On Tuesday we made valentines, each table for the other, and enclosed them in envelopes which we made ourselves. These were for the school box on Tuesday and the children liked the valentines they made much better than those I bought for them, simply because the middle part would pull up and show a little picture beneath.

We continued making furniture for the playhouses. The smaller children talked about laundry equipment and made tables and washboards. We paraffined corrugated paper to put on the wooden washboards. The older children made beds and painted them with white enamel. Then we worked out dramatically furniture stores.

We tried this week giving the children one period in which they were to choose the materials to play with from the cupboard. I wanted to see whether each would be contented with his choice after the others had made their own choice. The children selected their playthings and played with them the rest of the hour without apparently being confused because of other things. We had two new songs about sleighbells and the children liked the music better than anything they had had and referred to the music as resembling the bells. This is the first time they have mentioned the music aside from the words.

The story was of the Shepherd and the Hundred Sheep and one from Baldwin's Tales, "The Bell of Atri".

We cooked farina for the first time. IIIa and b came in to luncheon on alternate days. At these times one member of the group is expected to tell some story and this has given an incentive to have the family at home read something in order that they may have it to tell. This week Elizabeth Vent told the story of Lincoln as her mother had read it to her.
Hand Work (a).

They are finishing their freight cars. Those who have been absent for some time have returned and so new ones are beginning their cars and the work is retarded somewhat; probably they will finish in two sessions more. They see the need now of being accurate in their measurements.

Miss Lackerstein.
History (a).

In carrying on the reduction of copper from its ore with the blowpipe and charcoal I found that the children could do very little, generally only succeeding in getting the oxide from the carbonate and the reduction of the ore has been left until the forge is set up. In carrying out the molding of the metal the children first suggested making arrowheads in order to carry out the story they had been playing. As there were not enough to go around, it was suggested that they make weights for use on the scales. They were all so interested in making something to use that they all wished to make weights. They succeeded very well on the mechanical side of the molding but have not yet begun to think intelligently enough to see that the sand has the right amount of water, the mold is level, etc., without suggestion.

The number work in connection with this has been such as the following: If we made 17 half ounces, how much more must we have to weigh a pound? Two children in the class had no idea apparently how many halves there were in a whole, replying 6, 8 and sometimes 4 to the question put in as many ways as possible and with as many different measures as the child had used.

Miss Camp.

Reading (a).

I have had the children write on the blackboard words beginning with a, such as an, as, at, etc., to get the right sound of a. Some of them do not remember unless this is done.

Miss Lackenstein.
In going on with the story of Columbus we took this week his voyage across the Atlantic. The chief things noticed were the strong west winds which the sailors feared would make it impossible for them to return. Then we took up the signs of land which appeared from time to time—the tropical birds which they thought never went further than 25 miles from land, the two pelicans that were seen; the whale supposed also to indicate nearness to land; the seaweed and the green rush which must have grown on land; and finally the carved piece of wood. In giving these facts to the children I simply stated what was seen by the sailors and asked the children what it would indicate. In most of the cases they got at the idea very readily and showed more of the spirit of adventure than they have at all up to date. When we came to the fact that the sailors were on the point of mutiny because they were going so far from the land and Columbus promised to return if it was not discovered within three days, I told them about the flock of birds that were seen going southwest and the advice of Pinzon, the captain of the Pinta, to follow the birds as they were surely going to land and of Columbus' reluctant decision finally which resulted in their reaching the Bahama Islands rather than the American coast. I told them about the two diaries which Columbus kept—one in which he recorded the actual number of leagues covered according to his reckoning, which was for his own private use, and the other for the sailors, in which he put down less than the actual amount covered for fear of the effect on the sailors. We took
up the landing on the island, the reception by the natives, the questions that Columbus put to them to find out whether the cities mentioned by Marco Polo were known to them and whether there was gold to be found. Then we took up the wreck of the Santa Maria and the decision to leave a part of the crew on the islands to explore, while Columbus returned to Spain to announce the discovery. The island taken for the one on which Columbus landed was Watling's, which seems by the best authorities now to be considered the first island reached. I asked the children what Columbus would call the islands and after some difficulty they got at the idea that he thought he was on the islands off the coast of India, which he had reached by sailing west and therefore called them the West Indies and the inhabitants Indians.

I read to them C. K. Adams' "Christopher Columbus", selecting the account of the return voyage and of the great storm which occurred and threatened to sink the ships. I asked them how Columbus would try to preserve a record of what he had accomplished, and they suggested that he write it and throw it out on the ocean. Then we said that the water would spoil the ink and that probably no one would pick up wet papers on the sea and then someone suggested putting it in a tight box. Then I read them of the copy made by Columbus on parchment and placed in a hollow cask to be cast into the sea if the ship went down.

One period was spent in writing, supplying words to sentences I gave them concerning their history work and two periods have been spent in reading.

