

(Two Weeks' Report).

These two weeks have been so uniformly delightful out of doors that we have spent from one to two hours a day digging up our garden, planting seeds, raking up the dead grass in the yard or using our new swing and seesaw. The children are so fond of digging that after our gardens were finished they began to dig a deep hole in one corner of the garden not used and each day looked forward to enlarging the hole.

We made a visit to the blacksmith to see the way the horses were shod and afterwards the children organized a blacksmith game to suit the words of Miss Ganor's song. We have also learned a song about the seeds coming up from the ground, which the children are fond of dramatizing.

The portion of each day spent indoors was occupied in making some plaything to use outdoors. We made horse-reins by sewing two ends of a long piece of wide tape together, putting on another piece to fit over the neck. We made marble bags and each child was given some marbles to put in them. We also made tops by ~~making~~ putting a meat skewer in a large button-mold. These the children decorated with paint and it was interesting to watch them experiment to find what combination would show to the most advantage when it was spinning. Some washed their colors off three or four times before finding what different-colored strips going around the top would show up best.

We made pin-wheels and beanbags also, which we found were great fun to use outdoors.

The corn and oats ~~plantations~~ planted in the schoolroom window box has been measured every other day by the children and a record is being kept to see which grows faster.

We have been drawing and painting the buds coming out on the trees and the dandelions which we found upon one of our walks and the lilac bushes in the yard.

We have cut out of stiff manilla paper all of the garden tools we are using and our swing and seesaw.

We cooked flaked wheat and then molded it into small shapes. The older children this quarter are serving the cereal at luncheon instead of the teacher. One child serves and another passes the dishes around. This has created a new interest in table manners.


Miss Scates.

Social Occupations.

We worked on numbers with the blocks and I found that the children had forgotten the lengths of the blocks a good deal but after a half hour's play with them they estimated very well the size of the block they would need to fill out the sides of the place they were building and are able to tell the parts. For instance, they said a 3" block was 1 1/2 a 2" block. They had not before shown this fractional sense

They spent two days in a study of the animals which Group VII. had found on their excursion. These were frogs, toads, tree toads and beetles. They also studied their germinating seeds and planted some others for study.


With Miss Dolling they have finished their mail caps and boxes and have been playing the postal system as a game.

Miss Andrews. 

Cooking.

Cereals: Oats.

A head of oats and one of wheat were shown to the children who pointed out the similar and dissimilar features in them. The various preparations of oats were examined and the methods of preparation talked about, also the comparative lengths of time required in cooking and the reasons for this difference. To find the amount of water necessary to cook rolled oats this was balanced with flaked rice which is used as the standard, as it required an equal amount of water and cereal in cooking. In the balancing which the children did the oats required 1 3/4 times as much water as the cereal and this result seemed to be rather confusing. Next week the lesson will be repeated while the class is fresh in order to clear up the difficulties.

 Miss Tough.

Art Work.

They have been illustrating, with special reference to landscape. Part of this work was done out doors and their attention was especially called to the difference between the height of things near and far. One child stood near and the rest noticed how much sky and ground he covered up; then he walked off some distance and they noticed the difference.

Miss Cushman.

History (a).

Their work has been a continuation of playing life in a village. They divided up the children among the various occupations and each group has been working at one thing, such as the making of baskets, deciding what they were for, how many would be needed and in what season basket-making would be carried on. In connection with planting and preparing the garden which has been carried on for two weeks, they talked about the habits of the earth-worm and the effect on soil of burrows in pulverizing the leaf mold. Only two children had ever noticed the castings before. They were very much interested and used them as a means of finding the worms to put in their indoor garden where they are starting some seedlings.

Miss Camp.

History (b).

The children spent one week in preparing and planting their gardens. Each child brought seed for his own garden. Some chose to have several different kinds, others planted their entire space with one thing, such as oats or nasturtiums. I had told them to bring things which would grow up before school closed, so most of them brought raddish and lettuce.

On several days they played being a tribe. For this they chose a leader who assigned the work each child should do. Several were to make clay dishes, two were to plant or grind corn, one was to weave mats and one was reserved to go on errands. They all, with two exceptions, chose names for themselves, to which they agreed to cling until the close of the year. They worked very well together and the idea of trading with the other tribe (IVa) gave them a great incentive to work.

Miss Hill.

