent in the review and all of the children seemed interested except Dorothy. Up to the last 15 minutes she did not take any interest in it.

The next day I asked each child in turn, beginning with Dorothy, to tell me what parts of the story they liked best as I had told it. Dorothy insisted that she liked it all but could not tell any part and finally confessed that she did not remember any part. I was interested in seeing what parts the children picked out as I had told them a number of incidents in the life of Columbus which would be likely to impress different children. Two of the children picked out the part that showed special bravery, such as when one of Columbus' men rowed 100 miles or more in a rowboat from one of the islands in the West Indies to San Domingo to get assistance when Columbus' boat had become unseaworthy. Most of the children liked best the stories about the monsters of the deep, the water that grew hotter as one approached the equator, the swift currents that would take ships around and around the world, etc. One of the children said, he liked best the story of where the Indian chief and his men had rescued the goods from the wrecked Santa Maria and had offered Columbus and his men their houses on the shore. The statement made was that nothing was lost, since the natives were so honest that everything rescued from the water was given up. I then asked the children what parts of the life of Columbus, if any, they would like to act out just for the fun of it. They were not to tell but were to act it and we were to guess what they were doing. Robert was the only one who volunteered, and he said he wanted a girl and three boys; so these three retired to

the closet and consulted. They then came out and the girl and one of the boys were mounted on the table and Robert knocked on the door of the closet and when the person who stood beside the queen came and opened the door, Robert came forward before the king and queen and knelt down and then rose and said: "I want to go on a voyage. Will you give me some ships?" This was all there was to it.

The person standing beside the queen was said to be the monk, the special friend of Columbus. Afterwards we discussed whether the monk, the special friend of Columbus, would be with the queen and would open the door for people who happened to knock and whether they might not have done the thing in better shape. Criticism came from the children, not from the teacher. The kneeling before the queen was criticized as not being graceful enough. The next day they were asked again if they had anything to act out and Robert again was the one who volunteered, but as he had not anything definite at first to propose, the teacher and three or four children acted out the scene of Columbus with his son coming to the convent of "La Rabida" and the monk who was there and became interested and then sent a special messenger to the queen. This was acted out in pantomime and the children were to show that they understood it by acting it over again and doing the talking. By this time they had thought of a scheme of their own and were very anxious to try, but it was insisted ~~xxx~~ that they first do the other thing. A good deal of opposition arose, but it was insisted upon and carried out by the children though not in good shape. Then they were allowed to carry out their own plan and this was the scene in which Columbus wrote the description of his voyage and wrapped it in parchment and threw it overboard, fearing a storm would destroy his

his ships. Other scenes were acted out by the children and they took a great deal of interest in it, increasing very much in their dramatic ability. The chief thing about it, however, was that they planned what they could use to represent a boat, a paper, a pen, etc. They were as willing as Kindergarten children to let a piece of soap be a sheet of paper, and a ruler a pencil and a few chairs grouped together a boat. After wards they were told to write a description of it, first getting sentences together telling what was done; then they were told to add any sentences they liked in further description. Dorothy was the first one who finished and had something further she wanted to say, and although her only additional sentence was, "It was fine", this contained at least one new word for her to spell.

I read to them also and had them explain to me the meaning of the poem of Trowbridge on "Columbus" which is given in connection with Vb.

Miss Runyon.

History (b).

The first period was spent in review for the sake of some children who had returned after ~~xxxxxx~~ several weeks' absence. In some way the question of how long ago all this happened came up and Gordon insisted that America was discovered only about a century ago, saying that his mother had told him that Chicago was less than a century old. When I asked how long a century was, he said, "1000 yrs." This was straightened out and then I wrote 1492 on the board and asked what had happened at that time and two of the children remembered that it was the date of the discovery of America. I wrote 1900 above it and asked how we could find out how long ago America was discovered. Cornelia undertook to do it but made the