Miss Runyon.
Science (a).

Have finished their experiments with their compasses. They will go on to box these and name the points.

Miss Camp.

Science (b).

The children had been interested in the west winds which took Columbus and his men over toward America and asked again about the currents; so I reviewed the subject they had had earlier in the quarter and the weight of air, its different temperatures and pressures and the fact that the pressure is due to weight. They worked a simple pump that Group VI. has made and looked at the barometric tube that had been set up. As they did not seem to realize that there was not something in the tube that helped to hold the mercury up, I had them fill and seal small tubes of mercury and invert them so that they could see that the mercury stayed up when there was no space above it.

Miss Camp.

Cooking (a).

Meat (continued).

A bone which had been split in two was examined and talked about; it was seen to consist of four different parts, i.e. the white covering of cartilage, the solid outer part of the bone, the spongy inner part and the soft marrow within this. One child said that "the marrow is to fill the bones" and wondered what would happen if it should dry up. This led to a comparison between the animal body and a machine, and many points of similarity were found. The children noticed with much interest the manner in which the bones fitted together at the joints and the necessit
was seen for perfect smoothness of the surfaces to give freedom of movement, and this was secured by the cartilage covering that part of the bone.

For luncheon a beef stew was cooked, the children recalling their experiments to know how the desired results were to be obtained, i.e., the juices of the meat to be only partially drawn out and the meat to be tender and palatable. Cocoa and macaroni with tomato sauce were also prepared.

Number Work: From the recipe which is enough for 1 person, make tomato sauce for 6: 1 tablespoon flour, 1 of butter, 2 saltspoons salt, 1/3 cup tomato juice.

Miss Tough.
History.

We took up the colony at Jamestown after Smith left it and found that when he was gone the Indians felt no longer afraid to attack the colonists, who were therefore afraid to leave the palisades and were reduced to great straits by famine and disease. I told them that they were on the point of giving up the colony and as they had not food enough to last until they could get to England, they had planned to go up along the northeast coast, where they heard there were some fishing stations and try to secure food enough to take them the rest of their journey. It was at this time that Lord Delaware, the new governor, arrived. I did not think it worth while to take up with this group the period when Delaware was governor as I had done last year, and so went on simply to the governorship of Dale, only telling the children that Lord Delaware had brought a lot of new colonists and instituted reforms in the way of hour for work, etc. We took up Governor Dale chiefly as a military governor who instituted military rule and taught the colonists for the first time how to work. We did this by describing the new villages he established further up along the James River and deciding that each one would need log houses built and each one must be palisaded. I asked the children how he could get the people to work more willingly and they suggested that he let them have something that they raised themselves, that is, that they do away with the community system. I told them that he did this in part, giving to each man three acres of land and expecting from him only a part of this to go toward the general support of the colony, and that each man was to work part
of his time for the colony.

To give them an idea of what Governor Dale regarded as the territory of Virginia I told them of his hearing that the French had settled in Acadia and sending Captain Argall to disperse them. This he did and finding that there was a colony at Manhattan (New York) he stopped there and ordered them to put up the English flag—which they did until he was out of sight. We then reviewed the extent of country promised in the charter to the Virginians and I told them that they regarded the “line west and northwest” as starting directly northwest from the 36th parallel. It was on this basis that Virginia laid claim to so large a part of the United States.

Miss Runyon.

Number Work.

All of the children have finished their calculations of the amount of water and wheats, it will need for any number of persons up to 10 on the basis of 1/4 cereal to a person and 7/4 water. They had a good deal of difficulty with the larger fractions in reducing them to whole cups, so that I am going to have them after a while formulate the multiplication table in order to use them more quickly. In the meantime I think I have found that the children have been using the fractions so much more in cooking than anywhere else that the term 1/4, 1/2 or 1/3 occurs to their minds in images of parts of cup. In getting them to draw the areas which I had Group Vb draw last week I found that it was as difficult for them to divide them into fractions and express parts in the terms of the whole as it had been for the younger children, but the difficulty with the younger chil-
dren seemed to be that the fractions were larger than they were accustomed to. With this group they were able after a very short time to apply the principles of fractions to the area but the fact that they did not do it readily seemed to me to indicate the necessity of working with fractional parts in other images than cups.

Miss Runyon.

Cooking.

Same as Va.
Group VII.

February 23, 1900.

History (a).

I am leading up to the causes of the Revolution and the events which were directly responsible for it. The children discussed the Stamp Act and the closing of the ports and the quartering of troops and the results that these had in changing the commerce and in developing industries. They followed out quite definitely the development of the woolen industry. They saw that the people would not be able to get their wool from Europe and so set up spinning wheels in the parlors and made their own dry goods and when forced back on American manufactured products gave up their tea and used herbs. In order to keep up their special interests spoken of in the last report, I concluded to take up some biography and chose the lives of the "Revolutionary Triumvirate", as they were called—Hancock, Warren and Sam Adams. They spent most of the time in discussing the lives of these men and the part they took in promoting the feeling of independence in the colony. In their reading lessons they have been using "From Colony to Commonwealth" by Moore.