Cooking (a).**Vegetables: Onions.**

The various parts of an onion plant were examined and talked about. When the vegetable was cut open the children examined the interior with interest. The bulbous plants which are found among the flowers were recalled and the similarity noted. The parts of a plant which are used as vegetables were named by the children and such of the products as were familiar classified under these heads. The children asked to have the names spelled and written on the board.

For luncheon creamed onions were prepared.

When the recipe was written on the board several of the children asked that each one might read it for himself instead of having it read to the class as has been done heretofore.

The $\frac{1}{3}$ cup was used in measuring, for the first time; it was compared with the familiar $\frac{1}{4}$ cup and also with the whole cup.

O.N.

Miss Tough.

Cooking (b).

The children named the constituents in the beet studied the previous week as water, woody fibre, sugar and red color which turned darker in cooking. We examined an onion and found it was made up of layers curling around, as the children called it, like leaves about a bud. They found the outside layers were thin and dry and the inner layers were thicker and when pressed a juice was extracted. In comparing the inner and outer layers they concluded that the onion must

contain a large quantity of water. They grated and tested it for starch, and found none. They recognized the pungent oil and each child cooked an onion in water to notice the extraction of the oil which could be seen in the change in the color of the water and in the flavor and odor. They also decided that they could remove the flavor by adding water several times. They got the idea of the oil rising in the steam and that it could be prevented from passing through the house by opening a window. They mentioned orange skin as containing a pungent oil because the juice made the eye smart. We then examined olive oil and found it quite different: not giving a strong odor or a pungent oil. In preparing the onion slices were cut across to get the small sections. They prepared creamed onion for luncheon. While the children were waiting for the others to finish their work, they voluntarily copied words from the board.

Miss Farmer.

Art Work (a & b).

I have given them different kinds of memory games for quickening their power of attention. One day I had them remember and make a sketch of what they had been doing that morning. Some of them had been making clay bowls, others represented several children standing at a table and others children before a blackboard working on mats, etc. In the beginning of the lesson I have them sit in a circle and we talk about what we are to do. If they do not know at the end of the period, they lose their chance of working. On another day I showed them three different objects: a vase, a gourd and a bowl, and had them look at them and then close their eyes

until they said they could see them. Then I put them away and they went to their seats and did them in the order in which they had seen them. All remembered the order and most of them the form, but some failed in representing the color.

Miss Cushman.

History (a & b).

Part of the time was spent in summing up the life of Magellan, which they have had for a month. This was done by first giving them the points we were going to bring out, such as his boyhood, his life at court, what happened in India, then his attempt to get ships for the trip to the Molucca Islands; then what they could remember about the long trip; then the last days in the Philippines; then the trip of the rest of the men back to Spain and the discovery of the lost day. With the help of the whole group the story was gone over in pretty fair shape in both groups.

The children were anxious to know whom we were going to take up next and I asked them to name the continents on the globe. They named Asia, Europe, Africa, North and South America and could tell what we had had about the discoveries of all, except of course Europe and Asia. They wanted to know who discovered them and were interested in some speculations of the first peoples. Then we found Australia on the map. Some of the children did not know its name and we discussed the difference between a continent and an island and then I told them that we were to take up the discovery and colonization of Australia and told them something about the Dutch as sailors who began to carry on the work after Portugal and Spain. The children are getting a good deal of knowledge incidentally of the countries in Europe. We located Holland and then I told them of the ships going to Australia and of its name "New Holland". Then I told them that the Dutch did nothing about this discovery, and after a long, long time after America was

discovered and had begun to be settled, an Englishman re-discovered it for England. This is, of course, preparatory to taking up the life of Cook.

We are taking up in their writing lessons supplementary discoverers, such as Balboa, Amerigo Vespucci, etc. The usual time has been spent in reading and writing.

Miss Runyon.

Science (a).

They finished measuring and planting their gardens. As with IVb. each child chose to seed his own patch.

One hour this week was spent in talking about the breathing of plants and animals. They had had something about carbon dioxide in cooking and had breathed into lime water, showing that carbon dioxide was given off by the lungs. Without exception (one child was absent) they thought that carbon dioxide was the only thing breathed out and one of the boys breathed on his spectacles to show how much CO_2 there was.