mistake of adding the two dates. We finally got at the idea of taking away and this was done in the process of borrowing from the 10's place. I went through the process on the board ~~an~~ for the children but thought that they did not get it, so the next day I gave them pencil and paper and asked them to do it individually. Only one succeeded in doing it alone, so the process was gone through again. Though I think they mentally understood the process they were not able to carry it through. The rest of the time has been spent on the life of Magellan. I read to them from "Magellan" by Hezekiah Butterworth a description of the fruits and curious animals found in Brazil and later in Patagonia. We used the map to find out the new countries and noted the Andes Mts., the Amazon River. Both names were written on the board by the children. They were very much interested in the meeting of the sailors with some giants in Patagonia. I have used for myself chiefly Towle's "Magellan". Both this and Hezekiah Butterworth's are in the Chicago Library. I read to them the following poem and had them interpret it. Then I wrote it on the board and they copied as far as they had time.

Columbus.

Columbus on the lonesome deck
Keeps watch at dead of night,
Searching with anxious eyes the dark;
What sees he far away? A spark,
A little glimmering light.

Then boomed the Pinta's signal gun!
The first that ever broke
The silence of a world. That sound,
Echoing to savage depths profound,
A continent awoke.

Wild joy possessed each mariner's breast,
When day revealed a rich
And fruitful island, fair and green,
Where naked savages were seen
Running along the beach.

The "Saint Maria moves proudly up
And drops her anchor highest;
And "Glory to God!" the sailors sing;
With "Glory to God!" the wild winds ring.--
"Glory to God in the highest!"

The boat is manned and towards the land
Swift fly the flashing oars.
High at the prow the admiral,
In princely garb, superb and tall,
Surveys the savage shores.

They touch the strand, he stepped to land,
And knelt and kissed the sod,
With all his followers. Amazed,
Far off the painted red men gazed
Believing him a god.

Then up he rose, and solemnly,
With bright sword drawn advanced,
The standard of the King and Queen;
On its rich sheen of gold and green
The sunrise glory glanced.

With wondering awe the red man saw
The silken cross unfurled,
His task was done; for good or ill,
The fatal banners of Castile
Waved o'er the Western World.

J. T. Trowbridge.
Miss Runyon.

Science.

They talked about the functions of the leaf. All of the children could tell about what a leaf needed was that it was necessary for it to receive light. They thought it took in water, so we began a transpiration experiment. The stem of an active leaf was put into a glass of water through a hole in the paper and covered with a smaller glass. It was then placed in the sun. Very soon globules of moisture collected on the glass over the leaf. This the children recognized immediately as moisture that had come out from the leaf, so they say that the leaf gave off moisture. To see if the leaf took in moisture we sprayed several kinds of leaves with an atomizer and found that most of the leaves repelled water in some way and those that the water wet thoroughly did not

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seem to change their wilted appearance at all, so that the children decided that ^{not all leaves received water} ~~if leaves did receive water, it was very~~ slowly. ~~Thisxxxxxxxxxxxx~~ Then the question arose that if the plants gave off water, why did they live best in a moist room? All the children could testify to the fact that plants grow better in a moist room, but none of the children could give the reason if they did not wish to get water through their leaves. Some suggested that the water would not evaporate from the earth quite so fast in such a room, but if plenty of water were given to the roots, thought that would make no difference. It was suggested that plants got rid of water through their leaves because they had too much for their own use and in a dry room more would be evaporated than was good for the plant, so that possibly the best equilibrium would be secured in a moist room.

The topic of desert plants was brought up and how they could arrange so as to avoid too great evaporation. Several pictures of desert plants were shown and the children thought of the cactus with which all were familiar. One child came to the conclusion that they had fewer leaves and that some of the desert plants had none at all, so that they could keep all their water.

Miss Andrews. *OK*

Art Work (a & b).

These are combined in art. They have been drawing some Mexican pottery. They are given this quarter one full hour and a half hour. Together it makes a class of 15. I let them draw half the time and then "help" each other by criticising the work. I held up a drawing and they told what could be improved in it. I have noticed that what they cannot see in their own drawing, they can see in another's more clearly. As they all tried to talk at the same time, I suggested that they put up their hands when they saw anything that was wrong.