Miss Bacon.

History (b).

We took up the necessity for the development in the West Indies on account of the East India monopoly in the same manner that it was taken up in Group X. We followed the explorations of Hudson in New York and around Hudson Bay. Then we gave in a concise way the later history of the New Netherlands because they wanted to know how it came out. I told them of the Thirty Years War and the final treaty of Westphalia. The location of places has been followed very carefully at each step of the work. Since so many of the class have been absent, in looking over
their papers I found that each had several papers unfinished and we have spent three days in working upon them.

Miss Bacon.

Number Work (a & b).

They have spent their time in working on Percentage. They seemed to get the idea very well and are immensely interested.

Miss Lackerstein.

Cooking (b).

Meat (continued).

The whole subject of meat as taken up from the beginning, was reviewed by the children writing what they could recall under the various heads, a suggestion being made beforehand concerning each by a written question. In nearly every instance the statements were clear and well expressed and care shown in the general neatness of the work.

For luncheon soup was made and farina with custard sauce prepared. This was found to be more work than the class could do satisfactorily in the given time.

Number Work: From the recipe for farina which is enough for 8, make enough for 1 -- 1 qt. water (1 qt. = 4 cups); 8 tablespoons farina; 2 teaspoons salt (1 teaspoon = 8 saltspoons).

Miss Tough.

Sewing (b).

Sewing and German: The teacher does not confine herself to a set vocabulary but gives as many directions as possible in the foreign language. She finds that the children are beginning to understand quite readily. She is able to converse with one pupil who is familiar with the language. The other children seem to absorb the language.

Mrs. Baxter.
History.

Same as VIIb.

Number work.

They are working on Decimals. Very few of them had the idea that decimals were a part of a thing, they seemed abstract things, so we spent an hour writing decimals. I gave them a number and they told me just how much it would be, for example 33 1/3 of a cup of milk would fill how much of a cup? We measured .25 gr. I gave them .44 and asked what was the nearest simple fraction that it represented. They said it was between 1/2 and 1/3. They were told to think of some definite thing.

With some of the children I found that they did not carry the numbers of the decimal system down into the fractions. They would divide a whole number but the moment they struck a decimal they did not know what to do and so we spent an hour in getting that straightened out, seeing that the same rules that apply to a whole number apply to a decimal part.

Miss Bacon.

Science.

Aside from their visit to Armour the time was spent in finishing their weights and measures. Two of the children were to make a half gram by taking a decimeter of silver wire, finding its weight and calculating how many cm. they would need for a half gram. For some reason—I think to make the multiplication easier—they found how much it would take for a whole gr. and then instead of dividing that amount by 2, measured the whole amount and tried to weigh backward to the 1/2 gr. on the scales by actually removing piece by piece the wire without measuring.
Group VIII.

They did this apparently to save the labor of calculation. In this group they seemed very often to prefer a mechanical means in arriving at a result rather than thinking it out numerically.

Miss Camp.
This week one period was spent in discussing the natural resources of New England. The children decided that in order to pay off their heavy debt to the Merchant Adventurers it would be necessary for the Pilgrims to engage in other industries beyond the satisfaction of their own immediate needs. Trading in furs was the first suggestion and by further questioning lumber and fish were added to the list. It was suggested that salt would be needed for the fish and one of the children proposed evaporating the sea water in order to obtain it.

Another period was spent in discussing the government of the colony. The children were greatly interested upon hearing of the length of Bradford's administration and compared it with the terms of our present rulers. In discussing the form of government, one asked whether the Pilgrims had Burgesses after the plan of Virginia, but another explained that they would not be needed because the colonists were so few and were scattered in different settlements. They discovered the significance of the term "Common House" corresponding to that of "common kettle" in Jamestown and some reasons why the communistic plan ought to be more successful with the Pilgrims than in Virginia because of the difference in character and aims in the members of the two communities. The remaining period was spent in writing.

Miss Hoblett.

Science.

They also visited Armour and examined a gavanometer where the parts could be plainly seen. They were shown the portable testing anemometer and voltmeters. They were interested in
the units and asked what each measured. They were also interested in the method of making the two instruments read in different parts of the scale by the amount of wire wound from one cylinder on to another. This method made as it were the resistant visible.

I think a visit of this sort should be made at the beginning of the course and then again at the close. I think they would have been able to carry the conception of the force they had seen acting in a large amount over into the experiments of force on a small scale much better than they were able to carry the smaller experiment over into the working out on a larger scale. The second visit could have been made as a review and to give them some conception of methods of measurement and the value of the units used.

Miss Camp.

Science.

They have continued the same series of experiments to show the change of state from liquid to solid and to gas reported last week and the use of such changes in such alloys as type metal, solder, pewter and fusible metals. Each child is working individually.