They also, of course, thought that in winter when they could see their breath it was CO_2 that they saw. One child volunteered the remark that you often saw it on water-pipes too, and I

finally had to tell them what I had told them some time ago--that they also breathed out water vapor. We took a leaf, put it in a tumbler of water, inverted a glass over it, placed it in the sunlight and saw the water which condensed on the glass. We also saw the drops of water on a bell jar which had been standing over a plant. We then put some bean plants under a bell jar with a glass of lime-water, to see if the plants gave off any CO_2 .

Miss Hill.

Science (b).

They wrote a record of the experiment they had started last week with germinating peas in an airtight vessel. They found out by testing with a lighted splinter that the jar contained carbon dioxide, which they recognized as being given off by the germination of the peas. The seedlings in this jar have stopped growing while others which have been out in the air continue to grow, so that they concluded that oxygen was necessary for the growth of plants. They planted some South Australian seeds for experiments and some peas, beans, corn and squash in saw-dust to note the different modes by which the embryo gets out of the seed.

Miss Andrews.

Textiles (b).

They have been working on their blankets.

Miss Harmer.

Number (a).

One morning someone in the class asked how we should write 765. In figuring this out, they became interested in the writing of numbers and we spent a half hour on notation up to thousands. Then they wanted to know if we could write trillions and quadrillions on the board and asked afterwards if there was anything in the world there was quadrillions of and when asked to think whether they knew of anything, they suggested that there must be quadrillion blades of grass and sands of the sea and drops of water.

Miss Bacon.

Number (b).

To get them to recognize number relations readily I showed

the children an inch and a 2" cube and asked them to think of a layer being cut off from the latter; for example, how many 1 cubes in a layer, in 2 layers, etc. Next I showed them a square prism $2 \times 2 \times 3$ and asked how many layers in the prism and how many cubes in each layer and how many cubes in the two layers. What are two 4's and how many cubes in the two layers? How much is three 4's; how many 4's in 12? in 8? 4 is what part of 8? This last question was difficult for many of them so I asked them what part of 12 4 is, what part of 12 8 is? Only two of the children were able to get this last without help. We next took a $2 \times 2 \times 4$ cube and went through much the same process; then a $2 \times 2 \times 5$ and then a $2 \times 2 \times 6$. I then put six 4's on the board and tried to see how quickly they could add upward and subtract downward. About the same questions were asked as with the objects. In the next lesson we took a review of the processes carried on with 8's. I tried to lead them to discover the relation of the results with 8 to the results with 4. These relations were not clear to the children as a whole. I expect to change from measurements with solids to some other kind of work in the next lesson.

Mrs. Marferding.

Cooking (a).

The materials necessary in making bread were talked about and the reason for using yeast discussed. A question as to the nature of yeast called forth the expression of a variety of theories. Only one child advanced that of its being a plant, and her explanation was greeted with such marked disfavor that had encouragement not been given in that direction, it would not have been considered. The mode of growth and

general character of the familiar fungi were recalled and from this it seemed to be felt possible that the yeast might be a plant. The necessity for a wider knowledge on the subject was admitted to be necessary before any attempt could be made at bread-making, though the class has been anxiously looking toward the time when this part of the work in cooking could be taken up.

For luncheon rolled oats and cocoa were prepared.

Number Work--The recipe for preparing rolled oats for one is $\frac{1}{3}$ cup oats, twice as much water as oats, $\frac{1}{2}$ teaspoon salt; how much will be necessary for the class of 10?

O.K.

Miss Tough.

Cooking (b).

As review one child made tomato soup. The recipe was put on the board without mentioning what it was. They read it through carefully and then gave directions for cooking. First, the preparation of white sauce; the combination of soda and acid with the tomato was made as an introduction to their work on baking powders. A review was given of the work done on baking powder and then the children were so impatient to make their biscuits, as one child was going away for the summer, that I did not take the time to experiment for the amount of baking powder needed for a certain quantity of flour but the children were told that we would do that soon and they were given a recipe instead. This was written on the board in the order of mixing. The children said that they would mix the baking powder and salt with the flour, so that they would be seasoned evenly and the biscuits would be uniformly light. They were then told to chop the butter with a

knife in with the flour and when it became time to prepare their biscuits the teacher demonstrated the mixing of the dry material with the liquid and the molding on the board. The children then finished their biscuits and baked them in a hot oven on the top shelf.