Miss Cushman.

History.

The week has been spent in review for the sake of some children who have been out. In advance we have read the story of the Knights of the Golden Horse-shoe in "Stories of the Old Dominion" by Cook and discussed the change in Virginia. This brought us up to the time when the people were beginning to reach up beyond the tide-water region into the mountains. We discussed the changes that would occur in life. In a rapid review we talked about how it was in John Smith's day and then the children of their own accord mentioned over governors and changes that would come. Although they did not seem to be able to give in a clear, connected, enthusiastic way the history they have had, when any part of it is mentioned, it seems to call up memories in their mind that are very pleasant and they add details. We are to take up next Washington and the Ohio Company and I asked the children to tell me the parts of North America occupied by the different peoples. They seem to remember very well from last fall where the French and Spaniards were and I told them that about the time that Marquette was coming down toward Chicago was about the time when Bacon's Rebellion was going on in Virginia.

One period was spent in reading from the "Stories of the Thirteen Colonies". The words in this book are harder for the children than I had anticipated when they began it and their ability to read seems to improve so very slowly that the work is hard. It is necessary to go over a page two or three times in order to feel sure that they not only read it but know what is on it.

They have spent one period in completing their diagrams of

the multiplication tables--those who had not finished them or to whose paper some accident had happened. Those who had finished wanted to make the same thing in their note-books, putting it in better shape. In correcting their work and getting it ready to put into their note-books, emphasis was laid upon the multiplication side. Most of the children had found it easier to add as they made the diagram.

Miss Runyon.

Science.

I reviewed leaves with them to find how much they knew about them. They remembered the use of the chlorophyll or the green, that it would disappear in dark places and that the plant would die, but they did not know of its value in its food-making qualities and will be ⁱⁿ to experiment upon that.

Miss Andrews. *AK*

Science.

We spent one hour on the use of the tellurian. They reviewed, with the help of a few questions, what they had had about the change of seasons as due to the length of day. They then asked how much the days had changed since the days and nights were equal on March 21st. One child said that the length changed one hour per day. Then they counted up to find that was preposterous. Then they started out to tell in how many days we would gain an hour and they took 20, 15, 12, 10 and then 6. They are to observe the sun set for several nights and find what the increase is as nearly as possible. They spent the rest of the time in watching the tellurian and got the general idea of what the two motions represented.

Miss Camp.

Art Work.

I am commencing with these children a rather large piece of technical work in clay. Three of the children are making a barré tiger, making it 14", using water-clay. Another child is making a lion in oil clay? Those who are weakest are making smaller animals. Cornelia seems to have special interest in animals and is beginning to get up more interest in the work.

Miss Cushman.

History (a).

They read a short description of the capture of Quebec, discussing the reasons why the Americans failed and the British were successful. They then took up the middle campaign ^{of} during the Revolution and discussed at some length why the British would wish to possess New York--in order that they might cut the colonies in two. This would be very effective, because the colonies had few boats in which to transport their people, their supplies and soldiers from the ^{New England colonies} United States to the south and would necessarily have to depend upon land routes. They are now reading from the "Boys of '76" of the battle of Long Island. They were much impressed with the fact that the king had to hire soldiers to fight on his side and that this was necessary because so few English would volunteer to fight against the colonies.

Miss Bacon.

History (b).

They spent two days in making a sand map of the continent. There are 12 children in the class and 2 of them ^{worked on} ~~chose~~ the same ^{continent} scale. The idea of making these in sand was their own. On these maps they made the relief and then put in the important rivers.

The work of this week has been on the feudal system.

