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THREE SHORT COURSES IN HOME MAKING

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FIGURES.

THREE SHORT COURSES IN HOME MAKING.

INTRODUCTION.

The three brief courses in home making outlined in this pamphlet have been especially prepared for use in the elementary rural schools. They are in no sense a complete outline of the subjects with which they deal; rather, they indicate a few of the important phases of food study; sewing, and care of the home with which the girl in the elementary school should become familiar. The underlying thought for each problem should be, "Will this help the girls to live more useful lives and will it lead to better conditions in their homes?"

The lessons are purposely made simple, and the plans are definitely outlined, so that the inexperienced teacher will be able to get her problem well in hand. The experienced teacher may find in them suggestions that will be of value in the further development of her course.

The lessons were originally planned for use in the rural schools of the South.[1] During the six months that they have been in use, however, the demand for copies of the outlines has been almost equally great from all parts of the country; hence, in so far as possible, general problems have been stated. In any case the teacher who desires to use the course will necessarily have to adapt it to her own community, and it is hoped that she may be able to do this with but little alteration. While conditions of living and choice of foods differ in the various parts of the country, general principles of nutrition, rules of sanitation, and methods of cooking and serving are the same for all.

Because of the short school year in some rural schools and the difficulty of securing time on the program for frequent lessons in home making, each of the courses has been limited to 20 lessons. Some teachers may not be able to have a greater number of lessons during the school year, and they will find it well to carry the three courses through three successive years. In other schools where more frequent lessons can be given it may be well to offer all three of the courses during one year. The courses in cooking and the care of the home can be combined to advantage, as many of their problems are

[1] The original outlines were prepared in response to requests received from southern State supervisors.

related. The lessons in sewing can be given on another day of the week or it may be well to have them given early in the year and followed later in the year by the cooking lessons. Thus opportunity will be furnished for the making of the cooking apron and the hemming of the towels.

It is most desirable that periods of at least 40 minutes be provided for all of the practical lessons. Longer periods will be necessary for some of the lessons, such as the preparation and serving of a meal. If no practical work is undertaken in the lesson, a 30-minute period is sufficient.

A HOME-ECONOMICS LIBRARY FOR THE RURAL SCHOOL.

In addition to the textbooks listed as sources of special reference for the rural teacher, the following books bearing on home economics or on methods of teaching are suggested for the rural-school library. They have been chosen with the threefold purpose of providing references for the teachers, reading matter for the pupils, and a loan library for the parents.

Balderston, L. Ray—"Laundering." Price, $1.25. Published by the author. Philadelphia.

Carney, Mabel—"Country life and the country school." Price, $1.25. Row, Peterson & Co., Chicago.

Carpenter, F. O.—"Food, or how the world is fed." Price, 60 cents. American Book Co., New York City.

———, ———, —"How the world is clothed." Price, 60 cents. American Book Co., New York City.

———, ———, —"How the world is housed." Price, 60 cents. American Book Co., New York City.

Chamberlain, J. F.—"How we are clothed." Price, 40 cents. The Macmillan Co., New York City.

———, ———, —"How we are fed." Price, 40 cents. The Macmillan Co. New York City.

———, ———, —"How we are sheltered." Price, 40 cents. The Macmillan Co., New York City.

Conn, H. W—"Bacteria yeasts, and molds in the home." Price, $1.20. Ginn & Co., Boston.

Cooley, Anna M.—"Domestic Art in Women's Education." Price, $1.25. Scribners New York City.

Dewey, John.—"The School and Society." Price, $1. The University of Chicago Press, Chicago.

Farmer, Fannie M.—"The Boston cooking school cook book." Price, $1.80. Little, Brown & Co., Boston.

Farnsworth, N. W.—"The Rural School Lunch." Price, 25 cents. Webb Publishing Co., St. Paul.

Field, Jessie, and Nearing, Scott.—"Community Civics." Price, 60 cents. The Macmillan Co., New York City.

Hutchison, Robert.—"Food and Dietetics." Price, $3. William Wood & Co., New York City.

Hough, [illegible] H., and Sedgwick, W. T.—"Human Mechanism." Price, $2.40. Ginn & Co., Boston.

Kinne, Helen, and Cooley, Anna M.—"Clothing and Shelter." Price, $1.10. The Macmillan Co., New York City.

——, ——, —"Foods and Household Management." Price, $1.10. The Macmillan Co., New York City.

Lynch, C.—"American National Red Cross Textbook." Price, 30 cents. Blakiston, Philadelphia.

Maxwell, A. C., and Pope, A. E.—"Practical Nursing." Price, $1.75. Putnam, New York City.

Ogden, Henry Neely.—"Rural Hygiene." Price, $1.50. Saunders, Philadelphia.

O'Shea, M. V., and Kellogg, J. H.—"Health and Cleanliness." Price, 55 cents. The Macmillan Co., New York City.

Pickard, A. E.—"Rural Education." Price, $1. Webb Publishing Co., St. Paul.

Pyle, Walter L.—"Manual of Personal Hygiene." Price, $1.50. Saunders, Philadelphia.

Richardson, Bertha J.—"The Woman Who Spends." Price, $1. Whitcomb & Barrows, Boston.

Rose, Mary S.—"Food for the Family." Price, $2.10. The Macmillan Co., New York City.

Sherman, Henry Clapp.—"Food Products." Price, $2.25. The Macmillan Co., New York City.

TWENTY LESSONS IN CARE OF THE HOME.

For the Rural Schools.

OUTLINE OF THE COURSE

Lesson I. Arrangement and care of the kitchen.
Lesson II. Care of cupboards and utensils.
Lesson III. Care of food: Methods of keeping, storing, and handling.
Lesson IV. Disposal of waste. Care of garbage. Disposal of dish water. Protection of water supply. Care of out-door closet. Simple disinfectants.
Lesson V. Making soap.
Lesson VI. Setting the table.
Lesson VII. Waiting on table.
Lessons VIII and IX. General cleaning of a room.
Lesson X. Care of bedroom. Ventilating and cleaning bedroom; making beds.
Lesson XI. Care of lamps.
Lesson XII. Prevention of pests.
Lesson XIII. Removing stains, bleaching fabrics, and setting colors.
Lesson XIV. Washing dish towels, school curtains, etc.
Lesson XV. Ironing.
Lessons XVI and XVII. Care of the baby: Food, sleep, clothing, and bathing.
Lesson XVIII. Cost of food, clothing, and house.
Lesson XIX. How to keep accounts.
Lesson XX. Care of the exterior of the house.

SUGGESTIONS TO THE TEACHER.

The purpose of the course entitled "The Care of the Home" is to give the girls instruction in the various household tasks, in order that better living conditions may be secured in the homes. The beauty and sacredness of home life should receive emphasis, so that the girls may feel the importance of conscientious work in the performance of their daily household duties. The girls should have some insight into the sanitary, economic, and social problems that are involved in housekeeping, so that they may develop an increased appreciation of the importance of the home maker's work.

The two most important things to be taught are "cleanliness and order." Too much emphasis can not be put on the value of fresh air and sunshine and the necessity for free use of hot water and soap. The value of property must be emphasized. Economy in the purchase and handling of house furnishings and equipment must be considered. Instruction should be given in the care and arrangement of furniture and in the care of foods and clothing. Simple instruction in the care of babies should be given, since the children are generally responsible for the care of the younger members of their families.

In some of the lessons more subjects may be suggested than the teacher will have time to take up in a single period. In that case it will be well for her to choose the subject which seems most vital to the immediate needs of the community. In many cases she may be able to give an increased number of lessons. Practice and drill in all of the processes involved in housewifery are essential to successful training.

If a cupboard and table have been arranged for the use of cookery classes, most of the suggested work can be carried out with the school equipment. Where equipment is not at hand in the school, and school conditions do not approximate home conditions, it may be possible to secure permission to give the lesson in a near-by home of one of the girls after school hours.

In each lesson the teacher should strive to impress the girls with the importance of doing some one simple thing well, giving them helpful information in regard to the subject that will be of value to them in their own homes.

The rural teacher who is eager to make her schoolroom an attractive place can devote some time in these lessons to such problems as the hanging and care of simple curtains; the care of indoor plants; the arrangement of pictures; the planning of storage arrangements for supplies and of cupboards for dishes; and the preparations for the serving of the school lunch.

It will be desirable for the rural teacher to have the following simple equipment on hand in order to teach these lessons effectively. Additional special equipment can be borrowed from the homes.

EQUIPMENT.

Broom, 1.	Dust pan, 1.
Cloths for cleaning, 6.	Garbage can (covered), 1.
Dish cloths, 2.	Lamp, 1.
Dish towels, 12.	Oil can, 1.
Dust brush, 1.	

Southern teachers can obtain the following helpful bulletins from Hampton Institute, Hampton, Va., upon request:

Hampton Leaflet, Vol. II, No. 9, Housekeeping Rules.
Hampton Leaflet, Vol. VI, No. 2, Housekeeping and Sanitation for Rural Schools.
Hampton Leaflet, Vol. VI, No. 9, Housekeeping and Cooking Rules for Rural Communities.

CARE AND SANITATION OF THE HOUSE.

A suggestive list of texts and reference books for use in elementary rural schools.

Brewer, I. W.—"Rural Hygiene." Price, $1.25. Lippincott Co., Philadelphia.
Dodd, Helen.—"The Healthful Farmhouse." Price, 60 cents. Whitcomb & Barrows, Boston.
Hutchinson, Woods.—"Community Hygiene." Price, 60 cents. Houghton Mifflin Co., Boston.
Forster, Edith H., and Weigley, Mildred.—"Foods and Sanitation." Price, $1. Row, Peterson & Co., Chicago.
Kinne, Helen, and Cooley, Anna M.—"The Home and the Family." Price, 80 cents. The Macmillan Co., New York City.
Kittredge, Mabel H.—"Housekeeping Notes." Price, 80 cents. Whitcomb & Barrows, Boston.
Kittredge, Mabel H.—"Practical Home Making." Price, 80 cents. The Century Co., New York City.
Kittredge, Mabel H.—"A Second Course in Home Making." Price, 80 cents. The Century Co., New York City.
Parloa, Maria.—"Home Economics." Price, $1.50. The Century Co., New York City.

DETAILED LESSON PLANS FOR THE COURSE IN "THE CARE OF THE HOME."

LESSON I. ARRANGEMENT AND CARE OF THE KITCHEN.

SUBJECT MATTER.

In arranging the kitchen the three things of most importance are the stove, the sink, and the kitchen table. If there is no sink in the kitchen, there will be some other place arranged for washing the dishes, probably the kitchen table, and this must be taken into consideration when the furniture is placed. As most of the work of the kitchen is done at the stove and the table, these must both be placed where they will have a good light and be near enough to one another so that but few steps are necessary for the worker. All the furniture should be kept so clean and free from dust that the kitchen will have a neat and attractive appearance. A bit of green, a potted plant, a neat rug, and a wash table cover, to be put on the table after the dishes have been washed, will help to make the kitchen a pleasant place for the family.

The kitchen should be thoroughly cleaned after each meal. If it has become dusty or disarranged before the next meal is prepared, it should be put in order before beginning to work with the food. While the cooking is under way everything should be kept in orderly condition. Just as soon as the meal is completed the left-over food should be covered and put away to keep; scraps and trash should be gathered up and disposed of; dishes, pots, and pans should be scraped and washed in hot soapy water, then rinsed in clear, hot water, dried, and put away. The table should be scrubbed, the stove cleaned, the floor swept and scrubbed whenever necessary, and everything put neatly in its place.

Care of coal or wood range.—All spots should be kept off the range by wiping with old paper. The range should be washed off with soap and water if it is in bad condition. If it is oiled occasionally, blacking will not be necessary. If blacking is used, it should be applied with a cloth and rubbed to a polish with a brush just as the fire is being started. Once a week the ashes and soot flues back of the oven and under it should be cleaned out.

Directions for building a fire.—To build and care for a fire in the coal and wood range, close all dampers, clean the grate, and remove ashes from the pan. Put on the covers and brush the dust off the stove. Open the creative damper and the oven damper; leave the check closed. Lay some paper, slightly crumpled into rolls, across the base of the grate. Lay small pieces of kindling wood across one

another, with the large pieces on top. Lay pieces of hardwood or a shovelful of coal on top, building to admit of free circulation of air. If the stove is to be polished, rub it with blacking. Light the paper from below. When the fire begins to burn briskly, add coal or wood; then add more when that kindles. When the fire burns briskly, and blue flame is no longer seen (about 10 minutes), close the oven damper. Close the draft as soon as the fire is sufficiently hot. Brush the stove and floor beneath as soon as the fire is started. Polish the stove. If the fire becomes too hot, open the check. Fill the tea-kettle with fresh water and set it on the front of the range.

PRELIMINARY PLAN.

It will be well to have this lesson succeed or follow a cooking lesson, for then the girls will have a keener interest in the problems of the kitchen.

(See Twenty Lessons in Cooking, Lesson I.)

METHOD OF WORK.

Cleanliness and order are the two points to be considered in this lesson. The doing well of each simple household task and the thoughtful arrangement and planning of all parts of the house should be emphasized as of great importance to the housekeeper's success.

Begin the lesson with a discussion of the purpose of the kitchen; then discuss its arrangement from the standpoint of convenience for the work that must be done there. Emphasize the importance of having the furniture so arranged that work can be done quickly and easily, and that the kitchen be given a comfortable and attractive appearance. Have the girls arrange the furniture in the school-room. Discuss and demonstrate the care of the stove by use of the school stove. Assign each girl a time when she is to look after the stove on succeeding days and grade her on her work. Have each girl bring a report from home as to what she is doing to help in the care of the home kitchen. Make a specific assignment for home work.

QUESTIONS USED TO DEVELOP THE LESSON.