Miss Harmer.

Textiles (a).

The warping of the looms was continued by those who had their looms completed. Those who had not worked on the canvas mats. Designs were to be worked in the centers of these and to find the point at which to begin gave some numerical calculation, as, ~~for~~ for instance, there are 49 squares one way of the mat and 53 the other, where will the central square be? When one child expressed himself as unable to find half of 49, another suggested that he find half of the forty and then of the nine and by adding the two, the problem would be solved.

OK.

Miss Tough.

Art Work.

They have been working on designs for mats in one period and the rest of the time was spent in memory games and to illustrate what they had been doing in other classes.

Miss Cushman.

History.

We have taken up the first year of the Plymouth Colony and the reasons for the starvation and death of half the number; the meeting of Squanto and his assistance in teaching them how to plant corn in Indian fashion by putting a fish in each hill; his assistance in getting the good-will of Massasoit, chief of the Indians in that district was appreciated and also the fact that the Pilgrims, in spite of their poverty bought the ground from ~~Samoset~~ ^{Squanto}, regarding him as heir to the property, since most of the Indians of that region had died of the plague. I spent one period in reading to them from "Little Puritans of Old Hadley", in which they are very much interested. We took up further the first harvest and the first thanksgiving and then the coming of more colonists, especially of the colony of sixty people who were not Puritans and who were unruly characters and robbed the Pilgrims of their harvest before it was quite ripe; also of Massasoit's illness and his cure by the white people which won his gratitude and made his services very valuable.

Miss Runyon.

Number Work.

The children are working either on the multiplication tables or on formal multiplication. In teaching this to the children I discovered that a good many of them could not add in two columns readily and could not use their multiplication tables without the laborious process of adding up the number of 6's, 7's or 8's they needed. I had a couple of weeks ago had them say the tables in the old-fashioned way

as most of them had finished writing them out in this form; but they had not yet learned them and I thought that by teaching them formal multiplication they could be made to see the necessity for memorizing the tables.

Miss Runyon.

Science.

They started an experiment to find out what the gas was which came off from plants during their period of greatest activity, that is, in the sunlight. Some algae were put in a funnel over which an inverted test tube was placed. Bubbles were seen to pass off and collect in the tube but not enough has been collected to test as yet. A half hour was spent in discussing the difference between the plants and animals. It did not seem very apparent at first to the children but as we talked about the lower plants and animals they say that lower forms of plants and animals were closely connected and that the life processes were much the same. The discussion did not progress far enough for them to discover what the essential difference between a plant and an animal is. The method used in this was to get the children to name the highest animals and from that to the lower forms; they were able to get down to sponges without help. On the plant side they needed a good deal of help, as the lower forms were not familiar. One of the children suggested the sunflower as being one of the highest plants. Higher was defined as more developed. Ferns have been suggested as not having blossoms but still complicated structures. They suggested algae as being low

forms but others below the algae had to be described.

One period was spent with Miss Camp in writing a record of this experiment and in watching the inflation of the lungs with which two children from Group VIII. happened to be working.

Miss Andrews.

Textiles.

A number of the children finished warping their looms but were unable to begin weaving on account of their designs not being ready. The time was spent in basket-weaving. Much less impatience at a delay of this kind in the work is shown in this group than among the younger children. The children seem to appreciate the fact that the work will be best done by having all the materials at hand and are willing to lay the object aside when necessary for this purpose.

B.K.

Miss Tough.

Art.

They are continuing their work in clay. One period was spent in making a design for their Indian mats.

Miss Cushman.

History (a).

Most of the time except one hour was spent in completing the map of the United States described last week. The rest of the time was spent in reading aloud from "Boys of '76" as they especially need facility in reading.

Miss Bacon.

History (b).

Two hours were given to Mr. Peterson for working in movement and in writing. Some of the class have expressed the desire to learn to write well and their writing showed the necessity for this practice. The rest of the hour was spent in reading aloud from Froissart of the later years of the war. This was read in class, as they needed the oral reading.

Miss Bacon.

German. (b).

They have been taking up one of Goethe's songs, "Das Bächlein", which is set to music by Reinecke and is to be sung with Mrs. Kern. The children seem to be interested in it. We have continued reviewing from time to time the names of tools and materials used in the shop.

Miss Schibsy.

Number (a).