The question came up as to where the people of Europe came from and I gave them a résumé of the idea of the Aryans coming from ^{of the different migrations into Europe, of Celts, Teutons & Slavs} Persia, and how the Celts were driven back by the Teutons, and the Teutons by the Slavs, and they asked where these people came from and we went back to the first man. I told them the Bible story of the garden of Eden. The next day they were willing to go back to the feudal system and I gave them a typical baronial

estate as found in France and Germany. I had a series of pictures of real feudal castles which I showed them. ~~XXXXXXXXXX~~
I gave the idea ^{of how} that the estates were given to the great lords for military service performed for the king. ^{and} ~~I gave them an idea~~ of the social conditions of the times, that the king was unable to protect the people and it was necessary for the great lords to do something and so these castles were made very strong and fortified, and that the idea in building them was protection. The children brought in some pictures of these castles and we also had some of the Perry pictures of Kenilworth Castle and I had some ~~xxxxxxxxxxxx~~ abbeys built in the 10th century in the Norman style which were examined with interest.

Miss Bacon.

Cooking (a & b).

Work
~~Review~~ for Winter Quarter.

Vegetables are analyzed in a crude way and classified according to their composition. By means of experiments general methods of cooking for each class are obtained.

Eggs are studied as a type of proteid food. Experiments in which the conditions have been carefully arranged are given to work out the best processes and conditions for cooking albuminous foods. Milk is selected as a representative liquid food in which can be easily separated the forms of proteid--lacta, albumen and casein. The children experiment to find out the conditions in which the chief constituents of the milk are found. After making a qualitative analysis of the milk, they work out the chemical and physical changes in the processes of butter making and of cheese-making.

textiles (a & b).

Work of Winter Quarter, 1/2 hour per week.

We began by a short account of the history of flax and of the general conditions favorable for its growth. The children looked up on the map the chief localities--in ancient times, the banks of the Nile--in modern times, Belgium and Ireland. The effect of soil and moisture upon the qualities of the fibre had no interest for them, being too remote. We had several samples of different sorts of fibre, such as jute, hemp, etc., but only one kind of flax with which they could do any work. The only fact of that sort which took any hold upon them was the method of sowing--bringing in human activity. They were asked whether they thought if it was to be used for its fibre, it would be better to sow it thick, or to scatter it. One of the children saw that when sowed thick it would not have much chance to branch and so would be better when needed for fibre--and conversely, when needed for seed, it should be scattered. They were also interested in the rolling of the ground preparatory to sowing and in the method still used in some parts of Belgium, viz., of walking over the ground with boards fastened to the feet. This gave them the idea of flattening the earth in the window-box with boards before sowing their flax. They were also interested in the account given in the Government Report No. 1, on Flax Culture, of the rotting in the river Lys in Belgium, and of the rotting tanks now used in factories.

They took the flax raised in the school garden last summer, rotted it in a pan of water, broke it with a large mallet and have tried to heckle it with a heckler made by one of

of the children by driving nails through a half inch board. This last has not been a complete success, partly I think because of the small amount of flax they had to handle.

Several of the children tried spinning on the wheel, but as this takes considerable skill, and there was but one spinning wheel, only one child who worked out of school hours has gained any control over it.

The handwork has all been confined to beginnings, half an hour a week being too little time for carrying out anything which the children would consider worth while.

One day a German woman came and spun for the children, at the same time telling them something of the raising of flax in Germany.

Miss ~~Hammer~~ *Will*.

German.

They learned a little German song given last quarter and have taken two Mother Goose rhyme--"Hey niddle" and "Tom, Tom the Piper's son". These were given because they were familiar with the English and could get the German from that. I have had them illustrate on the blackboard some scenes they have been learning. This was made the basis for conversation in German.

Miss Schibsby.

Art Work (a).

Have been drawing still life until it would be possible to begin their regular work.

Miss Cushman.

Art Work (b).

Have been combined with VIII.

Miss Cushman.

History.

Same as Viib.

Number Work.

They are still working on percentage in connection with the metric system. They had some trouble in realizing that percent meant 100ths. In order to keep that clearly in mind they would first take ~~.01~~¹⁰ of a number and then multiply it by the part they wanted. They suggested that if we pointed off two figures to the left it would be divided by 100 and then they merely had to multiply. ~~xxxx~~ Another child suggested that we take ^{an example like this} 33% of 450 ~~for example~~ in one process and combine both the multiplication and division by simply pointing it off.