What is the purpose of the kitchen?
What are the principal articles of furniture in the kitchen?
What must be kept in a kitchen besides furniture?
How should we arrange these things?
Can we make any general rules as to arrangements?
Why is it difficult to keep the kitchen clean?
At what times is the kitchen most apt to become disarranged?
Why is it important to keep the kitchen in good order?
In what order should the kitchen be at the time we begin the preparation of the meal?
How should the floor be cleaned? The utensils? The air?
How should we take care of the kitchen during the meal?
What should we do with any left-over food?
How should we take care of the stove after the meal?

LESSON II. CARE OF CUPBOARDS AND UTENSILS.

SUBJECT MATTER.

It is of the utmost importance that cupboards and other places where food is stored be kept free from dirt and scraps of food. Ants, cockroaches, mice, and other pests infest dirty places where food is kept, and render a house unfit for human habitation. It requires constant care and watchfulness on the part of the housewife to keep cupboards clean. She must look over the shelves daily, wiping them off whenever they need it and giving them a thorough cleaning at least once a week.

The housekeeper should know how to care for the various utensils and understand the simplest and best methods of keeping them clean. Utensils should never be put in the cupboards until perfectly clean and dry. If utensils have become discolored or badly coated with materials, they should be specially scoured when the dishes are washed. If something has been burned in a kettle, the kettle can be cleaned by filling with cold water, adding washing soda, and boiling briskly for half an hour; after that a slight scraping ought to take the burned portion off. If not, it should be boiled again with soda water. If a kettle has been used directly over a wood fire and becomes blackened with soot, it should be rubbed off with newspaper and then with an old cloth. Kettles should be dried well before putting away. With proper care they seldom become rusty. If an iron kettle has rusted, it can be rubbed with kerosene and ashes, then washed in strong, hot, soda water, rinsed in clear hot water, and dried on the stove. If a kettle is very rusty, it should be covered thoroughly with some sort of grease, sprinkled with lime, and left overnight. In the morning it should be washed out with hot soda water and rinsed in clear, hot water. A new kettle is generally rusty, and should be greased thoroughly inside and out and let stand two days; then washed in hot soda water.

Soft chimney brick can be used for scouring iron utensils and steel knives and forks. If iron pots and frying pans are scrubbed with a piece of soft chimney brick each time they are used and then washed in hot soapsuds, they can be kept in good condition. Tinware and steel knives and forks can be cleaned by scouring with ashes. Only fine ashes should be used on tinware. The brown stains on granite saucepans should always be scoured off. Coffee and tea pots should be cleaned daily, the grounds removed, and the interior of the pots washed out thoroughly. The tea kettle should be washed and dried out over night and left open to air.

PRELIMINARY PLAN.

If school lunches are served or cooking lessons given at the school, it will be well to use the lesson to get the cupboards in readiness. If it is impossible to do this at school, arrange to have such a lesson in

one of the homes outside of school hours. Be sure that the housekeeper is in sympathy with the work and will cooperate with the plans.

METHOD OF WORK.

Assign each girl a task in the cleaning, scouring of the dishes, and arrangement of the cupboard. Set a definite amount to be done and carry out the plans, leaving a clean and neatly arranged cupboard at the end of the lesson.

LESSON III. CARE OF FOOD.

SUBJECT MATTER.

There are several points of importance that must be borne in mind if food is to be kept in good condition. Most foods change easily. Vegetables and fruits lose water, wilt, and become unfit to eat. Flour and corn meal become moldy. Potatoes decay and sprout. Some foods, such as milk, turn sour. Eggs become tainted and butter grows rancid. This spoiling can be prevented with proper care in the handling, storing, and keeping of foods.

The spoiling of food is due to the presence of microorganisms. If foods are fresh and sound and kept cool and clean in every way, spoiling will not take place readily, because the microorganisms will not develop. If the food is roughly handled and bruised, decomposition will take place readily, for microorganisms develop in the bruised portions. Care must therefore be taken to select food wisely, handle it carefully, wash it if it is not already clean, put it in clean receptacles, and keep it in a clean, cool place. All pots, pans, and dishes in which foods are kept or cooked should be thoroughly cleansed and rinsed well, so that no fragments of food stick to them to decay and to cause possible infection to the next food that is put in Every part of the kitchen and storerooms should be kept clean, dry, and well aired. Light is the best germicide and purifier known.

Covered receptacles should be secured for all foods. Those that are mouse proof and insect proof are essential to a well-kept pantry. All bottles and cans should be neatly labeled and so arranged that each one can be conveniently reached. The outside of the bottle or case should always be wiped off after it has been opened and food has been removed from it. The shelves on which food cases are kept should be wiped off every day. If a supply of fruit or vegetables is kept on hand, the food should be looked over frequently, and any that shows even the slightest suggestion of spoiling should be removed. Bread should be kept in a covered tin box, the box washed out once or twice a week, and frequently aired.

PRELIMINARY PLAN.

If cooking lessons are to be given, it will be well to have this lesson in connection with the first lesson and to make it a means of arranging for the materials that are to be kept on hand and of determining how everything is to be handled.

METHOD OF WORK.

Devote a large portion of the lesson to a discussion of the necessity for care in the handling, storing, and keeping of food. If facilities permit, devote a few minutes to the putting away of foods that are to be used in the next cooking lesson or school lunch, discussing the reasons for such care.

LESSON IV. DISPOSAL OF WASTE.

SUBJECT MATTER.

If one looks after the daily disposal of waste, there will be no offending accumulation of trash. Scraps of food that can be no longer utilized for the table can be fed to the pigs or chickens, but they should not be allowed to stand around and gather flies. A covered pail or pan should be used for holding the garbage until final disposal is made of it. Those portions of waste that are badly spoiled and will be of no value in feeding the stock should be burned up at once. Piles of waste vegetable substances, if suitable, should be fed to the stock, and if not, should be buried in a thin layer on the ground at some distance from the house so that they may enrich the soil and not attract flies.

Utensils that have held food should be thoroughly washed and rinsed with hot water or steam in order to prevent particles of food from adhering and becoming spoiled. Milk bottles and pans should always be thoroughly sterilized with boiling water or steam after they have been washed. The garbage can should be boiled with water and soda each day and rinsed with hot water in order to keep it sweet and clean.

Old papers that are badly soiled should be burned, but all others should be kept for use in cleaning the stove, starting fires, etc. Empty cans should be well washed and buried, so that they will not prove a breeding place for flies. It is well to pierce them through the bottom immediately after opening them so that they will not hold water. If not convenient to bury the cans, they should be burned up. Dishwater should be emptied some distance from the house unless there is a drain near the house. All receptacles that hold water should be carefully emptied and all depressions in the soil should be filled up to prevent mosquitoes. All waste water can be used on the garden.

Protection of water supply.—Only water from deep wells should be used for drinking purposes, because all surface water and water in shallow wells becomes dangerous through seepage from compost, pigpens, privies, and other places where decayed organic matter is accumulated. In order that the water be kept clean, the well must be supplied with a tight-fitting top, which need not be opened, and a metal pump to bring up the water. A well platform that allows water spilled on it to run back into the well is unsafe, for any filth carried on to the platform in any way will be washed directly into the well. Rats, mice, and other animals get into the well if the top is not tight, and these, in addition to being unpleasant, are liable to carry germs.

Simple disinfectants.—Sunshine and fresh air are nature's disinfectants, and should be freely admitted to every part of the house. Windows should be left open whenever possible. The windows in sleeping rooms should always be opened at night. The interior of the house should be kept perfectly dry. Decay does not take place in dry places that are well aired. A damp cellar should be drained off, and the grounds around the house should be prevented from draining into the cellar. Coarse coal ashes should be used to fill in around the house, on the walks, etc., to help secure thorough drainage. The fine ashes should be thinly scattered over the vegetable garden in order to restore the valuable properties they contain to the soil. Wood ashes can be used as a simple disinfectant to cover decayed organic matter. Whitewash is a good disinfectant and should be frequently used both inside and outside the house and on all outbuildings. Slacked lime is valuable as a disinfectant for use in the cellar or barn lot. Kerosene and creoline also make good disinfectants for frequent spraying of the barn lot.

Care of out-of-door closets.—The privy should be so arranged that it may be cleaned often and all excreta disposed of in a safe way. The building should be so well built that there will be no cracks for the constant admission of flies. In a poorly constructed building, old paper can be pasted in the cracks to make the structure fly proof. After each using dry earth, street dust, or lime should be sprinkled through the seat, then the seat should be closed to prevent flies or mosquitoes entering. The top of the seat should be frequently washed, and both the seat and the floor in front of it scrubbed at least once a week.

PRELIMINARY PLAN.

It will be well to teach this lesson at a time when improvements are necessary in the care of the schoolhouse. The discussions in regard to out-of-door closets will have to be taken up at a time when the girls are alone with the teacher.

METHOD OF WORK.

Discuss the disposal of waste, the care of garbage, etc., for the home and for the school. Talk over the care of waste from the school lunch and discuss methods of keeping the school in sanitary condition. Follow this by general cleaning about the schoolhouse.

LESSON V. MAKING SOAP.

SUBJECT MATTER.

HOMEMADE HARD SOAP.

6 pounds fat.
1 can lye.
1 pint of cold water.
1 tablespoon borax.

Melt the fat slowly. Mix lye and water in a bowl or kettle (do not use a tin pan), stirring with a stick until the potash dissolves. Add the borax and allow the mixture to cool. Cool the fat and when it is lukewarm add the lye, pouring it in a thin stream and stirring constantly. Stir with a smooth stick until about as thick as honey and continue stirring 10 minutes. Pour the mixture into a box and allow it to harden. Cut into pieces the desired size and leave in a cool, dry place for 10 days, to ripen before using.

When making the soap be careful not to spatter potash or lye on the hands, as it makes a bad burn. If hands are burned with lye, rub with grease at once. Do not wet them.

PRELIMINARY PLAN.

Some time before this lesson is given ask the girls to bring scraps of fat from home. See that these are in good condition, and weigh them to determine the portion of the recipe that can be made. Ask if one of the girls can bring sufficient borax for the recipe.

METHOD OF WORK.

Have the girls look the fat over and put it on to melt, watching it carefully. While it is heating and cooling, discuss the process of soap making, cost of materials, care necessary in the making of soap, and importance of its use. Get the other materials ready for the recipe and a box for molding the soap, and have the girls work together. After the soap has hardened and been cut, have the girls put it away on a shelf to dry.

LESSON VI. SETTING THE TABLE.

SUBJECT MATTER.

Points to be remembered when a meal is to be served: The dining room must be clean, free from dust and flies, well aired, sufficiently lighted, and in good order.

The table must be perfectly clean and covered with a clean white cover (tablecloth, doilies, paper napkins, or oilcloth).

A vase of flowers or leaves, or a small potted plant, arranged in the center of the table, will help to make the table attractive.

The table should be prepared with everything necessary for serving the meal, but only those foods placed on it that will not be spoiled with standing. If there is danger of the food attracting flies, cover it carefully.

Plates for everyone who is to partake of the meal should be arranged at equal distances from one another, half an inch from the edge of the table.

The knife should be placed at the right of the plate with the cutting edge toward the plate and half an inch from the edge of the table.

The fork should be placed at the left of the plate with the tines of the fork turned up and half an inch from the edge of the table.

The spoon should be placed, bowl upward, at the right of the plate, to the right of the knife if it is to be used first, to the left of the knife if it is not used until after the knife is used. It should be placed half an inch from the edge of the table. Spoons and forks for serving should be placed at the right of the one who is to serve. No one at the table should have to use the personal fork or spoon for serving either herself or others.

The napkins should be simply folded and placed at the left of the fork.

The tumbler should be placed at the upper end of the knife.

Cups and saucers should be placed at the right of the plate with the handle of the cup turned to the right.

The individual butter dish, if used, should be placed at the upper left hand of the fork.

Salts and peppers should be placed in the center of the table or at the sides where they can be conveniently reached. Individual salt dishes, if used, should be placed immediately in front of the individual plate.

The chairs should be placed up to the table after it is set. Care should be taken not to place them so close that it will be necessary to move them when they are occupied.

PRELIMINARY PLAN.

If possible, arrange to give this lesson before Lesson VIII in the series of "Twenty Lessons in Cooking" is given; then the emphasis in that lesson can be put upon what to serve, proper combinations, etc., while this lesson gives the drill in the arrangement and handling of dishes.

It is desirable to give the girls thorough drill in table setting and table service, since much of the pleasure derived from eating foods depends upon careful attention to these processes.

Be careful to see that everything necessary is on hand to set the table nicely but simply. For class practice a small table can be set for four. This will necessitate a table cover, five or more dinner

plates, four butter dishes or plates, four tumblers, four cups and saucers, four knives, four forks, four teaspoons, four napkins, a salt dish, a platter, one serving spoon, and one serving fork. If these things are not already in the school, they can probably be brought from home by the girls. If linen cloths are not used and can not be afforded in the homes, the girls can be taught to use a sheet of white oilcloth on the table.

Have a diagram of the arrangement of an individual place at the table made on the blackboard by some of the girls.

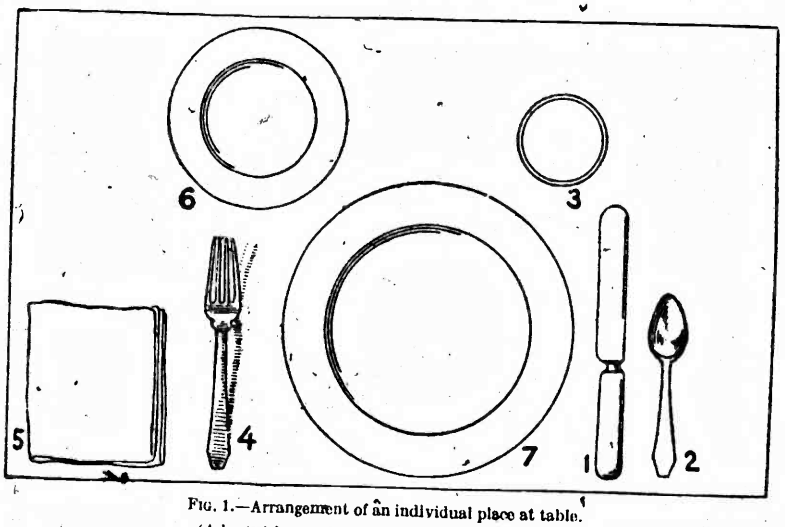

FIG. 1.—Arrangement of an individual place at table.
(Adapted from Conley, "Principles of Cooking.")
1. Knife. 2. Spoon. 3. Water glass. 4. Fork. 5. Napkin. 6. Bread-and-butter plate. 7. Dinner plate.