Miss Camp.

Sewing.

Part of the class worked on looms and the rest continued their regular sewing.

Mrs. Paxter.
History.

In order to understand the formation of the West India Company and the consequent settlement of New York, one day was spent in giving the children an idea of the East India trade and the monopolies of that trade by the East India Company. They were told of the large number of people in Holland engaged in trade and asked what the sailors would do on being excluded from trade. They replied that they would look for other places where there would be a lucrative trade developed. They concluded that since they could not pass east of the Cape of Good Hope they must go west, and so I gave them something of the early history of the West India trade from 1608–20. Then they read of the formation of the West India Company and of the development of the fur trade in New York and up the Hudson River. They were sent to the map and asked where in the middle part of the United States would be a good place to open up a fur trade. They chose the Hudson river and the Delaware as well fitted for this. They saw that the Dutch were not developing all the resources of the country and that so far they had only worked up the fur trade and no colony had been formed; that only men came over and had no intention of staying longer than to get rich. They knew something of the conditions in Holland and realized that a well-to-do Dutch farmer would be happy and contented with his family and his religious and political liberty and would not care especially about coming over, so they saw that inducements must be offered to encourage colonization. They reasoned that to bring over a colony a large sum of money must be expended, and saw that it would have to be
some wealthy man who would start the colony. They thought also that the Dutch West India Company would want to make all they could out of it, so concluded that it would be a good thing for the company to start little colonies. Then we took up the manorial system in New York. In order to understand where they got the idea, it was necessary to spend a period in describing the old feudal system as carried out in Europe.

It has been very hard to find reading matter for the children. They read Nishe's School History and some from Motley's History of the Netherlands. The rest of this early period has had to be given them.

Ralph Holmes has been especially troubled with his spelling, so that it was necessary to give him extra instruction. We had four lessons at home in spelling words that sounded alike, taking such words as ended in ank and then putting all the consonants before this syllable that would make words. In school he has been given rules for forming the plural and for doubling when the suffix was added. He has also had rules for the lengthening of the vowel, such as adding final e and a, that is, the e or i after a. His spelling has somewhat improved.

Miss Bacon said,

Science.

Our one hour this week was work leading toward the idea of selective absorption. But before taking up that subject itself I wanted the group to get some clear ideas about the relation between wave-length and vibration frequency and our work this week was somewhat along that line.
before taking up the work for the day I asked the question, what is a spectrum? The group have a good idea of what the usual spectrum of white light looks like, but they found it hard to formulate a definition that would be sure to be understood. The problem that I gave them last week they had thought about but no one had succeeded in getting the explanation. I gave the explanation and they seemed to understand it. I shall probably ask them about it again next week.

After these preliminaries I asked them what might affect the rate of vibration of the piece of rubber tubing that we have used several times. Air currents were suggested and also length, size and tension of the tubing. I do not remember what expression was used for tension, but in speaking of it we called it tension. We tested first what the effect of tension is. I held the tubing very slack and kept it swinging, while we all counted the number of vibrations in 15 seconds. The result I put on the board and we then counted the number of vibrations when the tubing was only moderately slack and again when it was fairly taut. The results showed very prettily that the frequency increases with the tension. I then stated the relation by giving several particular instances, and after a few such instances the class could tell me how many times as hard I should have to pull the tubing to make it go six times as fast, ten times as fast, etc.

The effect of length on the rate of vibration we tested next. I hoped in this case to get some results that would show the law, but the tubing was so stiff that although we saw that the frequency increased as the length decreased, we could not
determine the law. I explained why it was that the results were not exactly what we wanted them to be, and we tried a light card with a small weight at the center, but in this case the fact that the mass was unevenly distributed throughout the string, threw our results out too much to see the law. However, we shall have more to do with this next week.

Next I intended to test the effect of length on the tone given out by a stretched cord, but as I hung a weight on the cord to get an approximately constant tension, some one suggested that we were going to find the relation between the period and length of a pendulum. As the group seemed not to know what the relation is, we stopped to do that and got some fair results. We then tried the effect of the length of the string on the note given out. As I took successively longer parts of the string an approximation to running down the scale was noticed, but the statements as to the relation between the note given by the whole string and that given by half of it were not very accurate. One thought the difference was two octaves and another, I believe, that it was only a third, but this was doubtless partly due to the faintness of the tone. I had the class put their ears on the table to hear it better, but I could hardly hear it and therefore probably did not touch the string exactly in the middle.

I also put on the board the ratio for the lengths of the strings giving the notes of one octave of the diatonic scale.

Arthur Taber Jones.
The older children made bookcases out of wood and stained them. Then they wanted some books to put in them and said they could saw a piece of wood to represent books. This they did and stained the wood different colors to look like different colored bindings. Miss Dolling tried giving them the same game with 6, 4 and 2 inch blocks as she had given Group III. in order to give them a little more work. They responded quite readily and some went further into details than III. had done.