Miss Bacon.

Latin.

We have been working on the declensions in grammar work and on analysis in order to make the children realize the value of cases so that they could use them in translation. We have reviewed the Horatius story for its grammar work and the Scaevola story. In addition we have taken up the story of the origin of the Athenian cock-fights.

Miss Schibsby.

Science.

Owing to changes in the program I have had them only for one hour this week and this was spent in getting the records for the last two quarters together and arranging them by date and subject so as to find out what important records had been omitted and to make provisions for filling in the gaps. M.B.'s com-

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plete set of records for the last two quarters placed in order and labeled inspired the others to the arduous task of filling in theirs.

Miss Camp.

Art Work.

This group has been combined with VIIb and are still working in color. They have been given studies in still life in large washes where the complementary colors will be brought in contrast.

Miss Cushman

Latin.

We have been working on our charts on the conjugations and getting the general idea of verbs. We have had the present, the past not completed, and the future and have reviewed various stories, picking out various parts for analysis. In addition We have had the story of the origin of the Athenian cock-fight, and one story about Jason.

Miss Schibsby.

Science.

The time has been spent in summing up what they have had in the story of the earth. They were much interested in Mr. Lee's theory of the cold nebular mass as opposed to the ordinary La Place nebular hypothesis. Their interest in the change of state, from gas to liquid and solid as due to heating and cooling at critical points is still maintained. This interest arose from seeing Triplet's handling of liquid air.

After having disposed of the earth previous to this condition to a comparatively cold rocky ball they were asked what changes had taken place which could be found out now. The first answer jumped to the end saying that soil was made out of rocks. After a few questions they told me that other rocks had been made since then. After some questions and answers they formulated the existence of three kinds of rocks: (1) lava, granite schists; (2) rocks like marble, which have been changed; (3) Water formed rocks. In the metamorphic rocks they had said that the gases that were around the earth would change the rocks directly without water's being concerned, making crystals, and gave me the word oxides and described the iron sulphides, although they

did not know the name. They placed these in the second class of rocks which had been changed by heat and pressure. In talking about these I gave them the terms igneous, metamorphic and sedimentary. I found that from their previous work they had remembered fairly well that slate was formed like clay and had been changed by pressure and that sandstone and limestone had been laid down or made in water and that granite was the oldest rock unchanged.

They spent one hour watching the tellurian and getting a vivid idea of what equinox meant and the relation of the sun and earth during the longest and shortest days and also that the atmosphere in water vapor returned heat derived from the sun; hence, the effect of altitude on climate.

Miss Camp.

Art Work.

They practically do the same work as VIII but I am taking up the scientific side of color.

Miss Cushman.

History.

They began on the history of the French and Indian War. We took up the relief map of North America to find where the contested points would be and decided upon the passes through the mountains as points which certainly would be disputed--the point where the Ohio breaks through the Alleghanies and the Hudson and the Mohawk valleys. They also took up Quebec as an important point. They have read Braddock's expedition in the western part of Pennsylvania and its result. They have taken up the life of Washington by Scudder and they have been reading about the war in Fiske and "Braddock's Defeat" by Parkman.

Miss Bacon.

Latin.

We have begun reading about the expulsion of Tarquinius and the establishment of a consulate at Rome. They analysed the sentences and reviewed their charts.

Miss Schibsby.

Science.

They reviewed the functions of leaves, which they formulated as (1) to receive light; (2) to absorb carbon dioxide; (3) to give off CO_2 --ordinary respiration; (4) to give off water. They planted seeds of peas and beans to get small plants for experiment and have spent the rest of the time in reading from "Lessons with Plants" by Bailey, from the Cornell Agricultural Experiment Station leaflets, Coulter's "Plant Relations" and "Ten New England Blossoms" by Weed. In this last book I gave each child a chapter to read on a plant with which she was familiar, i.e. Jack-in-the-pulpit. In "Plant Relations" they began