METHOD OF WORK.

The processes of table setting should be demonstrated with the materials at hand and the work should be adapted to home conditions.

If there is no available table in the schoolroom, the desk tops can be used for individual places.

Reasons for all the forms used should be given—the convenience of placing knives and spoons to the right, forks to the left, and the cup and saucer and tumbler to the right, the use of the napkin, etc.

LESSON VII. WAITING ON TABLE.

SUBJECT MATTER.

The person who is to wait on table must be careful to see that everything is in readiness before the meal is announced, so that she can do her work readily without subjecting those at the table to

delay. She should have drinking water, bread, and butter (if used) at hand, hot dishes ready for the hot foods, and clean dishes laid out for the dessert. She must see that her own hands are perfectly clean and her hair and dress in order. A clean, neat apron will always improve her appearance. The room should be clean and neatly arranged before the meal is served.

If the meal is to be a family one and all are to sit down at the table together, plates will be passed from one to another as they are served, but it will still be well to have one person appointed to wait on the table. She can keep watch and be ready to supply more bread, water, etc., when it is necessary and to change the plates for the dessert course. She should rise from the table quickly and quietly in order not to disturb the others and should take her place again as soon as all necessary service has been rendered.

The following rules should be observed: Always handle tumblers from the base, being careful not to bring the hands in contact with the upper edge. Fill only three-fourths full.

Serve butter in neat, compact pieces. Put on the table just before the meal is served.

Cut bread in even slices, pile neatly on serving plate, and place on table, covering with a clean napkin or towel if flies are bad or there is danger of dust. Place dessert dishes at one end of the table, or better still on a side table until time to use them. When carrying dishes to and from the table be careful not to put the fingers in contact with the food. Learn to place the hand under the dish. In nice service a napkin is used between the hand and the dish or a tray is used if the dish is a small one. The tray should be covered with a napkin or doily.

When a dish is passed, hold it at the left of the person to be served low enough so that she can help herself readily. Be sure that each dish of food is supplied with a spoon or fork for serving, and turn the handle of the serving spoon or fork toward the one being served.

If a plate is to be placed in front of a person, set it down from the right and remove it from the right. Never reach in front of others at the table.

When a course is finished remove all large dishes first; then the soiled plates, knives, and forks. Be careful to handle only a few dishes at a time and not to pile them. If another course is to be served, crumb the table, using a napkin and plate for the purpose and brushing the crumbs lightly into the plate. Fill the glasses and arrange the dishes and forks or spoons quickly for the next course.

When the meal is over the chairs should be moved back from the table, the dishes neatly piled and carried to the kitchen sink, the table wiped off, the crumbs brushed up from the floor, and the room aired.

PRELIMINARY PLAN.

Let this lesson be a continuation of the previous one, putting emphasis on the method of waiting on table. The same articles for setting the table will be required that were in use in the last lesson. In addition to these the girls must be careful to have clean aprons for the lesson on table service.

METHOD OF WORK.

Have the table set as a review of the work of the last lesson; then have four or six of the girls seated at the table and go through the forms of serving one another to any simple meal upon which the class may decide. Family meal service should be explained and demonstrated first; then service where there is one waitress. Have one girl act as waitress and serve all the others. Let them take turns in offering and placing food, removing soiled dishes, filling tumblers, etc.

LESSONS VIII AND IX. GENERAL CLEANING OF A ROOM.

SUBJECT MATTER.

Rooms which are in constant use should be brushed up and dusted every day. A thorough cleaning of each room in the house will be necessary every week or two, even though the room is brushed up and kept in order every day. First, all closets, drawers, and other receptacles in which articles collect should be cleaned; then all large movable articles should be dusted and moved out of the room; those that are not readily movable should be dusted and covered. The floor should be swept with the windows closed; then the windows should be opened and the ceiling and walls brushed with a covered broom and the dust allowed to settle. Then the floor should be wiped with a damp cloth on the broom.[1] The woodwork should be cleaned with a damp cloth and a soap that is not too strong. Soda or sapolio should not be used. The furniture should be carefully uncovered and all arranged in perfect order.

The things that are highest up should be dusted first and care should be taken to collect all dust in the dust cloth. The cloth should be shaken out of doors after collecting the dust, washed thoroughly, and boiled after using. The dust cloth should be dampened before using on all surfaces except the polished furniture and windows.

Sweeping should be done with short strokes and the broom kept close to the floor, so that the dust will not fly about. The corners of the room should be swept first, the dust gathered in the center of the

[1] If the floor is of unfinished wood it will require a thorough scrubbing. After sweeping the floor and allowing the dust to settle, a small portion should be scrubbed at a time with a floor brush and soap. The grain of the wood should be followed when scrubbing. Scrubbing water should be changed frequently. A cloth should be wrung out of clear water for rinsing and drying the floor.

room and then swept into the dust pan. The dust should be burned up; for it may contain disease germs. The broom should be cleaned after using.

Small rugs should be cleaned out of doors. They should be swept, beaten, and reswept, then rolled until ready to put on the floor. If the rug is a large one and can not be removed, it should be wiped over with a damp cloth, rolled up, and the under side of the rug and the floor beneath it wiped up.

After the room has been cleaned, the windows should be arranged so that a supply of fresh, clean air can come constantly into the room. This is essential to every room in the house if perfect health is to be maintained.

PRELIMINARY PLAN.

It will be well to have Lesson IX given in one of the homes some day after school hours, if possible. If that can not be arranged, the schoolroom can be utilized as the place for practice.

METHOD OF WORK.

Devote Lesson VIII to a discussion of the methods of cleaning and to various short tasks about the schoolroom. In Lesson IX have the girls go through the entire process of cleaning a room. Assign some portion of the task to each one of the girls so that all of them can take part in the work. Supervise the work carefully, assign home practice in the cleaning of rooms, and have each girl clean a room at home once a week for a month

LESSON X. CARE OF THE BEDROOM.

SUBJECT MATTER.

As soon as one is dressed in the morning, the windows in the bedroom should be opened to air the room and the bedclothes should be separated and put on chairs before the window to air. The slops should be emptied and the chamber washed with cold water, using a special cloth. The bowl should be washed in warm, soapy water, which should then be poured into the chamber and used for washing it. The toilet articles should be washed, then the bowl rinsed and wiped dry. The slop jar should be washed out thoroughly, and frequently the slop jar and the chamber should be washed out with chloride of lime or some other disinfectant. The pitcher should be filled with fresh water and all articles arranged neatly on the washstand. If towels are soiled, clean ones should be supplied. The bed should be made carefully, the mattress turned, the first sheet tucked under the mattress all around, and the other covers tucked in at the bottom and two sides of the bed. The bed should be kept free from wrinkles and smooth in appearance. The pillows should

be well shaken and arranged at the head of the bed. The floor should be brushed up, the furniture dusted, and everything put in place. The windows should be left partly opened so that the bedroom is well aired. A sufficient amount of fresh air is absolutely essential in a bedroom, and it is important that the room be well aired out during the day and left with windows open at night.

When the room is to be thoroughly cleaned, the frame of the bed should be dusted and the bed made up. The window shades should be dusted and rolled up. Curtains should be well shaken and covered if one has a dust sheet. All small articles on the bureau, table, and shelf should be placed on the bed and the whole covered with a sheet. Tables, chairs, and any other movable pieces should be dusted and set outside the room or covered. Rugs should be rolled up and cleaned out of doors. The room should be swept and dusted. As soon as dust has settled, covers should be removed from the furniture, and the furniture, rugs, and all small articles should be restored to their places. Shades should be adjusted and the room left in perfect order. The broom and everything else that has been used in the work should be cleaned and put back into place.

PRELIMINARY PLAN.

It may be possible for the teacher to give this lesson in her own bedroom or in the bedroom of some of the neighbors. Unless this is feasible the only way to have it effective is to have the girls report each day on the work they do at home.

METHOD OF WORK.

Illustrate each process and give reasons for everything that is done. Emphasize the importance of the sanitary care of the bedroom, a regular time for doing the work, and the benefit of having each member of the family care for her own personal belongings and her own portion of the bedroom.

LESSON XI. CARE OF LAMPS.[1]

SUBJECT MATTER.

Directions for cleaning and filling the lamp.—A bright light comes from clean burners that allow a good draft. This means constant care on the part of the one that looks after the lamps. In the daily cleaning of lamps, first dust the chimney shade and the body of the lamp. Wash the chimney. If sooty, clean with newspaper before washing. Next, turn the wick high enough to show all the charred part; cut this off, making it perfectly even, then rub with a piece of

[1] It is assumed that the teacher is acquainted with the possibilities of electricity and other methods of better lighting in country homes, and will instruct her pupils in the economic use of modern lighting facilities.

soft paper. Wipe off the burner and any other part of the lamp that seems oily. Dry with another cloth. Fill the body of the lamp with oil within an inch of the top, leaving plenty of room for the gas that may be generated from the kerosene. The gas that is generated in a lamp that has been used many times without refilling may be a source of danger.

When lighting the lamp first turn the wick down, allowing the chimney to become heated gradually. If necessary to move the lighted lamp, first turn the wick low. The flaring up of the flame smokes the chimney. Do not leave a lighted lamp in a room where there is no one to watch it. When putting out the light, blow across the chimney, never down into it, as this might send the flame down into the kerosene.

About once a month give the lamp a thorough cleaning. Spread out a newspaper and take the lamp apart. Wash the chimney and shade in hot water and dry with a towel. Polish, using soft paper. Boil every part of the burner in water to which two tablespoons of soda have been added. Put new wicks in if all old ones are dirty. Put the parts all securely together again. Keep an old pan and cloths exclusively for this purpose, and be very careful not to get a drop of kerosene or the dirty hands near any foods.

Have a regular time of the day for cleaning lamps, preferably immediately after all the morning work has been done after breakfast. Do not fill the lamps near the kitchen stove. Do not light a match while the oil can is out. Never fill a lamp while lighted or while near another one which is lighted. If a fire is caused by kerosene, smother it with a heavy rug or woolen garment. Do not attempt to put it out with water.

PRELIMINARY PLAN.

It will be well to give this lesson just before some evening entertainment at the schoolhouse. If there are no lamps at the school have a few brought in from neighboring homes. Secure an old pan and cloths to use in cleaning.

METHOD OF WORK.

Talk with the girls about the cost and properties of kerosene and the danger of having a light near a can of kerosene. Explain the draft by means of which the kerosene can be made to burn on the wick, and the danger if the burner becomes clogged up and the draft cut off. Have the lamps taken apart, burners boiled, chimneys cleaned, and body of the lamps filled and wiped off. Then have the lamps lighted to see that they burn properly.

LESSON XII. PREVENTION OF PESTS.

SUBJECT MATTER.

Household pests are annoying, dangerous to health, and destructive to property. Pests carry disease germs from one person to another and from other animals to human beings. Absolute cleanliness in every part of the house is essential if the place is to be kept free from pests. As a rule, pests flourish in dark, damp, dirty places. The housekeeper can keep her place free from pests with the proper care. If pests get started, the housekeeper should know how to exterminate them.

A few simple methods of extermination are here given:

Bedbugs. Kerosene should be poured into all cracks and a brush, dipped in kerosene, run briskly over all surfaces. Care must be taken to have no fire in the house while this is being done. Windows should be open and the room kept free from dust. In four days this should be repeated, to kill any bugs that may have just hatched.

Cockroaches and waterbugs.—A solution of 1 pound of alum to 3 pints of water should be poured into all cracks. Insect powder and borax are also effective. Absolute cleanliness and freedom from dampness are necessary if the house is to be kept free from roaches.

Ants.- Oil of cloves or pennyroyal on pieces of cotton batting scattered about in the places where ants appear will drive them away. Saturating the nests with coal oil will destroy them. Food which attracts ants should be removed from places which they are apt to reach.

Rats and mice are best exterminated by the use of a trap or some preparation like "Rough on Rats." Traps should be set nightly and should be scalded and aired after a mouse has been caught. Rat holes may be stopped up by sprinkling with chloride of lime and then filling with mortar or plaster of Paris.

Mosquitoes breed in swampy places or in old barrels or kegs or tin cans which hold stagnant water. Therefore, if the swampy places be drained and the grounds about the house kept free from stagnant water the housekeeper will generally not be troubled with mosquitoes. Empty barrels or kegs should be inverted and old tin cans should have a hole punched in the bottom so that they will not catch water. All high weeds near the house should be cut down and destroyed so that they will not provide a damp place to harbor mosquitoes. If it is impossible to get rid of all standing water, the breeding of mosquitoes can be checked by pouring kerosene oil on the water. One ounce of oil on 15 square feet of water is sufficient. This will have to be renewed at least once in 10 days. The doors, windows, and ventilators of the house should be well screened as a protection against mosquitoes.

Flies are one of the greatest carriers of typhoid and other germs and filth of all sorts. They can be gotten rid of only when the breeding places are destroyed and the flies killed as rapidly as possible. Materials that attract flies should not be exposed in and about the house. The house should be well screened with wire mesh or mosquito netting to keep out the flies. A fly swatter should be kept at hand. Stables should be cleaned daily and the barn lot frequently sprayed with kerosene, creoline, or lime.