They were not quite satisfied with their farm as they had completed them. So we gave each child a strip of manilla paper to let him make any sort of house he wanted. Some of them had a front porch and steps, a back door, front door; windows, put a floor in the center of the house and added a chimney. This was all free work and took three days. Some of the children have gone on with the furniture for their playhouses. The younger children in making their mantel pieces talked about where the coal would come from and made coal wagons out of shoe boxes and played bringing in the coal. They were not satisfied until they had the real article.

Miss Scates. OK
(Two weeks' report).

Social Occupations.

They played store every day. Some of the children are able to make all kinds of change with 10's and 5's under a dollar. So many of the children have been out or just returned that this work had to be done over, as most of those who had come back could not use money at all.

They are making pails of two different sizes out of paper. They have the idea in using the compasses that the distance between the two points must be just half the diameter of the circle they desire and can make their own circles. Group b are making wagons out of paper to carry the cane from their plantations to the mill where the sap is pressed out.

I read them a chapter from "Black Beauty". Irene Tufts brought "Knight and Barbara" by David Starr Jordan, in which the stories were illustrated by his children. Parts of this were read to the children and they decided that they would like to make illustrations for "Black Beauty"; so spent one period in drawing.

They took up the subject of refining sugar and as they could not think of any way in which the brown sugar could be taken out, they were told that charcoal made from the bones of animals would be the kind used. They made a mill out of blocks and then a long way off a refinery. They were told that usually the sugar was refined at a different place and sap and molasses were made near the plantation. They acted out this game. They were told something about maple sugar, how it could be taken from the tree but as the children did not appreciate very much
the fact that sap rose in the spring more than any other time
I thought best to postpone it until the sap really began to run
and we could tap some trees.

We began the study of lumber. They talked about what men
would be doing in the winter and why they would chop in the win-
ter rather than the summer. Some of the children thought it was
because of the exercise and others that, it would not matter at all.
After a few questions they decided that the logs could be drawn
very easily over the snow and if they were cut in the summer and
carried to the stream in winter, they would freeze up and not
float down until the next spring, but if they were put on the
stream in the winter they could float down in the spring.

In Hand Work IIIa have finished their freight cars which
they had for transporting their cotton and acted out the game as
IIIb. had previously done. They also made some pasteboard pails
of a small size for carrying sap. IIIb. continued to work on
their paper wagons for carrying cane to the mill. In Number
Work they have continued games as previously reported.
I have read another chapter of "Black Beauty" and some of the
"Uncle Remus" stories, which were mixed connected with their
plantation life through the colored people.

Miss Andrews

Sewing.

They have continued the braiding of silk strips for
holders.

Mrs. Feuling.

Cooking.

Whole Rice compared with flaked rice. 1. Structure. 2.
  2. Weight.
Group III. March 2, 1900.

Pupils found four cups of flaked rice balanced 1 cup of whole rice; therefore, quantities are equal. As one cup of flaked rice requires one cup of water, 4 cups will require 4 cups of water. Now 1 cup of whole rice is equal to 4 cups of flaked rice; therefore, it will take 4 cups of water or 4 times as much water as rice. If we should take a tablespoonful of rice, how much water would be required? If we should take a pan of rice? (The children were able to answer this correctly.) We shall take 1/4 cup rice, how much water will it require? (4 fourths). How much of a cup will that fill? (It will be full.)

Mrs. Baxter.

Art Work.

They illustrated the sheep on one of their plantations during a rainy day. They noted the dark sky, sheep huddled together and drooping appearance of the chickens showing the effect of the weather. At another time one of the children posed as a man in the field cultivating sugar cane and the rest drew him.

Miss Sexton.
History (a).

They spent one and a half hours telling the story of the people they are now playing, which is to be printed and is to form a part of a book which they are to illustrate with Miss Cushman. They have spent the remainder of their time in carrying out the game they have been playing of the various occupations, of obtaining and working metal, first, dramatically, going through the motions of what they wanted to represent for the class to guess and then actually carrying on the game, each one doing his part. They have been melting their lead into a set of weights for their own use in cooking. Each child worked with a different weight until the weights of all made a pound. In the game they have been playing they found doing the actual thing much more interesting than acting them out in pantomime before the class.

Miss Camp.

History (b).

This group has made molds of weights in sand which they cast in lead. They put away all they had made the first day they tried the work and the next day we looked over them and I asked them to note which they would keep. They decided to throw away half the number; that is, to melt them over again. The other half they weighed, filing off when necessary and marked the number of grams by scratching the lead. After they had worked with the weights for about three periods, they began to discard the poor ones at once, without holding them over to be voted on by the class.