They have continued work on long division. They still have difficulty. Two in the class do not yet understand how to do it and the rest find the subtraction and multiplication very trying.

Miss Hill.

Number (b).

The drill with these children has been to give them facility in the use of numbers. I had each child draw a line 1" long, then 2", 3", 4", etc. I gave each one a name for the small line and asked them to name the rest from it. Each was asked ~~the~~ to name his line upward and then backward. This was done without reference to the lines; if the series was 6 12 18 24 etc. they were asked to tell how many 6's in 18, 24, etc. and how much six 3's, six 7's were, 54-6, -12, -24, etc. or 6 is what part of 54, 42, 48? The children were very much interested and the results were given with rapidity and accuracy.

In the next lesson we took up the preparation for the measurement of surfaces. I showed a 12" cube and asked them to imagine a layer cut off from it so thin that we could look at it and never think of its having thickness. We had brought out in previous lessons that cubes or solids of any kind have length, breadth and thickness. One boy said, "But it would have thickness, though". "Yes, but it is so thin that we never think of its having thickness", said another boy. It took little time to bring out the thought that surfaces have only length and breadth. Can surfaces ever make solids? I asked. Immediately they replied, "Oh, yes, yes. Just pile them up one on top of another." One boy said, "I will make you a cubic inch by pasting surfaces together if you want me to". Finding he had a working idea I told him I would like to have him do so, and bring it to the next class. I then cut a narrow line from the paper. From this I developed the idea

that surfaces were made up of lines. I noticed that this class were badly hampered, as were also some in Group IV., by the lack of facility in using number relations.

Mrs. Warferding.

Textiles (a). One day Miss Harmer and one from Group X. selected from the samples of dyeing which Group VIIa. had done shades they would like to have some vegetable fibres dyed for the screen. The dyeing is a long process and cannot be finished within the hour. For that reason I have decided to have the children start some of the dyes and I shall look after the rest of the process for them. I think now they have gotten everything out of it that is of any use and their interest in it does not hold over to come and look after it at odd moments and out of hours.

Tuesday a warper came to the school to start the warp for the colonial loom. The children would not see the end, so were not much interested.

Miss Hill.

Textiles (b).

They are working on their blankets.

Miss Harmer.

Science. (a).

We made another excursion to Jackson Park in search of frogs' eggs but were again unsuccessful. We brought home a toad, some young frogs, algae, etc. They spent half an hour in school in looking at the material they had gotten. We dissected two frogs, following out the digestive system, examining the lungs and heart and observing the reflex action of the legs when the nerves in the lumbar region are stimulated.

Miss Hill.

Art Work.

They are still working in water color, especially sketching out of doors.

Miss Cushman.

History.

Same as VIIb.

Latin.

They are working on the charts of the conjugations. We planned to have the indicative mood finished this quarter. They have worked out the present, past not completed, and the future and in addition have had a couple of stories to write out at sight. They are working up one or two stories for analysis in studying forms.

Miss Schibsy.

Science.

Their work this week has been to use in a practical way what they have learned about clocks and pendulums. They were given the problem of making a clock from bicycle sprocket wheels, chains etc. At first the idea seemed distasteful to them but as soon as they made rough plans of what they were to do, and had started the work, they began to take an interest in it. Next week we shall try to finish the clock.

Mr. Gillet.

Science.

Three of the children are working by their own choice on the respiratory system and two on the circulatory. With Will and Lucile it was necessary to suggest everything they should do. The other children had definite ideas of what they would like to do and ordered a sheep's heart and lungs, in order as they call it, to dissect the lungs to find what they are made of. They were very much interested and ~~xxxxxx~~ excited over

the inflation of the lungs with the bellows, also in following out the bronchial tubes and the accompanying blood-vessels. Although they are very much interested in the thing itself, they still have trouble in making a good report or even a good diagram which shall show only the essential points.

Miss Camp.

Art Work.

Same as VIIb.

History. (Two weeks' report).