Fleas will be troublesome if cats or dogs are kept in the house. These house pets should be given frequent baths, the rugs on which they lie should be brushed and shaken daily, and the floors washed with soap and water and wiped with kerosene.

Moths are apt to develop in woolen garments unless the garments are thoroughly shaken and absolutely protected by wrapping in newspaper and put away. Woolen garments that are used only occasionally should be kept in a light, dry place, handled frequently, and hung in the sun occasionally. Moths or carpet beetles can be exterminated from carpets by applying kerosene.

PRELIMINARY PLAN.

Give this lesson at a time when the girls are asking about the household pests or when the school is suffering from some pests. It would be well to have the lesson in the spring just before school closes, so that the girls can put into practice what they learn. It may be desirable to devote the efforts to the destruction of one particular pest. For example, a fly crusade may be inaugurated.

METHOD OF WORK.

If there are pests in the schoolroom, discuss their habits, what seems to attract them, where they come from, etc. Have girls report any pests they have at home. Explain why they are dangerous, tell how they can be exterminated, and assign to each girl the extermination of one household pest. Have her report each day the success of her efforts. Continue this work for several weeks.

LESSON XIII. REMOVING STAINS, BLEACHING FABRICS, AND SETTING COLORS.

SUBJECT MATTER.

As garments and household linens are apt to become stained and thus lose their attractiveness, it is well to know remedies for the most common stains and the principle upon which their removal depends. All stains should be removed as soon after they occur as possible. Boiling water will loosen and remove coffee, tea, and fresh fruit stains. The stain should be held over a bowl and the

water poured upon it with some force. Cold water will remove stains from blood or meat juice. Soaking will help in the removal of blood stains. Rust stains can be removed by wetting the stain with lemon juice, covering with salt, and placing in the sun. Stains from stove blacking, paint, and grass can be removed by soaking in kerosene and washing well with soap and water. Ink stains can be removed by soaking in water, removing as much as possible, then soaking in milk. Stains from cream and other forms of grease can be washed out in cold water, followed with warm water and soap.

White cotton and white linen materials can be bleached by exposing while damp to the sunshine. If left out overnight the bleaching process is made effective by the moisture furnished by the dew and frost. A stream of steam from the teakettle may also help the bleaching process.

Some colors are set by the addition of a small amount of acid to the first water in which they are soaked, while others are set by the use of salt. It is necessary to try a small amount of the material before dipping in the entire garment in order to be sure of results. Vinegar should be used for blues; use one-half cup to one gallon of water. Salt is most effective for browns, blacks, and pinks. In most cases two cups of salt to one gallon of cold water will be enough.

PRELIMINARY PLAN.

The towels used for drying dishes or the linen used for some school entertainment may have become stained with coffee, fruit, or some other substance. Make this the basis of a lesson and have the girls bring other things from which they wish to remove stains. Each girl should have an article from which to remove a stain. Let this lesson be preliminary to the lesson on laundry work.

METHOD OF WORK.

Examine the various articles at hand from which stains are to be removed. Discuss the method of removal and have each girl work on her own stain until it is as nearly removed as possible.

LESSON XIV. WASHING DISH TOWELS, SCHOOL CURTAINS, ETC.

SUBJECT MATTER.

Dish towels should be thoroughly washed out at least once a day. Wash one piece at a time (cleanest first) in warm soapy water and rinse in clear water in another pan. Hang up in the sun, if possible, so that the air will pass through. Boil at least once a week in soapy water to keep fresh and white. Sunshine and fresh air are valuable for the purpose of bleaching and purifying.

Wash the school curtains in hot, soapy water; boil, rinse, and blue slightly. A small amount of thin starch may be desirable for the curtains. A thin starch can be made as follows:

RECIPE FOR THIN STARCH.

½ cup starch.
½ teaspoon lard.
½ cup cold water.
3 pints boiling water.

Add the cold water to the starch and lard, stir until smooth, then add the boiling water slowly, stirring constantly. Boil for several minutes in order to cook the starch thoroughly; then add one pint of cold water and a small amount of bluing. Dilute if necessary.

Hang the curtains in the sun to dry, shaking well before putting on the line and folding the edge over at least 6 inches. Be sure to have a clean line. When dry, fold carefully. A short time before ironing, sprinkle well.

PRELIMINARY PLAN.

It may be desirable to give this lesson earlier in the course, if cooking lessons are being given and dish towels are in use, or if the school curtains are badly soiled. Other articles may be washed if time and facilities permit.

METHOD OF WORK.

Discuss briefly the need for laundry work and the general principles. Have the girls each take a turn washing the towels or curtains; examine the article after it is washed and give careful directions for the boiling, bluing, and starching. While these processes are being completed, have some of the girls prepare the line. Have two girls appointed to bring the towels in off the line before they go home from school.

LESSON XV. IRONING.

SUBJECT MATTER.

To do good ironing it is necessary to have a firm, unwarped ironing board. This should be covered with some thick woolen material and a white muslin cover that is clean, smooth, and tightly drawn. The thick cover should be tacked on, while the top cover should be pinned so that it can be easily taken off for cleaning. A heavy holder should be provided for handling the irons. Irons should be clean and smooth. Paper should be kept at hand to keep the irons clean and a piece of beeswax, sandpaper, or salt should be provided for keeping them smooth. A small cloth should be used to wipe off the iron after using the beeswax. A newspaper should be spread on the floor to protect any pieces that may hang down that far while being ironed. The coarser towels should be ironed first, as the irons grow smoother the longer they are used. Starched pieces should not be

ironed until the irons have become very hot. Every piece should be ironed until perfectly dry. If the article is first laid smooth it will be easier to iron it and keep it in shape. As soon as ironing is completed the articles should be hung up to air out well.

PRELIMINARY PLAN.

Arrange to have the ironing lesson just as soon after the laundry lesson as possible. It will probably be easy to borrow the necessary equipment from near-by homes. Each girl can be appointed to bring something that will contribute toward the equipment and one girl can be appointed to have the fire ready and another to put the irons on to heat before the lesson hour.

METHOD OF WORK.

Call the girls together early in the morning or at some other time previous to the lesson period and give them directions for sprinkling the articles to be ironed. When the class hour comes, demonstrate the method of ironing, folding, and hanging the articles and have the girls take turns doing the work.

LESSONS XVI AND XVII. CARE OF THE BABY.

SUBJECT MATTER.

Because young girls are fond of little children and must often help their mothers with their baby brothers and sisters, they should know how to care for them. It is essential that they understand the following points: The little body needs protection. The head is soft and the brain may be injured by hard bumps or pressure. The skin is tender and is easily irritated by the bites of insects, friction, etc. Kicking, wiggling, etc., are necessary to the development of the baby's muscles, but the baby should not be played with all the time for it is well for it to lie quietly a portion of the time while awake. It should not be made to sit up until ready to do so. A desire to creep should be encouraged. Standing or walking should not be taught the baby until it tries to do so for itself and then it must be helped very carefully.

The baby should have plenty of fresh air and should be allowed to spend much of its time out of doors. In cold weather the baby must be warmly covered and sheltered from high winds. Its eyes should always be protected from strong sunlight.

Regular hours should be observed for sleep and the baby should be put to bed early at night. If the house is not well screened, a mosquito bar should be put over the baby's crib. Clothing should be light and loose, so that the body can move freely.

Perfect cleanliness is necessary to keep the baby's skin in good condition. A daily bath should be given. A morning hour is usually the best time for bathing the baby, midway between the meals. The baby should be taught to use the chamber before the bath and after the nap. Everything should be ready before the baby is undressed. The room should be very warm. The water should be only moderately warm and should be carefully tested to make sure that it is not too hot. The towels and covers for the baby should be at hand. The head and feet should be washed first, and the body soaped before putting the child into the bath. Little soap should be used for washing the baby, for even the best soap is strong and apt to irritate the delicate skin. The bath should be given quickly, the body wiped very dry and covered as soon as washing is completed.

The baby should be fed in small quantities at regular intervals and given plenty of cold water to drink. Not until 11 or 12 months of age should it be given solid or semisolid food. Even then milk should continue to form the basis of the child's diet, and of this a considerable quantity should be used—about a quart a day from the twelfth month on. As the child grows older a more varied diet will be necessary. The most hygienic methods of food preparation must always be observed.

Certain foods should never be given: Fried foods, pastries, condiments, pickles, preserves, canned meats, fish, pork, sausage, cheap candies, coarse vegetables, unripe and overripe fruits, stimulants, foods treated with a preservative or coloring matter, and half-cooked starches.

PRELIMINARY PLAN.

The teacher should talk with the girls in order to see what points in connection with the care of the baby it is necessary for them to know in order to do their work at home intelligently.

METHOD OF WORK.

It will probably not be possible to have anything more than a class discussion of the points in question, but the girls' home experiences ought to make this discussion vital. If there is a nurse is the neighborhood who can be secured to give one lesson on the care of the baby, the teacher should supplement her own lessons with an additional lesson by the nurse.

In connection with the care of the baby the teacher will be able to secure help from bulletins entitled:

Infant Care, Care of Children, Series No. 2, Bureau Publication No. 8, Children's Bureau, United States Department of Labor, Washington, D. C.
Food for Young Children, Farmers' Bulletin 717, Division of Publications, Department of Agriculture, Washington, D. C.
The Care of the Baby, United States Public Health Service.
The Summer Care of Infants. United States Public Health Service.

LESSON XVIII. COST OF FOOD, CLOTHING, AND HOUSE.

SUBJECT MATTER.

It is of great importance that all children learn the value of property in an elementary way. This will prepare them for the knowledge of the cost of living that is essential. They can learn that the cost of food can be decreased by keeping gardens and by proper choice, care, and handling of foods; that care of clothing will reduce this item of expense; and that the owning of one's own house and lot is something worth working for in order to reduce the cost of rent.

PRELIMINARY PLAN.

The teacher will have to acquaint herself thoroughly with conditions in the community so that she can talk intelligently with the girls, emphasize the right points, and give them constructive help.

METHOD OF WORK.

Begin with a discussion of the cost of food; how much the children earn or spend during the week; and why it is worth while to cook and sew well, and look after property. Continue such discussions from time to time in connection with other school work.

LESSON XIX. HOW TO KEEP ACCOUNTS.

SUBJECT MATTER.

It is well for one to keep a written record of all money received and all money spent. Children should be taught to do this as soon as they are big enough to have money in their possession. A simple little notebook in which all expenditures are entered on the right side and all receipts on the left side, with the balance drawn up each week or month will prove an easy and satisfactory method of keeping accounts. If the little girl learns to do this with her pennies, she will be better able to take care of the more important household accounts when she is in charge of a home. However, there will be no good incentive for her to keep accounts unless she is endeavoring to save for some good purpose. If she learns to save for the future purchase of a book, a dress, or some little treat, she will feel that her account keeping is worth while. As a housekeeper she will appreciate the importance of saving for some future good to the family—a better house, school for the children, etc.

PRELIMINARY PLAN.

In order to make the lesson on keeping accounts of vital interest, introduce it at a time when the girls in the class are saving for some specific purpose—material for a dress to be made in sewing class, refreshments for a party for their mothers, a school library, or something else that will be a pleasure and help in school work.

METHOD OF WORK.

After discussing the possible sources of income of the girl and of her family, and the means of increasing and taking care of that income, discuss simple methods of keeping accounts, illustrate them on the blackboard, show how to balance the accounts, and see that each girl has a small book for the purpose. It may be necessary to make or to rule this book as a portion of the class exercise.

LESSON XX. CARE OF THE EXTERIOR OF THE HOUSE.

SUBJECT MATTER.

Closely allied to the housekeeper's work within the home is the care of the exterior of the house and its surroundings. It is absolutely necessary that the grounds be kept neat and clean. In addition to this they should be made attractive by the careful selection of a few shrubs rightly placed. While the gardens at the rear of the house may be planned solely for the pleasure and use of the family, in planning the lawn at the sides and front of the house the neighbors and passers-by must be considered. The grounds should be a picture of which the home is the center, the shrubs being grouped to frame the picture. In order to do this, the center of the yard should be left open with an occasional tree or shrub, so placed and pruned that it will not hide the house. Shrubs and vines should be planted close to the house to break the severe line between the house and lawn, and so utilized as to hide the sheds. The arrangement and varieties of shrubs and vines should harmonize both at the front and sides of the house. One, two, or three kinds should be chosen as a basis. If a shrub is planted at one corner of the house, the same variety should be planted at the other end. Similarly, the same sort of vine should be planted on both sides of the front porch. Care should be taken that vines do not cut off the supply of light and air from the interior of the house.

The following list of shrubs and vines for planting close to the house may be suggestive:

Shrubs: Barberry, deutzia, forsythia, hydrangea, Japanese quince, dwarf euonymus, lilac, privet, spirea, snowball, cape jasmine, sweet shrub.

Vines: Boston ivy, clematis, English ivy, honeysuckle, wistaria, climbing roses, climbing euonymus.

The center of the lawn should be left free of unnecessary walks, drives, piles of stones, or pieces of statuary. A few flowers should be planted among the shrubs to give color at different seasons.

The exterior of the house itself must be considered, if the picture framed by the shrubs and vines is to be a pleasing one. The house should be painted in a soft brown or dark green to blend with the landscape of oaks and pines. The paint will help to preserve the

house, but its color must be carefully chosen in order to give a pleasing effect.

The back yard should be used for vegetable gardens with flower borders. For this purpose a deep, rich soil is necessary and every square foot of space should be utilized. Every family should learn to make use of an increased number of vegetables and fruits and to cook them in a variety of ways. No crops should be allowed to go to waste. Intensive 12-months gardening should be practiced. A family of five people could be entirely provided with vegetables from a garden less than 75 by 50 feet.