One half hour they spent in number work, finding out how many 10 gr. weights would equal, 20 gr. wt., 30 gr. wt. 40 gr. wt. etc. Then since every 10 grs. contained two 5's, how many five
gram wts. would it take to equal 20 gr. 30, 40 etc.

Miss Hill.

They have continued the above work. They have done some number work in finding out how many 10 gr. wts. it would take to equal one 20 gr. wt. etc.

Miss Hill.

Cooking (a).

Aim of lesson to find out constituents of potato. What is the potato? (vegetable). Where does it grow? (underground.) The leaves are the workers that store the food in the potato. One child asked, "How does it happen that the potato is white when the leaves are green?" A piece of potato was given each child to find out, as much as possible by looking at it and feeling of it. One boy tasted the potato and said he thought there must be starch in it. The same boy said it felt wet like water. What gives the potato its shape? Pupils thought starch and water did. But if you have starch and water in a cup, will it take any other shape than that of the cup? (No.) Then what gives it its shape? (Skin.) The skin might hold the water and starch but it would feel soft. Now what makes the potato feel hard? What gives the tree its shape? (Wood). Yes, woody fibre. The potato keeps its shape because it has woody fibre. Pupils were sent to their desks to grate a part of a potato to find the constituents and as far as they were able to get an idea of the proportion of these constituents.

Mrs. Baxter.
Cooking (a & b).

Experimented with potato. Each grated a potato and strained the pulp through a piece of cheese-cloth to separate out the water. They left the water in a bowl until the starch settled. In another bowl they washed the pulp and saw that starch also settled in this bowl. They worked out the amount of water, starch and cellulose.

Mrs. Feuling.

Art Work.

They are making in clay a rabbit and an elephant.

Miss Sexton.
History (a)  

(Two weeks' report).

We have been following Columbus' first voyage in some detail. I read to them parts of Fiske, giving an account of their departure, the general direction they took which we followed on the map: of the passage through the Sargasso Sea, the discontent of the sailors, their alarm when in the belt of the trade at finding that the wind blew as constantly from to east; of Columbus' fear lest they might be missing Japan by sailing too far north and the consequent shifting of their course to the southwest, which took them among the Bahamas instead of to Florida. I told the children how the speed of a vessel was taken by knots and how Columbus himself always took the speed on this voyage and let the sailors think they had come less far than was really the case, since otherwise they would have become discouraged and insisted upon an immediate return. When I read they "shifted two points to the starboard" one of the children drew a sort of diagram on the board to show the others what was meant. He had been on a sailing vessel, so understood the meaning of "starboard" and of course from his work with the compass understood that two points of the compass was meant.

This week they have continued following Columbus on his first voyage. I have read to them parts of Fiske's "Discovery of America", giving an account of the course of Columbus' ships and what befell them. Sometimes I have changed the words of the book to simpler ones but where this could not be done without a loss in the meaning, I asked the children to tell what the sentence with the more difficult word meant, of course not telling them why. One of the children was able to explain nearly all the
unusual words to the others and most of them were very quick in at once applying the new word when I told them its meaning. One of the words was "supernatural". I asked them what "natural" meant and one child said, "O something like yourself", to which another answered, "No, a tiger is natural, but he isn't like yourself. Natural is anything you know about." He then went on to give his idea of "supernatural" by telling of a revolving bookcase he knew of, which made a queer noise when you turned it and when there was just firelight in the room and girls, "they're so easily scared", it was supernatural. "Alarm" was also a word which one of the children asked the meaning of. Another answered it was something like amaze. We have followed the map very closely in this voyage, looking at the one Columbus was supposed to have had and also at a modern map. The children have also made out the direction Columbus was sailing in at every step up to his landing at one of the Bahamas and also to Cuba and along its coast.

Miss Hill.

History (b).

We took up the return of Columbus and his landing near Lisbon in Portugal because of the severity of the storm. When questioning the children, they suggested that he would send a messenger to the king of Spain telling him of his arrival and we traced the route by which he would go around to Palos from which he had started and then the route up to Barcelona, where the king was. We also found Rayonne, where Captain Pinzon landed with the Pinta. He had been separated from Columbus almost since leaving the West Indies. I told the children of
this captain's feeling that Columbus was lost and his attempt to take to himself the glory of the new discoveries and of his message to that effect to the king. I wanted to see how the moral side of this would strike them, so asked them first what Pinzon would do when he landed and they suggested that he would send a message to the king telling him that he had returned and that Columbus was lost. When told of his action they considered it "mean" and some suggested heavy punishments, some light because he had been of service in the beginning.

I read to them from "Columbus" in "Makers of America" series a description of the reception given Columbus by the king.