Last week we took up the administration of Van Twiller and Kieft. The question was put to the children whether England and Holland would be likely to take up the quarrels of the Dutch and English colonies over disputed territory. One thought not, saying that if the two nations should go to war over their rival claims, it would stop emigration to America. Further questioning drew out the opinion that it would be to the advantage of the colonies also to keep the peace on account of the growing trade between them. In order to illustrate the feeling of kinship which still existed in spite of constant disputes the teacher told of Van Twiller's rescue of the two English girls carried off by the Indians from Wethersfield. One pupil asked in surprise why he did it when he had had so many quarrels with the English. She decided, however, that it was the natural thing for a kind-hearted man to do. One of the boys suggested that "perhaps there was a little tact in it too," as the English would probably have a more friendly feeling for Van Twiller in the future.

The children have read from Roosevelt's "New York" of the public improvements under Van Twiller and Kieft, of the latter's despotic government, his attempt at sumptuary laws, etc. They have also listened with evident enjoyment to the imaginary portraits of the two governors from Irving's "Knickerbocker's History of New York", and beg for more from the same source. At their own suggestion they are keeping in their notebooks a list of the most important events discussed. Some of them also ask to be allowed to take notes when there

is reading aloud.

Their writing consisted of an account of Peter Minuit's rule. Some of the group also reproduced Irving's description of Wouter Van Twiller.

~~Misses~~

On hearing of the Indian massacre instigated by Kieft the children characterized his treatment of the Indians as "treachery" and said immediately that they should think that the Indians would kill every white man they could find, and that the Dutch ought to demand a new governor. They were told of the Algonquin uprising which followed the massacre, of De Vries' intercession and the temporary peace and of the final blow dealt the Indians by Captain Underhill, with the subsequent treaty. One of the children had already suggested that the Indians and the whites ought to agree upon some plan for settling grievances instead of fighting.

Director Kieft's conduct after the beginning of the Indian War roused the greatest indignation. The children could not understand why he was not sent straight back to Holland. One boy declared that nowadays people would not stand such things, adding, however, "But we have had a pretty bad governor". He was reminded that people also submit at the present day to very bad city government and that in the times of Kieft the sense of respect for those in authority was much greater than it is now. The children thought that the colonists ought to refuse to pay the heavy taxes laid upon them by Kieft and were told how such a refusal was made and met by confiscation of their property. We then took up the petition for Kieft's removal, an extract from Fiske's "Dutch and Quaker

Colonies" being read to give the colonists' own attitude. On being told of Stuyvestant's appointment to succeed Kieft the children wanted to know what became of Kieft finally, and were given the story of his attempt to justify himself, of his departure for home and of his tragic death confessing to the truth of the charges against him. Some of the children thought that Stuyvestant ought to have allowed the report against Kieft to be sent to the West Indian Company but others said that if he was severe upon Kieft the people would expect him to be severe upon them too, implying that this would make him unpopular from the start. They were equally divided as to the significance of Stuyvestant's proposal to govern the colony "as a father governs his children". When reminded, however, of the extreme sternness of parents in the olden times, they felt that this declaration held little promise of a free government in which the people might have a voice.

One hour was spent in this week in writing up the rule of Van Twiller. The children suggested the points for an outline, which was put upon the board and served as a guide in their writing.

This group shows an increasing interest in the language side of their work. New words, whose meaning has to be explained in their discussions, appear with great frequency both in conversation and in their written work; and in addition to this they ask for the derivation of words in common use, such as "Holland", "nickname", etc.

Miss Hoblitt.

Latin.

They are working on their charts. They have the indicative mode and they are now forming the parts from the infinitive and stems. They have gone on with the Argonautic Expedition and the same fable I gave Group VIII, working that out for analysis of case forms.

Miss Scibsbey.

Science.

They have tested for starch the plant they had put under a bell jar, in order that all carbon dioxide would be taken out and found there was no starch in the leaves of the plant which had been deprived of CO_2 while the leaves of a similar plant growing in the air showed the presence of starch by the iodine test. They started seeds of corn from the south and corn from the north to see whether climate had had any effect on the time of germination.

Miss Andrews.

Science.

They continued their experiments on the action of CO_2 and SO_2 . One period has been spent in formulating the order of important points to be taken up in the record of experimental work. The children did this very much more successfully than they did the same thing last year and the report made after this summary was one of the best they have made.

In following out the geological history of the U.S. with which the experiments were connected, the children were given the choice of illustrating Shaler's "Story of our Continent" with maps and diagrams or each one working out some

one interesting point and as one of the children immediately suggested putting all the reports together to make a book, only one child selected the illustration of Shaler. They are to report next week the topic they will choose. Some of those suggested are "The History of the Mississippi Valley and the Lake Region" where the great deposits of limestone are in the U.S., clay deposits, chief metal-producing districts, etc.