With the exception of sweet peas, all flowers needed for picking purposes should be grown in the flower borders in the back yard. Sweet peas should be planted in rows in the vegetable section. The attractiveness, as well as the usefulness, of the flower borders depends upon the choice and arrangement of flowers. The flowers should be chosen as to height of plants, color of blooms, and seasons of blooming. The tallest plants should be placed at the back of the border; for a border 6 feet wide none of the plants need be over 5 feet. There can be a riot of colors if the flowers are arranged in clumps of four to six throughout the entire length of the border. In a well-planned flower border some flowers should be in bloom each month. Hardy perennial flowers should predominate, with enough annual flowers to fill up the spaces and hide the soil. A surprisingly large number of plants will be needed. Perennial flowers should be started in seed beds in March and the plants transplanted into the flower borders in October. Annual flowers should be started in flats in early spring and the plants transplanted into the flower borders in April. The well-tried, old-fashioned flowers will give the best satisfaction. Every four years the flower borders need to be spaded, well manured, and replanted.

LISTS OF FLOWERS FOR BORDERS.

Perennials.—Bleeding heart, carnations, chrysanthemums, columbine, coreopsis, dahlias, gaillardias, golden glow, iris, larkspur, oriental poppies, peonies, phlox, pinks, platycodon, snapdragon.

Biennials.—Forget-me-not, foxglove, Canterbury bells, hollyhock, sweet-william, wallflower.

Annuals.—African daisy, ageratum, aster, calendula, calliopsis, balsam, candytuft, cornflower, cosmos, marigold, mignonette, nasturtium, petunia, poppy, stock, sweet alyssum, sweet pea, verbena, zinnia, annual phlox, red sunflower, cut-and-come-again sunflower.

Each home gardener will need to study garden literature to help solve the garden problems, for the day has passed when one needs only to scratch the soil with a shell, plant the seeds and receive an abundant crop. To-day successful gardening depends upon intelligent management of the soil and crop, and upon persistent labor.

The Department of Agriculture at Washington, D. C., publishes many helpful farm bulletins that may be secured free of charge.

Many State experiment stations publish bulletins on vegetable growing. These bulletins are sent free of charge to the people within the State on application to the director of the experiment station. A few of the bulletins published by southern experiment stations are:

The Home Vegetable Garden.—Virginia Truck Experiment Station, Norfolk, Va.
Truck Growing in North Carolina.—Department of Agriculture, Raleigh, N. C.
Vegetable Gardening.—Georgia Experiment Station, Experiment, Ga.
Farm Gardens.—Division of Extension, College of Agriculture, University of Tennessee, Knoxville, Tenn.

Books on gardening that are useful for the home garden.

Card.—"Bush Fruits." Price, $1.50. The Macmillan Co., New York City.
Duncan.—"When Mother Lets Us Garden." Price, 75 cents. Moffat, Yard & Co., New York City.
Ely.—"A Woman's Hardy Garden." Price, $1.75. The Macmillan Co., New York City.
French.—"The Beginner's Garden Book." Price, $1. The Macmillan Co., New York City.
Lloyd.—"Productive Vegetable Garden." Price, $1.50. Lippincott Co., Philadelphia.

The United States Bureau of Education through its division of school and home gardens sends out literature and gives direct assistance to those schools that wish to have the home-garden work carried on by their pupils.

PRELIMINARY PLAN.

The teacher should visit the homes of all the children in order to make herself familiar with the condition in which their grounds are kept. She may be able to secure permission from one of the housekeepers to use her grounds for the practice place for the lesson, or it may be more desirable to give this lesson at the school and to conduct a school garden as a model home garden.

METHOD OF WORK.

Discuss the arrangement and care of the home or school grounds. Have the class clean up the lawn and garden chosen for the lesson, supervising the work carefully. Assign the cleaning up of the home lawns or work in the home gardens for the coming week. Let this lesson serve as a means of interesting the girls in home gardening, if that has not already been taken up, or of emphasizing the relation of gardening to the housekeeper's work if they are already interested in gardening.

TWENTY LESSONS IN COOKING.

For the Rural Schools.

OUTLINE OF THE COURSE.

Lesson I. Discussion of foods and cooking. Management of the kitchen stove. Cooking by dry heat. Baked vegetables or fruit.

Lesson II. Water and mineral matter in vegetables. How to prepare and serve uncooked vegetables, lettuce, cress, cabbage, etc. Cooking by moist heat. How to boil, season, and serve beet tops, turnip tops, cabbage sprouts, kale, spinach, or other vegetable greens.

Lesson III. The value of carbohydrates in the diet. Potatoes as a source of carbohydrates. The choice, cost, care, composition, food value, and cooking of sweet potatoes and white potatoes. Baked squash. Steamed squash.

Lesson IV. Fruits—their food value and use. Reasons and rules for canning. How to can and use such vegetables as beets, beans, tomatoes, and carrots, and such fruits as figs, grapes, muscadines, apples, and peaches. The drying of fruits and vegetables.

Lesson V. Fats and oils. Vegetables, continued. Preparation of white sauce to serve with vegetables. How to boil, season, and serve such vegetables as lima or butter beans, string beans, cowpeas, onions, okra, cabbage, collards, corn, beets, turnips, or carrots.

Lesson VI. Cereals—kinds, composition, care, and general rules for cooking. Oatmeal, cracked wheat, hominy grits, corn-meal mush, or rice. Fruits to serve with cereals—stewed prunes, stewed apples, or apple sauce.

Lesson VII. Classification of foods, reviewed.

Lesson VIII. The planning and serving of meals.

Lesson IX. Milk. Care, cost, and food value of milk. The value and use of sour milk—cottage cheese clabber. Rice or corn starch pudding (plain, caramel, or chocolate).

Lesson X. Soups. Cream soups. Cream of carrot, potato, or onion soup; green pea or cowpea soup. Toast, croutons, or crisp crackers to serve with soup.

Lesson XI. Eggs. Food value and general rules for cooking. Eggs cooked in shell, poached, scrambled and omelet.

Lesson XII. Simple desserts. Custards.

Lesson XIII. Batters. Corn bread and hoe cake.

Lesson XIV. Batters (continued). Methods of making batters light. Use of sour milk and soda. Egg corn pone and corn muffins. Baking-powder biscuits.

Lesson XV. Meat. Composition and food value. How to make tough cuts palatable. Pork chops with fried apples. Beef or mutton stew with vegetables and dumplings. Rabbit stew. Bacon.

Lesson XVI. Baked pork and beans or baked cowpeas. Corn dodgers.

Lesson XVII. Butter cakes. Plain yellow cake. Cocoa, coffee, tea.

Lesson XVIII. Yeast bread.

Lesson XIX. Serving simple dinners without meat. Baked omelet, macaroni and cheese.

Lesson XX. Sugar. Food value and cooking. The use of peanuts in candy. Peanut cookies, or peanut, molasses, or fudge candies, to be made for a special entertainment.

SUGGESTIONS FOR THE TEACHER.

The teacher should learn how the children in her school live in their own homes, what foods they use, what foods they raise, and how they prepare and serve their foods. The instruction given in the lessons should be based on this knowledge. Possibilities for the improvement of accepted methods should be considered. Those foods should be used in the recipes which the children can afford to use at home. They should be encouraged to raise other foods in their gardens and to keep chickens, pigs, and cows.

Elementary principles of nutrition and sanitation should be taught. Simple meals should be planned with plain but well-cooked dishes. Variations should be suggested and the value of a mixed diet emphasized. Care should be taken not to waste time on points that are unrelated to the homes of the girls, except as such points may be necessary to raise their ideals.

All the work should be carefully done. Sanitary handling of food and care in storage of foods should be insisted upon. Careful attention should be given to the dish washing, care of dish towels, etc., emphasizing those points in sanitation involved. The girls should be drilled faithfully in all points essential to the handling of anything that comes in contact with the food.

Proper methods of sweeping and cleaning should be employed and thoroughness practiced in every detail of the work. Thorough drill in these processes should be given.

The order in which the lessons are to be given will be regulated in part by the season of the year in which they occur, the locality, the foods obtainable, and any special local needs. However, care must be taken that the lessons occur in proper sequence, so that the pupils will see the relation of one to the other and will appreciate the value of each. It may be necessary to combine two lessons or to give only part of a lesson. In some of the lessons more recipes are suggested than could be prepared in a brief period. In every case the choice of recipe will have to be made by the individual teacher. Wherever possible, simple experiments to show the composition and effect of heat on food should be used.

No attempt has been made to give a complete set of recipes. Those included are chosen to illustrate the subjects to be discussed in the lessons. A few have been taken from the Farmers' Bulletins and from circulars of the Extension Service of the Department of Agriculture. The others have been carefully tested and used with satisfactory results. The teacher who desires to make use of a greater number of recipes will do well to supply herself with one of the textbooks listed. Level measurements should be used in the preparation of all the recipes and all the directions should be carefully followed.

The first few lessons are more fully outlined than the others, furnishing suggestions for methods of procedure that can also be adapted to the later lessons. The teacher should have a detailed plan for every lesson, outlining her method of work, the leading questions for the discussion, and the home assignment which she desires to make.

Foods that are in common use are suggested for the lessons outlined. There will necessarily be exceptions to their use in different

localities. If foods used in the homes are harmful because of the manner in which they are prepared, the teacher should do all in her power to correct the custom, but she must be careful not to be too radical. If the lessons given are not repeated by home practice, time will be practically wasted. Simple meal service should be introduced wherever possible, and as much instruction on the furnishing and care of the kitchen should be included as time permits.

By the time the course is completed, the girl should be able to keep her kitchen in sanitary condition, and she should have a knowledge of food values and of the processes of cooking sufficient to provide simple, wholesome meals for her family.

For the teaching of food values, it will be helpful to secure the set of 15 food charts, that can be obtained for $1 from the Superintendent of Documents, Government Printing Office, Washington, D. C.

The State Department of Education or the State university, college, or normal schools, through their extension departments, may issue material that will be of help to the rural teacher in planning her lessons.

The teachers will find it helpful to secure and study the Farmers' Bulletins listed below. Single copies of these bulletins can be obtained free by writing to the Division of Publications, Department of Agriculture, Washington, D. C.

FARMERS' BULLETINS.

No. 34. Meats: Composition and cooking.
No. 142. Principles of nutrition and nutritive value of food.
No. 203. Canned fruits, preserves, and jelly.
No. 249. Cereal breakfast foods.
No. 256. Preparation of vegetables for table.
No. 293. The use of fruit as food.
No. 359. Canning vegetables in the home.
No. 363. The use of milk as food.
No. 389. Bread and bread making.
No. 391. Economical use of meat in the home.
No. 487. Cheese and its economical uses in the diet.
No. 521. Canning tomatoes at home and in club work.
No. 535. Sugar and its value as food.
No. 559. Use of corn, kafir, and cowpeas in the home.
No. 565. Corn meal as a food and ways of using it.
No. 653. Honey and its uses in the home.
No. 712. School lunches.
No. 717. Food for young children.
No. 807. Bread and bread making in the home.
No. 808. How to select foods. No. I. What the body needs.

EQUIPMENT FOR COOKING LESSONS.

The following list of utensils would provide an adequate equipment for cooking lessons. Some of the utensils should be ordered in larger numbers, if the class is large and if funds permit. If it is possible to obtain serving dishes, they should be provided for a small number of persons and used both in class practice and for social purposes. If the school is an active social center and the dishes are to be in use frequently for many people, the number provided should not be so limited. If school lunches are served, each pupil may well provide his own dishes. Dust cloths, broom, etc., have been included, so that simple lessons in housekeeping may be given.

COOKING UTENSILS.

	Approximate cost.
Baking dish	$0.30
Bowls, mixing, 2	.60
Bread board	.25
Bread box	.25
Broom	.35
Brush, scrubbing	.10
Brush, vegetable	.10
Can opener	.10
Containers, lard pails or cans	
Corkscrew	.10
Cups, measuring, 2	.20
Cups, mixing, 2	.10
Cutters for biscuits or cookies	.10
Dishcloths, 2	.10
Dish pans, 2	.40
Dish towels, 6	.90
Double boiler	.75
Dust cloths, 6	.40
Dustpan and brush	.40
Egg beater	.10
Flour sifter	.15
Forks, 6	.60
Frying pan	.90
Glass jars, 6 Mason	.60
Grater	.10
Hand basin	.15
Jelly glasses, 6	.15
Kettle, 6-quart, with lid	.40
Knife, bread	.30
Knife, butcher	.15
Knife, paring	.20
Knives, case, 6	.60
Meat grinder	.70
Mop	.40
Molding board	$0.35
Muffin tins, 2 sets	.20
Oil stove	1.15
Omelet pan	.25
Oven	.85
Pail, garbage (covered)	.90
Pails, water, 2-quart, 6-quart	.80
Pan, baking	.20
Pan, cake	.10
Pans, bread, 4	.40
Pans, pie, 2	.10
Pitcher, 2-quart	.30
Plates, 6	.30
Ramakin	.05
Rolling pin	.10
Salt and pepper shakers	.30
Saucepans, 3 (1-quart, 2-quart, 3-quart, with lids)	.60
Soap dish	.10
Spatula	.20
Strainer	.15
Tablespoons, 6	.30
Teakettle	.40
Teaspoons, 6	.30
Tray	.15
Wooden spoons, 2 small	.30
	19.85

Serving dishes.

Bowl.	Plates.
Cream pitcher.	Sugar bowls.
Cups and saucers.	Tablecloth.
Knives and forks.	Tumblers.
Napkins.	

FOODS AND COOKERY.

A suggestive list of textbooks for use in elementary rural schools.

Austin, Bertha J.—"Domestic Science." Price, Vol. 1, 60 cents; Vol. 2, 60 cents. Lyons & Carnahan, Chicago.

Conley, Emma—"Principles of Cookery." Price, 60 cents. American Book Co., New York City.

Flagg, Etta P.—"A Handbook of Home Economics." Price, 75 cents. Little, Brown & Co., Boston.

Jones, Mary C.—"Lessons in Elementary Cookery." Price, $1. Lippincott Co., Philadelphia.