We took up next the preparations for the second voyage to find out what the children would suggest. I told them of Columbus' promise of what he could do, based on the supposition that he had reached the eastern end of Asia and that the cities of Marco Polo and their wealth would soon be his. The children said that the king would be willing to send more ships and they guessed "8", "10" instead of "3" as at first. They were told that 17 were chartered and estimated the number of men that would go. They suggested too that it would not be necessary to force men to go but that they would be willing and anxious because of the prospect of wealth. They were told of his stop at the Canaries to get a load of sheep, calves, pigs, etc. to stock the islands, and then of the arrival and discovery that the men he had left had mistreated the Indians and been attacked by them and killed or scattered, so that the first voyage had amounted to nothing.

I had not been satisfied with the way in which the chil-
dren talked about the relations of the moon and earth to the sun and was doubtful whether they had got the idea. I therefore spent one period in getting them to work it out. We lighted a Bunsen burner for the sun and drew a circle about it on the table for the path of the earth. After darkening the room I gave them an orange, about the center of which I had cut the skin to show the white line of the equator. We took the stem for the North Pole and I asked them how it would be placed to move about the sun. One of the children said it would point toward the North Star, so we found the north side of the room and made a star on the blackboard and then placed the orange in the correct position. We first noticed the circles of illumination as indicating day and night, summer and winter, and then one of the children undertook to show the two revolutions. All of them in attempting this forgot to keep the line connecting the poles parallel to itself in the revolution and showed that while they had the general notion of the earth going about the sun and turning upon its axis, they had no clear idea of how the seasons were produced. I had wanted to use this in getting them to work with the sextant for determining local time and latitude and then getting them to suggest that if a chronometer keeping accurate time were compared with the local time, they could obtain the longitude. I thought that as they had studied Latitude and Longitude last quarter, it would be worth while to get at it from the experimental side, but I could not work it out on account of their lack of knowledge.

On two occasions the children had brought up the question
of the origin of man and of the world. I had given them in general the theory of evolution and of creation but neither seemed to fit the case and when again a question was asked which showed that the children had been thinking along that line, I tried to illustrate it by supposing that someone of them had a thought which he could best show us by making something. He went to the shop and constructed something, for example, a heddle or the part of a machine, and then we saw what his idea was. I told them that from the creation side we might regard the world as God's thought. The children were intensely interested and began at once to apply the idea, saying that Columbus' voyage was his thought worked out and that a stove, a typewriter and other things that they could think of were people's thoughts visibly shown.

Miss Runyon.

Science (a).

They continued the work of boxing their compasses. The difficulties of adjusting the needle so that it turns freely and easily were more than I anticipated and another time I think I shall do that for them myself.

(b)

They have been getting the idea of how much the air pressed by measuring it in weights with equal bulks of water and mercury. They first guessed how much heavier mercury was than water, some saying three, some six, and were much astonished when they felt of the water in one hand and mercury in the other and increased their guess to eight times as much, which is of course much below the actual comparison. Miss Camp.
Science (b).

They have been filing the weights which they had made and comparing them with the right weights. They poured lead into the mold which they had made with the brass and found that the lead was very much heavier than the brass; therefore, the weights need a great deal of filing to be reduced to the correct weight. This gave them some idea of specific gravity which is to be worked out. They completed their weights for 2, 5 and 20 gr. and discussed further the workings of the water wheel and the power obtained by the force of gravitation.

Miss Andrews.

Cooking (a).

Meat (continued).

A piece of mutton which was to be boiled for luncheon was weighed and the time for cooking calculated, allowing 15 minutes to each pound. After the weighing it was found necessary to know the number of ounces in a pound to make calculation of the proportion of an hour which the odd ounces would require in cooking. The method of cooking (to retain all the juices within the meat) was determined by the children after some discussion and the recalling of experiments which they had made two weeks before.

Boiled rice with white sauce and cocoa were prepared for luncheon.

Number Work: From the following recipes which will make enough for 6 people, calculate the amount of materials required for 1 person: White Sauce—6 tablespoons flour, 6 of butter, 3 teaspoons salt, 2 cups milk. Cocoa—12 teaspoons sugar, 12 co-
March 3, 1900.

Group V.

Cooking (b).

In the time of their cooking, it was necessary for them to give a report for the newspaper. They gave me a very good account of their history work. One child gave an account of the work with mercury to show the pressure of air, another of the work done with milk. Much of the work talked about was not put down in the report for the paper, but we spent a very interesting hour in talking over the work in the other departments.

Miss Harmer.

Textiles (b).

They are still working on their baskets.

Miss Harmer.

Reading (a).

They are using the Robinson Crusoe books. I have allowed them to take the book home and with the exception of Dorothy Edwards, all were able to read about one chapter a day with some help.

Miss Tough.
In the history of Virginia they have had the new charter brought by Governor Yeardley. I told the people that this new charter was to give the people a share in the government and that this share was in electing representatives, two from each town or plantation. I asked who would be entitled to vote. Some of the children thought that those who knew most ought to vote but were unable to tell how they could be distinguished from the rest or where the line could be drawn. Others thought that those who worked hardest ought to have this privilege but were unable to suggest a way of discovering a line here when those worked just hard enough to be able to vote. I then told them that by the charter all free men voted and that this left out at this time indentured servants. Then we compared this first charter in America with the constitution of the United States and the children mentioned the governor as similar in power to the governor. The senate they did not know about but when told of it thought it might be the same as the council of the governor, the General Assembly or House of Burgesses as the House of Representatives.