Miss Camp.

Number Work.

The object of this lesson was to show the relation of decimal fractions to common and to show the reasons for marking decimals in quotient and product. I had not proceeded far before I found that the group's idea of reduction of common fractions to lowest terms was very hazy. This of course had to be cleared up before we could proceed. I then found that a few of them did not comprehend the significance of multiplying and dividing by a fraction. This had to be cleared up. In dealing with decimals I ~~found~~ confined the work to 100ths, as percentage is our subject. They realized that per cent is based on the breaking of the units into 100ths but that .75 is $\frac{3}{4}$ was an idea that they could not comprehend, though they repeated the fact very readily. There was at least only a hazy idea behind their words. For instance, I had occasion just before the bell rang to use the fraction $\frac{176}{286}$ as remainder after dividing; I reduced it to its lowest terms by dividing by 2 before the class. On asking what is the difference in value between the fractions I had used and

its reduction by dividing by 2, no one thought they were equal. Different answers were given, some saying it was larger and some that the other was larger. I gave them the question to think over until the next lesson, asking each one to bring a reason for his answer. The next time Paul, Dudley and Eddy had decided that the two fractions were equal; the rest had forgotten to think about them. Each of the three boys said they were equal at first because we had reduced them; the process of reduction had no significance to them. I would have liked to have had each child work the idea out by himself, but as that would have taken much time and would have led us a long way from our subject, Percentage, and as they needed at least a fair idea of reduction, I worked out the idea completely for them. I took different fractions, as $16/32$, and divided that by 16 both numerator and denominator, the fraction $1/2$ resulting. I then broke a line into 64 equal parts and showed that 32 of the parts equalled $1/2$ of the line. An equal line was then broken into two parts. It was readily seen that only the size of the parts was changed. In the next lesson I took up the same fraction again and this time divided both terms by 2. The children were about equally divided as to whether $32/64$ equalled $16/32$ or not. The same concrete work was gone through in the last lesson, except that the line was changed to a pie and the same ideas brought out. All saw the first point apparently but when I changed the fraction and performed the same operation, some yet failed to see the equality. This time I had a pupil demonstrate and the point was certainly felt, for no amount of tests

with small fractions was able to make them waver from their decision. We then went on to reduce small fractions and got good results, each one seeming to comprehend that the value of the fraction was unchanged, though the size of the pieces was changed. I then used a larger fraction $352/1152$, dividing both terms successively by 2. In almost every case they were certain of the result. The next step was to look at the process. It was readily seen that both terms had been divided by the same number. We tried dividing only the numerator and found that the value was changed; also dividing the denominator only. The only conclusion that could be reached,-- that both numerator and denominator must be divided by the same number--was accepted by the class. I then asked if anyone saw something else that could be done to both and still not change the value of the fraction and several saw that the terms can be multiplied by the same number. We tried multiplying both terms in small fractions.

This work would seem to lead away from the subject of Percentage; yet it is closely allied and I am sure that the subject could not be understood clearly without this process of reduction and judging from the interest the children showed in the work, I think it was worth the while.

Mrs. Marferding.

Art Work.

They sketched out of doors. This is the first time for two weeks they have been permitted to work out of doors, because the last time they went they were not attentive.

Miss Cushman.

History.

They spent two hours in writing papers and correcting them with Miss Bruère. They read the story of Paul Revere's Ride and then wrote it as concisely as possible. These papers will be criticized for form and expression as well as spelling and punctuation.

Miss Bacon.

Number.

The group are so much in need of instruction in decimals that three halfhours were given to this work, working out the process of multiplication and division of decimals.

Miss Bacon.

Number.

We have continued the work of interpolation. The children seem to take hold of it better than they have before, for in most cases examples given them were brought in worked out correctly. The last lesson I took up again the use of logarithms in multiplication and division and in raising to a power and in extracting roots, and they seemed to understand the process. They understood that in multiplying numbers logarithms must be added and in dividing, subtracted, in raising to a power, multiplied by the index of the power, and I showed them that this was simply a shorter process of multiplying the number by itself any number of times indicated by the power. In each case the logarithms would be added to itself that number of times.

Miss Moore.