Kinne, Helen, and Cooley, Anna M.—"Food and Health." Price, 65 cents. The Macmillan Co., New York City.

Lincoln, Mary J.—"The School Kitchen Textbook." Price, 65 cents. Little, Brown & Co., Boston.

Metcalf, Martha L.—"Food and Cookery." Price, 95 cents. Industrial Education Co., Indianapolis.

Morris, Josephine—"Household Science and Arts for Elementary Schools." Price, 60 cents. American Book Co., New York City.

Pirie, Emma E.—"The Science of Home Making." Price, 90 cents. Scott, Foresman & Co., Chicago.

Williams, Mary E., and Fisher, K. R.—"Theory and practice of Cookery." Price, $1. The Macmillan Co., New York City.

DETAILED LESSON PLANS FOR THE COURSE IN COOKING.

LESSON I. DISCUSSION OF FOODS AND COOKING.

Management of the Kitchen Stove. Cooking by Dry Heat. Baked Vegetable or Fruit.

SUBJECT MATTER.

Foods.—The body uses food to build and repair its tissues, to provide heat and energy, and to regulate body processes. Foods differ from one another in their composition and in their ability to perform the work of the body. These differences have led to the classification of foods into five groups, which are spoken of as the five food stuffs or food principles.

Cooking.—While some foods can be used as they occur in nature, most foods are made more acceptable by the application of heat. Heat softens the structure of vegetables and fruits, makes tender the tissues of meat, prepares starch for digestion, develops flavor in many foods, and destroys parasites and germs that may be present in food. The five food stuffs are differently affected by heat, some require slow cooking, others require intense heat. Hence, it is necessary to study cooking that each food may be properly prepared.

The stove.—A knowledge of the construction of the stove and the methods whereby heat is obtained is necessary if one is to be a successful cook. For all stoves three things are necessary—fuel, a supply of oxygen, and a certain degree of heat, known as the kindling point, whereby the fire is started. The supply of oxygen is regulated by dampers and checks so arranged as to admit or cut off the draft of air.

The creative dampers are doors or slides that come below the fire box. When open they admit the entrance of air, increase the draft and facilitate combustion.

The oven damper is a flat plate which closes the opening into the chimney flue to decrease the drawing of the draft. When the oven damper is closed, the heat from the fire remains in the stove and passes around the oven.

Checks are slides or doors higher than the fire box, which, when open, allow the cold air to pass over the fire, retarding combustion.

A stove is also provided with means for disposing of the ashes, soot, and the gases formed. All parts of the stove are so arranged that they can be kept clean.

See Twenty Lessons in the Care of the Home. Lesson I.

PRELIMINARY PLAN.

There should be provided for this lesson some fruit or vegetable in season (from the homes of the pupils, if possible) that can be cooked by dry heat. Each child may be able to bring an apple or a potato. The teacher should be sure to have an oven that can be well heated for baking, and to have the fire well started before the lesson begins, so that the oven will be ready for use. If there is no oven, a pan of ashes and hot coals can be arranged to surround the pan of apples in such a way that they will bake.

A lesson in geography and nature study should be correlated with the cooking lesson to give the pupils opportunity to study the source of foods and the reasons for cooking foods.

One of the pupils should write the recipes for the lesson on the blackboard before the lesson hour.

RECIPES.

Baked Apples.

Wash the apples, core them, and cut through the skin with a knife so that the apple can expand in baking without breaking the skin. Place the apples in a baking dish, and fill each center with sugar. Cover the bottom of the dish with water one-fourth inch deep and bake until the apples are soft (20 to 45 minutes), basting them every 10 minutes. Place them in a serving dish and pour the juice over them. Serve hot or cold.

Baked Sweet Potatoes.

Scrub potatoes carefully and place in a baking pan. Bake in a hot oven from 45 minutes to one hour. When soft, break skin to let steam escape. Serve in an uncovered dish.

See Farmers' Bulletin 253, Preparation of vegetables for the table. Farmers' Bulletin 293, The use of fruit as food.

METHOD OF WORK.

Discuss very briefly the food that is to be cooked and the method of cooking it. Have as many apples or potatoes baked as there are members of the class or as the baking dish will hold.

Assign tasks to special members of the class.

Put the vegetable or fruit in the oven as quickly as possible to bake.

While baking is in process take up a general discussion of foods and cooking, and a special discussion of the food which is being used and the method of cooking employed in the lesson.

Give as thorough a lesson on the stove and combustion as time permits. Examine the baked article and discuss methods of serving it, time for serving, etc.

Use the finished product for the school lunch or have it served nicely in the class, letting the pupils taste it. Encourage them to bring a dish from home to take the results of their work home for the family meal if a school lunch is not served, or if they do not need a lunch. Give careful directions for washing dishes and supervise the housework carefully.

(It may be necessary to go on with some other recitation before the baking is completed, in which case one member of the class should be appointed to watch the oven.)

Questions to serve as a guide in the development of the lesson:

What food have we on hand for use to-day?
Does this food need cooking? Why?
How shall we prepare it for cooking?
How shall we prepare the oven?
How shall we care for the fire?
How long will it be necessary to cook this food?
(Time the baking carefully and discuss more thoroughly at the close of the lesson.)
How can we tell when it is done?
How shall we serve it?
For what meal shall we serve it?
Of what value is it to the body?
How shall we wash the dishes?

Home assignment.—Pupils should prepare the baked dish at home and report their work at the next lesson.

LESSON II. PREPARING AND SERVING VEGETABLES.

Water and Mineral Matter in Vegetables. How to Prepare and Serve Uncooked Vegetables, Lettuce, Cress, Cabbage, etc. Cooking by Moist Heat. How to Boil, Season, and Serve Beet Tops, Turnip Tops, Cabbage Sprouts, Kale, Spinach, Mustard, or other Vegetable Greens.

SUBJECT MATTER.

Water.—All fluids and tissues of the body contain large quantities of water, therefore water is regarded as one of the most important foodstuffs required by the body. Practically all foods contain some water. The fresh vegetables and fruits provide the body with a high per cent of water.

Water is a valuable medium for cooking. As it heats, small bubbles are formed which continually increase in number and size, but gradually disappear. Some time before the boiling point is reached an occasional large bubble will rise to the surface and disappear. The water has then reached the simmering point, 185°, a temperature frequently made use of in cooking. When many bubbles form and break, causing a commotion on the surface of the water, the boiling point, 212°, has been reached.

Mineral matter.—Mineral matter is a second foodstuff that is needed by the body, but the amount required is very small. If a

variety of food is used there is generally enough mineral matter in the diet. Fruits and vegetables, especially fresh green vegetables, are comparatively rich in mineral matter. Mineral matter builds up the bones and certain tissues like hair, teeth, and nails, and regulates the body processes by keeping the blood and digestive fluids in proper condition.

Green vegetables.—The green vegetables hold an important place in the diet because they contain valuable mineral salts. They also contain a high percentage of water and considerable cellulose. With few exceptions they should be eaten raw, because the mineral salts, being soluble, are lost in the water in which they are cooked, and because the cellulose serves its purpose best in the crisp form. Cabbage is rendered much more difficult of digestion by cooking. Spinach, beet tops, etc., are more palatable cooked. The delicately flavored vegetables should be boiled in a very small amount of water, so that they need not be drained. Thus the mineral matter will be retained when the vegetables are served.

PRELIMINARY PLAN.

There should be provided for the lesson some fresh vegetables in season (from the home of the pupils, if possible), one that can be cooked by boiling, and one that can be served uncooked with a simple dressing.

One of the pupils should write the recipes on the blackboard before the lesson hour.

RECIPES.

Preparation of Fresh Green Vegetables.[1]

Wash vegetables thoroughly, leaving in cold water to crisp, if wilted. Keep cool until ready to serve, then arrange neatly and dress with salt, vinegar, and oil as desired, or prepare a French dressing as follows:

French Dressing.

½ teaspoon salt.
¼ teaspoon pepper.
1 tablespoon vinegar.
3 tablespoons salad oil.

Stir briskly until thoroughly combined and use at once.

Recipe for boiling and seasoning fresh, green vegetables.

Wash vegetables carefully, put on to cook in boiling water. Delicately flavored vegetables (spinach, celery, fresh peas, etc.) will require but little water and that should be allowed to boil away at the last. If spinach is stirred constantly, no water need be added. Starchy vegetables should be completely covered with water, and strong-flavored vegetables (as turnips, onions, cabbage, and cauliflower) should be cooked in a large amount of boiling water.

After vegetables have cooked for a few minutes salt should be added, one teaspoonful to each quart of water.

[1] It may be well to omit from this lesson the uncooked vegetable that is served in the form of a salad and to give it at some other time. It is not well to attempt to teach more than the girls can master thoroughly.

Cook the vegetable until it can be easily pierced with a fork. Let the water boil away at the last. If necessary to drain, do so as soon as the vegetable is tender. Season with salt, pepper, and butter (½ teaspoon salt, ⅛ teaspoon pepper, and ½ tablespoon butter to each cup of vegetable).

See Farmers' Bulletin 256, The preparation of vegetables for the table.

METHOD OF WORK.

Discuss the boiling of water and its value in cooking. Have the girls observe and describe the boiling of water.

If a new tin saucepan or other bright tin vessel is at hand to heat the water in, the changes which take place as the temperature increases will be more readily apparent and the girls will enjoy watching the process.

Discuss why one vegetable is to be cooked and the other served uncooked.

Emphasize the cleaning of the vegetable, its structure, composition, and the effect of the boiling water upon it.

After the vegetable has been put on to cook, discuss the method of seasoning or dressing the vegetable which is to be served uncooked, and have it prepared to serve attractively on the plates. Especial emphasis should be placed on the use of fresh, green vegetables.

Continue the discussion of vegetables, having the members of the class suggest others that can be prepared as a salad or cooked in the manner illustrated, writing the list on the blackboard for them to copy in their books.

When the cooked vegetable is tender have it drained, seasoned, and served, and serve the uncooked vegetable at the same time.

When ready for serving, have the pupils arrange their plates and forks carefully, then have them all sit down but the two who pass the two vegetables. Be sure that the pupils eat carefully and nicely. Emphasize housework as on previous day.

Questions to serve as a guide in the development of the lesson:

How shall we prepare our vegetables for serving?
Of what value is hot water in cooking food?
How must the vegetable be prepared for boiling?
Does this vegetable contain any water?
Will it be necessary to add any more?
Will it be necessary to cover the saucepan?
How hot must the water be kept? How can one tell when the water is sufficiently hot?
How can we determine when the food has cooked long enough?
How shall we serve this vegetable?
How does boiling compare with baking?
In time? In flavor? In amount of fuel used? In amount of work necessary?

Home assignment.—Practice in the boiling and serving of vegetables.

LESSON III. THE VALUE OF CARBOHYDRATES IN THE DIET.

Potatoes as a Source of Carbohydrates. The Choice, Cost, Care, Composition, Food Value, and Cooking of Sweet Potatoes and White Potatoes, Baked Squash, Steamed Squash.

SUBJECT MATTER.

Carbohydrates.—A third class of food stuffs required by the body is known as the carbohydrates or sugars and starches. This class of foods is used as fuel for the production of heat and energy in the body. Excess of carbohydrates may be stored in the body as fatty tissue.

Potatoes.—Potatoes are a cheap source of carbohydrates. They are also valuable for their mineral matter and for the large quantity of water which they contain. Three-fourths of the potato is water. The framework of the potato has a basis of cellulose, which is an indigestible carbohydrate material. Potatoes have only a small amount of cellulose, however, and they are comparatively easy of digestion. When dry and mealy they are most easy of digestion. Sweet potatoes contain a larger per cent of sugar than white potatoes and the cellulose in sweet potatoes softens more quickly when cooking. When used for a meal, potatoes should be supplemented by some muscle-building food, such as milk, cheese, eggs, fish, or meat.

PRELIMINARY PLAN.

At some previous period the teacher should have discussed with the girls the use of potatoes and learn from them the various ways in which they cook them in their homes. She should determine upon some recipes for the lesson that will increase the variety of ways in which potatoes can be served and will improve the methods used.

Each girl should be asked to bring one or two potatoes for the lesson. It will be well to cook in class the kind of potato that is cheapest and most commonly used in the community. The best methods of cooking and means of securing variety should be emphasized.

RECIPES.

Mashed Potatoes.

6 potatoes.
½ cup hot milk or cream.
1 tablespoon butter.
1 teaspoon salt.

Wash and pare potatoes, boil, drain, dry, and mash (with a potato masher) in the saucepan in which they were cooked. Beat them until very light and creamy; add hot milk, butter, and salt and beat again, reheat, and serve. Serves 6 to 8.

Browned Potatoes.

Wash, scrub, and pare potatoes of uniform size. Parboil 10 minutes, then put in a dripping pan with meat or on a rack in a baking pan.

Baste with fat every 10 minutes when meat is basted.

Allow about 40 minutes for the potatoes.

Experiment to show presence of starch in potatoes.

Scrub and pare a potato. Examine a thin cross section.
Grate the potato. Remove the coarse shredded portion. Examine.
Examine the liquid and note any sediment.
Heat the liquid and stir until boiling. How has it changed?
Examine portion of grater. How has the color changed? Why?

Fried Sweet Potatoes.

Cut cold boiled potatoes in one-fourth inch slices, season with salt and pepper, put into a hot, well-greased frying pan, brown on one side, turn and brown on the other side.

Glazed Sweet Potatoes.

6 sweet potatoes.
½ cup sugar.
4 tablespoons boiling water.
1 tablespoon butter or other fat.

Scrub, pare, and boil potatoes 10 minutes in salted water; drain, cut in halves lengthwise and put into a buttered baking pan. Make a sirup of sugar and water, boil 3 minutes, add butter. Baste potatoes with sirup, put into a hot oven, cook 15 minutes, or until browned, basting every 5 minutes. Serves 8 to 10.

Steamed Squash.