Miss Runyon.

Physiography.

I asked the children where the continent ended and some thought where the water came to the edge. Some noticed on the globe which we have the whitish color at the edge of the land and called this "shallow water" and said that all shallow water places would belong to the continent. Albert said that 50 miles from the shore belonged to the continent and we spoke of this as
a law perhaps for war vessels, though I did not know of any such ruling. By calling their attention to the marked declivity at the edge of the shallow place they saw there would be an actual division between sea and land and were told that the shallow place was the "continental shelf". They looked at the globe and each guessed what proportion of the whole was water. I put their guesses on the board—3/4, 2/3, 3/5 etc.—and we decided which was largest. Then we found out how much land would be left in each case and I told them about 1/4 was land. We compared also the deep places in the ocean with the mountains and discussed how mountains were measured. One of the children knew it was from the level of the sea, but they had varying ideas as to what the level was. Some of the children thought it was the top of the water, some the bottom, and when waves and tides were measured all were uncertain.

In number work we have taken up the proportion of wheat all to water, using 1/8 cup wheat all, 7/3 cups water. Most of the children were able to translate 4/8 and 6/8 into 1/2 and 3/4 by simply having their attention called to it.

Miss Runyon.

Science.

They spent a half hour writing a record and the rest of their time in remelting their pewter and making it into sheets as the sheets previously made were too thin. Some of the children pounded theirs into little bowls. They have also made some pewter of 80% lead and 20% tin, which they are going to compare with that made before and with colonial pewter.
This week they finished their pewter plates and wrote a record of the experiment and the manner in which they made their plates, hammering and filing them. Some of the children were able to hammer the pewter into bowl shape without its cracking. They have compared their pewter with the piece of colonial pewter and found that it is of about the same malleability and that the melting point is nearly the same.

Miss Andrews.

Cooking.

Same as Va.

Textiles.

They have continued basket making.

Miss Harmer.
History (a).

They have taken up the lives of Warren and Samuel Adams and have followed them and the part each played in bringing about the union of the colonies to form the first continental congress. They have read in their histories of the battles of Concord and Lexington and the causes for these and of the storing of the powder and provisions at Salem and Concord. They are using Moore’s "From Colony to Commonwealth".

Miss Bacon.

History (b).

They have been reviewing the explorations studied during the past two quarters. This was taken up in connection with correcting and finishing their papers. They traced the possessions which Spain had in the early part of the 17th century and also the possessions of the Dutch and Portuguese.

Miss Bacon.

Cooking (a).

They are still working on meats. In the previous lesson they extracted the juices and retained them through the juices by different methods of cooking. In this lesson they worked out how they could extract some of the juices to make a rich gravy and retain some so that the meats would still have flavor. This was worked out in about five minutes from their previous experiments. Several of the children gave general directions for cooking. Lamb stew was to be prepared for luncheon. With this stew they had macaroni and peas which were prepared as a review. They also worked at the idea that the browning of the meat developed flavor, so part of the meat was browned.

Miss Harmer.
Science (a).
(Two weeks' report).

They have finished their experiments with flour but have not yet gone over their results together, having waited for all to finish. They are now beginning some quantitative experiments with milk, the first being to find out how much water it contains by evaporating weighed quantities to dryness. They have spent one period in working out some problems in percentage to help them in getting the results of their experiments to percentages.

This week several have repeated the experiment of drying a weighed quantity of milk on the sand bath in order to find out how much water it contained, two on account of allowing the milk to burn the first time and one because he spilled his after weighing. Of the others one is finding out the proportion of albumen in milk by allowing the scum to collect on the surface of the heated milk and the removing and drying on a weighed filter paper. Another is evaporating a weighed quantity by using rennet.

Miss Hill.

(b) (Two weeks' report).

They took weighed quantities of meat to which they added water and boiled. They then filtered them and are next to weigh the part which remains to see if the meat has lost in the boiling and whether the water which has gone would account for the total loss.

This week they have filtered the water and have allowed the meat to dry and have weighed what remained. They have also
evaporated the filtrate to dryness. The results of this experiment they have not yet fully worked out. While waiting for the water to filter, they weighed another quantity of meat which they left to stand in the cold water and then filtered off. This filtrate they will heat to get the amount of soluble albumen.

Miss Hill.

Art (a).

They have started a sketch in clay, one of the children posing as a boy playing marbles. This is to be a quick rough sketch to be finished in a few days.

Miss Sexton.
History.

Same as VIIb.

Number Work.

They are still working on the decimal system applied to the metric system.

Miss Bacon.