Prepare squash as for baking, put in steamer over boiling water, and cook 30 minutes or until soft. Then scrape squash from shell, mash, and season with butter, salt, and pepper.

Baked Squash.

Wipe shell of squash, cut it into pieces for serving, remove seeds and stringy portion, place in a dripping pan, and bake in a slow oven three-quarters of an hour (until tender). Serve at once.

See Farmers' Bulletin 256, The preparation of vegetables for table.

METHOD OF WORK.

Discuss the composition and structure of the potato. Read over and discuss the recipes that are to be used.

Make assignments for work. After the potatoes have been put on to cook, have the class examine a raw potato, following the directions given.[1]

If one of the recipes requires the use of the oven, be careful to have the potatoes for it prepared first and as quickly as possible. It may be necessary to proceed with another class, assigning one pupil to take care of the baking. Special attention should be given to careful serving of the potatoes.

Home assignment.—Before the next lesson each pupil should be able to report that she has cooked potatoes at home, using the recipes learned in class.

[1] Squash is another vegetable containing a high percentage of carbohydrate. The recipe for squash can be prepared at this time or made use of in some other lesson.

LESSON IV. FRUITS AND VEGETABLES.

Food Value and Use of Fruits. Reasons and Rules for Canning. How to Can and Use such Vegetables as Beets, Beans, Tomatoes, and Carrots, and such Fruits as Figs, Grapes, Muscadines, Apples, and Peaches. The Drying of Fruits and Vegetables.

SUBJECT MATTER.

Fruits impart palatability and flavor to other foods and exercise a favorable influence upon the digestive organs, though their food value is low. They contain a high percentage of water and only a small percentage of nutrients. Most fruits are eaten raw. Raw fruits are exceedingly valuable to the body because of the fresh acids they contain. Cooking softens the cellulose of the fruit and, therefore, renders some fruits more easy of digestion. The cooking of fruit is of value chiefly for the purpose of preservation.

The drying of fruits.—Fruits are dried so that they may be preserved for use. Bacteria and molds, which cause the decay of fruits, need moisture for development and growth. If the moisture in fruits is evaporated, the fruits will keep indefinitely. Dried fruits and vegetables can be easily and inexpensively prepared, therefore the practice of drying is feasible if one is so situated that the fruit or vegetable can be exposed to the hot sun in a clean, dry place. When dried fruits are to be used, they must be washed thoroughly and soaked for several hours, or overnight, in water, so as to restore as much water as possible. They should be cooked until soft in the same water in which they are soaked.

Canning and preserving.—Simple methods of preservation are desirable in order that vegetables and fruits be made of value for a longer period of time than through their ripening season. Canning is one of the methods most commonly employed in the home, for it is easily done, and canned fruits will keep indefinitely. Fruit which is to be canned is first sterilized by boiling or steaming, in order to destroy all germs and spores. This can be adequately accomplished by boiling 20 minutes, but a shorter time is sometimes sufficient. All germs must also be destroyed on the cans and on everything which comes in contact with the food in order to insure complete success. This will likewise require 20 minutes boiling or steaming. Jars, tops, dipper, and funnel should all be placed in cold water, heated until water comes to the boiling point, and left in the water until just before sealing. It will be sufficient to dip the rubbers into the boiling water. After the fruit has been put into the can, it must be sealed so that it is perfectly air-tight. In order to do this, it is necessary to have good tops, with new, pliable rubbers, and to fit them tightly.

When the jar is to be filled, it should be placed on a board or wooden table, or on a cloth wrung out of hot water, and filled to overflowing.

Sugar is not essential to sterilization and is used only to improve the flavor. Both fruits and vegetables can be canned without sugar. However, fruits canned with a large amount of sugar do not spoil readily, for germs develop slowly in a thick sirup.

Methods of canning.—The simplest method of canning is the open-kettle method employed for small, watery fruits, such as berries, grapes, tomatoes, etc. The fruit is boiled in an open kettle (which permits of the evaporation of some of the water in the fruit) and transferred at once to a sterilized jar which is immediately sealed. The open-kettle method of canning is not satisfactory for those vegetables containing only a small amount of acid, nor is it satisfactory for all fruits. A safer method and one that secures more complete sterilization without serious change of flavor in the fruit is that known as the cold-pack method. After being transferred to the cans the vegetable or fruit is subjected to an additional period of heating of considerable length, or to three periods of briefer length on three successive days. If the three periods of sterilization are used, the process is known as the intermittent method.

The single process method is described in the recipe for canned beets. The intermittent process proves more satisfactory for canned beans.

PRELIMINARY PLAN.

The teacher should ascertain what fruits and vegetables are most abundant and select those that the class can provide for canning.

Each girl should be asked to bring some vegetable or fruit, some granulated sugar, and a jar in which to can her fruit. If the school does not possess enough kettles or saucepans in which to do the cooking, kettles or saucepans may be borrowed from the homes.

Only one fruit or one vegetable should be taken up at a time, for the preparation necessarily varies slightly and the different methods will prove confusing. It is not necessary to confine the choice of fruits and vegetables to those mentioned in the recipes included. The teacher will find it necessary to base her instruction on the products of the particular time and place of the lesson. The principles of canning should be taken up at some other period, if possible, that the cooking lesson may be devoted entirely to practical work.

RECIPES.

Canned Tomatoes.

(Open-kettle method.)

Scald and peel the tomatoes. Boil 20 minutes. Sterilize the jars, covers, and rubbers. Stand jars on a cloth in a pan of hot water. Fill jars with hot tomatoes, being careful to fill to overflowing, and to expel all air bubbles from the jar. Adjust rubber and cover. Seal. Allow to cool. Test, label, and set away in cool, dry, dark place.

Canned Grapes.

(Open-kettle method.)

6 quarts of grapes. 1 quart of sugar. 1 gill of water.

Squeeze the pulp of the grapes out of the skins. Cook the pulp 5 minutes and then rub through a sieve that is fine enough to hold back the seeds. Put the water, skins, and pulp into the preserving kettle and heat slowly to the boiling point. Skim the fruit and then add the sugar. Boil 15 minutes. Put into jars as directed.

Sweet grapes may be canned with less sugar; very sour grapes may require more sugar.

Canned Peaches.

(Intermittent process.)

Use firm, solid fruit. Peel and cut in half. If cling-stone peaches are used, they may be canned whole. Fill each jar as the peaches are peeled and add water so that they will not discolor. When the jar is entirely filled, put on the rubber and the lid, but do no fasten the lid down. Then place the jar on a rack or folded cloth in a large kettle that can be closely covered. Put in enough water to reach up several inches on the jars, cover the kettle, and bring the water to the boiling point. When hot, lift the lids and add sugar, if it is to be used, from one-fourth cup to one cup of sugar for each quart of fruit. When the boiling point is again reached, boil for 10 minutes. Fasten down the lids and boil for 10 minutes longer. Set in a place free from drafts. On two successive days return the jars to the kettle and boil for 20 minutes. Do not loosen the lids after the jars have been sealed.

Canned Beets.

(Single process.)

Boil the beets until they are three-fourths done and the skins come off easily. Remove the skins and pack the beets in a jar carefully. Cover with boiling water, to which one tablespoon of salt is added for each quart, put the top on the jar, but do not fasten it down. Place the jar on a rack or a folded cloth in a large kettle that can be closely covered. Pour enough water into the kettle to reach within 2 inches of the top of the jar, cover the kettle, bring to the boiling point, and boil 15 minutes, then fasten the lid on securely and boil for one and one-half hours or two hours. Put aside to cool in a place that is free from drafts. As the water around the jar boils down replenish with boiling water, never with cold.

Canned String Beans.

(Intermittent process.)

Wash and string fresh, tender beans. Put into a sack or wire basket and dip into boiling water for 10 minutes. Drain, cool slightly, and pack in jars, within 1 inch of the top. Add one-fourth teaspoonful of salt to each pint jar and fill with cold water. Put on the rubbers and lids, but do not fasten the lids down. Then place the jars on a rack or folded cloth in a large kettle that can be closely covered. Pour enough water into the kettle to reach up within 2 inches of the top of the jars, cover the kettle, bring to the boiling point, and boil for 15 minutes. Then fasten on the lids and boil for 45 minutes. As the water around the jars boils down replenish it with boiling water, never with cold water. Put to cool in a place that is free from drafts. On two successive days return the jars to the kettle without opening the lids and boil for one hour.

Farmers' Bulletins: No. 203, Canned fruits, preserves, and jellies; No. 256, Preparation of vegetables for the table; No. 359, Canning vegetables in the home; No. 521, Canning tomatoes at home in club work; United States Department of Agriculture Bulletin 123, Professional Paper. Extension course in vegetable foods. Supt. of Documents, Government Printing Office, Washington, D. C. Price 10 cents.

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Dried Corn.

Pick the corn early in the morning. Immediately husk, silk, and cut the corn from the cob. Spread in a very thin layer on a board, cover with mosquito netting which is kept sufficiently elevated so that it will not come in contact with the corn, place in the hot sun and leave all day. Before the dew begins to fall take into the house and place in an oven that is slightly warm. Leave in the oven over night and place out in the sun again the next day. Repeat this process until absolutely dry.

String Beans.

String beans are hung up to dry and kept for winter use.

METHOD OF WORK.

If possible, let each girl can a jar of vegetables or fruit for her own home. If the class is large, let girls work in groups of two or three.

Begin the lesson with a very brief discussion of how to prepare fruit for canning.

Let the girls proceed with the practical work as quickly as possible. Demonstrate the method of filling and sealing the jars.

Assign the care of the jars and the intermittent canning on succeeding days to members of the class and hold them responsible for the completion of the work.

The drying of some vegetables can be undertaken at school and carefully followed from day to day. It will give the girls an interesting problem.

LESSON V. FATS AND OILS; VEGETABLES—(continued).

Preparation of White Sauce to Serve with Vegetables. How to Boil, Season, and Serve such Vegetables as Lima or Butter Beans, String Beans, Cowpeas, Onions, Okra, Cabbage, Collards, Corn, Beets, Turnips, or Carrots.

SUBJECT MATTER.

Fats and oils.—Butter and cottonseed oil belong to the class of foodstuffs known as fats and oils. They increase the fuel value of those dishes to which they are added.

Fats supply heat and energy to the body in concentrated form. For this reason they should be used in limited quantity. Fats undergo several changes during the process of digestion, and the excessive use of fat interferes with the digestion of other foods and throws a large amount of work upon the digestive organs. Cooked fats are more difficult for the digestive organs to use than uncooked fats. Other foods cooked with the hot fat are rendered difficult of digestion.

Vegetables.—Vegetables should be used when in season, as they are always cheapest and at their best then. They keep best if in a cold, dry, and dark place.

It is necessary to cook most vegetables, because they contain cellulose and raw starch, which are indigestible. In old or exceedingly large vegetables the cellulose may be very tough; hence long

cooking is necessary. They should be cooked only until they are tender. Longer cooking may destroy the flavor, render the vegetable difficult of digestion, and cause the color to change. In very young vegetables the cellulose is delicate, and if young vegetables do not contain much starch they may be eaten raw.

When cooked vegetables are served they are usually seasoned and dressed with butter or oil (for one cup vegetables use ½ teaspoon salt, ⅛ teaspoon pepper, and ½ tablespoon fat or oil), or a sauce is prepared to serve them.

PRELIMINARY PLAN.

It may be well to have a preliminary lesson devoted to the simple experiments with flour, liquid, and fat, in order to determine the best method of combining white sauce. However, if the lesson period is of sufficient length a few of these experiments can be performed in connection with the lesson.

There should be provided for the lesson some vegetable that is improved by serving with white sauce, and sufficient milk, butter, or other fat, flour, and salt for the sauce and the experiments. Discuss with the children the fat that is used in their homes in order to know what is available.

The recipes should be written on the blackboard before the lesson hour.

RECIPES.

Cowpeas.

Cowpeas should be cooked soon after gathering, in order to preserve their fine flavor. Cook the green cowpeas (in pod or shelled) in boiling salted water until tender. Season and serve. Dried cowpeas should be soaked over night (seven or eight hours), then boiled till tender. After absorbing water the dried cowpeas will have increased in size until each cup makes nearly two and one-half cups of cooked peas.

Okra.

The young pods of okra should be boiled in salted water until tender (about 20 minutes), drained and seasoned with butter, salt, and pepper. Cream can be added if desired.

Collards.

After washing collards thoroughly, add to a large amount of rapidly boiling water, and boil for 15 or 20 minutes or until perfectly tender. Season with salt, pepper, and butter or serve with white sauce.

Stewed Onions.

1 quart onions.
¾ cup milk.
White pepper.
2 tablespoons butter.
½ teaspoon salt.

Peel onions under cold water. Cook until tender in boiling water (45 to 60 minutes), changing the water at the end of 5 minutes and again in 10 minutes. Do not cover the kettle while the onions are boiling. Drain, and serve with one cup white sauce, or add milk, butter, and pepper, cook 15 minutes, and just before serving add salt. Serves six.

Cabbage.

Cut cabbage into quarters and soak one-half hour in cold salt water to draw out insects. Chop and cook till tender in a large amount of boiling water 20 minutes. Add salt. Leave kettle uncovered. Drain and serve with butter, salt, and pepper or with a sauce. Longer cooking renders the cabbage dark in color and difficult of digestion.

Carrots.

Scrape the carrots and cut them into large dice or slices. Add to boiling salted water and boil until tender (from 30 to 45 minutes). Drain and season with butter, salt, and pepper, or serve with white sauce.

String Beans.

String the beans if necessary and cut them into 2-inch lengths. Add to boiling water. Boil rapidly with the cover partially off of the saucepan for from one to three hours, but be careful not to overcook. Turn into a colander and let cold water run upon them. Reheat with seasonings of salt, pepper, and butter or white sauce.

Salt pork may be boiled with the beans to give them added flavor.

See Farmers' Bulletin No. 256, "The preparation of vegetables for the table."

Experiments to show nature of starch.

1. Mix ½ cup cold water quickly with 1 tablespoon flour. Let stand.
2. Mix ½ cup cold water very slowly with 1 tablespoon flour. Let stand. Compare with No. 1.
3. Mix ½ cup cold water very slowly with 1 tablespoon sugar. Let stand. Compare with No. 2.
4. Mix ½ cup cold water very slowly with 1 tablespoon flour, heat, stirring constantly. Observe result.
5. Heat ½ cup water; when boiling add 1 tablespoon flour all at once. Stir.
6. Heat ½ cup water; when boiling add 1 tablespoon flour which has been rubbed smooth by slowly adding 2 tablespoons cold water to it. Compare with No. 4.
7. Heat ½ cup water; when boiling add 1 tablespoon flour which has been rubbed smooth with 1 tablespoon creamed butter.
8. Heat 1 tablespoon butter, add 1 tablespoon flour, then add slowly ½ cup boiling water, stirring constantly.
9. Heat ½ cup water; when boiling add slowly to 1 tablespoon flour which has been thoroughly mixed with ¼ cup sugar. Stir till thickened.
10. Heat 1 tablespoon dry flour in frying pan. Taste. Slowly add ½ cup cold water, then heat, stirring to keep smooth. Taste. Compare with No. 4.

White Sauce.

2 tablespoons butter or other fat.
2 tablespoons flour.
1 cup milk (heated).
1 teaspoon salt.
¼ teaspoon pepper.

Sufficient for 1 pint vegetables.

First method.—Heat the butter. When it bubbles add flour and seasoning, mix well, add hot milk gradually, stir constantly, and allow the mixture to thicken and bubble each time before adding another portion of milk.

After the milk has been added, cook 10 minutes, stirring frequently. Serve hot over hot vegetables.

Second method.—Scald the milk, cream the cold butter by stirring with a spoon until soft. Add the flour to the softened butter and stir until smooth; then add hot milk; cook over water for ½ hour, stirring occasionally; add seasoning and serve.

Third method.—Scald one-half the milk; add remaining cold milk slowly to flour; stir this mixture into hot milk and cook ½ hour over water, stirring occasionally; then add seasoning and butter and stir until butter is melted. Serve.

METHOD OF WORK.

Review facts on boiling vegetables learned in previous lesson. Have pupils put water on to boil and prepare vegetable for cooking. If experiments are to be made, they can be performed while vegetables are cooking. If they have been prepared previously, they can be reviewed in discussion at this time. Prepare white sauce by demonstration, using the method which seems most practical. Have vegetables drained, dried, and added to white sauce. When well-heated, serve.

Questions.

What facts regarding the boiling of vegetables did we learn in the last lesson?

Does the vegetable that we are to cook to-day differ in any marked way from those we cooked before? Can we follow the same rule in cooking it?

Can we add the flour directly to the cold milk? To hot milk?

How shall we combine the white sauce?

With what other vegetables can white sauce be used?

Home assignment.—Each pupil should prepare some vegetable and serve it with white sauce before the next lesson.

LESSON VI. CEREALS.

Kinds, Composition, Care, and General Rules for Cooking Cereals. Oatmeal, Cracked Wheat, Hominy Grits, Corn-meal Mush, Rice. Fruits to Serve with Cereals—Stewed Prunes, Stewed Apples, or Apple Sauce.

SUBJECT MATTER.

The term "cereals" is applied to the cultivated grasses—rice, wheat, corn, rye, oats, and buckwheat. They are widely grown throughout the temperate zone and are prepared in varied forms for use as food. Cereals contain a high per cent of starch and a low per cent of water, with varying proportions of mineral matter and fat. In addition to these four foodstuffs already studied, cereals contain a small amount of another foodstuff known as protein, a muscle-building material. For the most part the cereals contain a large amount of cellulose, which is broken up during the process of preparation for market and requires long cooking before ready for use by the body. The digestibility of the cereals depends upon the amount of cellulose which they contain and the thoroughness of cooking. Cereals are palatable and they are valuable because they can be blended in various ways with other substances in cooking. They are beneficial to the body because they act mechanically on the digestive organs to stimulate them. The cereal is made more attactive by serving a fresh or cooked fruit as an accompaniment.

PRELIMINARY PLAN.

The cereals should be discussed in a nature study or geography lesson, and two or three kinds that are commonly used should be brought from the homes by the girls. If cereals are not commonly used as breakfast foods, the lesson can be a means of introducing them. Some girls should bring a little milk and sugar to serve with the cooked cereal. Apples or prunes should be brought to cook and serve with the cereal.

RECIPES.

Oatmeal.

3 cups boiling water. 1 cup oatmeal.
1 teaspoon salt.

Add oatmeal slowly to boiling salted water.

Boil 10 minutes, stirring constantly, then cook slowly, preferably over water, at least one and one-half hours longer; the flavor is developed by longer cooking. Serves six.

Cracked Wheat.

Follow recipe for oatmeal, using 1 cup cracked wheat.

Hominy Grits.

Follow recipe for oatmeal, using 1 cup hominy grits.

Corn-meal Mush.

4 cups boiling water. 1 cup corn meal.
1 teaspoon salt.

Add corn meal slowly to boiling salted water.

Boil 10 minutes, stirring constantly, then cook slowly three hours longer, preferably over water. Serves 6 to 8.

Boiled Rice.

3 quarts boiling water. 1 cup rice.
2 teaspoons salt.

Pick rice over carefully and wash thoroughly. Add it so gradually to the boiling salted water that the water will not stop boiling. Partly cover and cook 20 minutes, or until the grains are soft; turn into a colander and pour cold water through it, drain, dry, and reheat in hot oven with door open. Serve hot as a vegetable or as a simple dessert with cream and sugar. Serves 6 to 8.

Stewed Prunes.

½ pound prunes. 1 quart cold water.

Wash the prunes in two or three waters, then soak them in cold water for several hours. Heat them in the water in which they are soaked, and cook slowly until tender, an hour or more. Serves 6 to 8.

Stewed Apples.

10 apples. ½ cup sugar.
½ cup water.

Cook sugar and water together until it boils.

Wash, pare, and cut apples into quarters; core, and slice quarters lengthwise into ¼-inch slices; put apple slices into boiling sirup and cook slowly until tender. Remove from sirup at once and let sirup boil down to thicken.

Apple Sauce.

10 apples. ½ cup sugar.
½ cup water.

Wipe, quarter, core, and pare sour apples; add the water and cook until apples begin to soften; add the sugar and flavoring, cook until apples are very soft, then press through a strainer and beat well. Serves 8 to 10.

See Farmers' Bulletins: No. 249, Cereal Breakfast Foods; No. 565, Corn Meal as a Food and Ways of Using It. United States Department of Agriculture, Bulletin 123. Professional Paper, Extension course in Vegetable Foods. Supt. of Documents, Government Printing Office, Washington, D. C.

METHOD OF WORK.

As soon as the class meets discuss the recipes briefly and put the cereals on to cook at once. Prepare the fruit. While the long cooking of the cereal is in progress discuss the composition, food value, and methods of using cereals. Then go on with another lesson and call the class together for serving later in the day. Serve the fruit and cereals together.

LESSON VII. CLASSIFICATION OF FOODS (Reviewed).

SUBJECT-MATTER.

Those foods which build up and repair the tissues of the body are called protein foods, muscle builders, or flesh formers. Meat, fish, poultry, eggs, cheese, milk, cereals, legumes, and nuts are classed as protein foods.

Those foods which serve solely as fuel for the body—providing heat and energy—are classed under two groups: The carbohydrates (sugar and starches), which the body is able to use in relatively large quantities; and the fats and oils, which the body can not use in such large quantities, but which yield a large amount of heat and energy. Protein also serves as fuel, though tissue building is regarded as its special function. Sugars and starches are abundant in fruits and vegetables. Fats and oils are found in meats, fish, milk, and in some vegetable foods. Heat-giving food may be stored in the body as fatty tissue.

Mineral compounds must be present in our food to help in the regulation of the body processes and to enter into the composition of the structure and the fluids of the body. Mineral compounds are best supplied by the fresh green vegetables, fruits, and milk.

Water is absolutely essential to the body and is present in large quantity in many foods, and is combined with many other foods during the processes of cooking.

One or more of the foodstuffs sometimes predominate in a single food. For example, rice is almost entirely carbohydrate; butter

almost pure fat. Occasionally we find a food that contains all the five groups of food principles. Milk is an example of such a food and milk contains all five food principles in such proportion as to supply all the nourishment which the baby needs during the early months of its life. As the baby grows older, foods rich in carbohydrates must be added to the diet in order to supply a sufficient amount of energy for activity. Wheat contains all that the body needs for nourishment except for the absence of water. This lack is usually remedied by the addition of water when cooking.

Protein foods.

Meats.
Fish.
Poultry.
Eggs.
Cheese.
Milk.
Cereals.
  Wheat.
  Oatmeal.
  Rye.
Legumes.
  Peas.
  Beans.
  Lentils.
  Peanuts.
Nuts.

Fat foods.

Cream.
Butter.
Lard.
Fat meats.
Fish.
Salad oil.
Nuts.
Chocolate.

Carbohydrate foods.

Sugar.
Honey.
Syrup.
Winter vegetables.
  Potatoes.
  Parsnips, etc.
Cereal preparations.
  Meals.
  Flours, etc.
Fruits.
Prepared foods.
  Bread.
  Crackers.
  Macaroni.
  Jellies.
  Dried fruits.
  Candy.

Foods rich in mineral matter.

Fruits.
Vegetables.
  Spinach.
  Tomatoes.
  Onions.
  Turnip tops.
  Cauliflower.
Cereals.
  Grits and other coarse preparations.

Choice of food.—Our diet must be carefully chosen to give a needed variety and to properly combine the foods so that we may have the right amount of all the foodstuffs. Each meal should contain some protein food, some fats or carbohydrates, some mineral matter, and water. All five forms of foodstuffs must occur in the day's diet. The greater part of the water which the body needs should be taken between meals.

See Farmers' Bulletins: No. 142, Principles of nutrition and nutritive value of food; No. 712, School lunches; No. 808, How to select foods. No. 1, What the body needs.

METHOD OF WORK.

Review the foods discussed in the previous lessons and sum up the classification of foods, being sure that the pupils can name common examples of each. Discuss simple combinations for the different meals, using dishes already prepared in the course and creating an interest in other recipes to be prepared in the succeeding lessons.

LESSON VIII. THE PLANNING AND SERVING OF MEALS.

SUBJECT MATTER.

Experience has shown that some foods are more acceptable at one time of day than other foods, and that foods are more pleasing in certain combinations than in others. The choice of food will also depend upon the season of the year. For example, a breakfast is made up of simple foods that are not highly seasoned nor subjected to elaborate methods of cooking. A fruit, a cereal, and bread, with possibly eggs or meat, are served at breakfast. A beverage, usually hot, is added to breakfast by most people.

Fundamentally, dinner consists of a hot meat or other protein dish with one or two vegetables. Soup, salad, and a sweet dessert are often served with the dinner. The soup is served before the meat course and the salad and dessert follow the meat course. The dessert may be a fruit, a cooky, or other pastry, a pudding or a frozen dish.

Lunch or supper may be a very simple meal, consisting of a soup with crackers, one protein dish (eggs, milk, or meat) with bread and stewed fruit, or a salad with a simple dessert.

EXAMPLES OF WELL-CHOSEN MENUS.

Breakfast.

No. I. Apple sauce. Hominy or oatmeal.
Sausage or bacon. Milk toast.

No. II. Baked apples. Cracked wheat.
Eggs in the shell. Corn muffins.

No. III. Stewed figs or berries. Cornmeal mush.
Poached eggs.[1] Toast.

Dinner.

No. I. Pork chops. Fried apples. Mashed turnips.
Baked sweet potatoes. Bread.
Rice pudding.

No. II. Beef or mutton stew. Spinach or turnip tops.
Biscuits. Cornstarch pudding.

No. III. Baked beans or cowpeas. Creamed cabbage or collards.
Fried sweet potatoes. Corn dodgers.
Grape sauce.

Supper.

No. I. Egg corn pone. Buttermilk or sweet milk.
Stewed apricots or other fruit, Peanut cookies.

No. II. Omelet. Creamed potatoes. Corn bread.
Fresh fruit.

No. III. Cream of carrot soup. Cottage cheese.
Biscuits. Sirup.

See Farmers' Bulletins: No. 717, Food for young children; No. 808, How to select foods; No. 1, What the body needs.

[1] Eggs should be omitted from the breakfast menu if they are not easily obtainable.

The table should always be neatly set with individual places arranged for each one who is to partake of the meal. Each place should be wide enough for a plate with a knife and spoon at the right and a fork at the left. A tumbler should be placed at the point of the knife and a napkin at the left of the fork. Everything placed on the table should be perfectly clean, the napkin should be neatly folded, and all the articles should be uniformly arranged to give a neat appearance to the table. A flower or plant in the center of the table will add to its attractiveness. Salt, pepper, sugar, vinegar, and anything of the sort that may be needed with the meal should be arranged near the center of the table where it can be easily reached. Fresh water should be poured into the tumblers just before the meal is served. The bread, butter, etc., can be placed on the table several minutes before the meal is announced, but the hot dishes should be placed immediately before the family is seated.

PRELIMINARY PLAN.

If Lesson VI, entitled "Setting and Clearing the Table" (as outlined in the course on the care of the home), has been given, this lesson can be devoted to what to serve and how to serve it, or this lesson can precede the lesson on table service. The manner of serving can be demonstrated in the next lesson in connection with the course in the care of the home.

Simple equipment for family service will be required if the form of serving is to be taken up. For class practice a table for four can be arranged. This will necessitate a table cover, five or more dinner plates, four butter dishes or plates, four tumblers, four cups and saucers, four knives, four forks, four teaspoons, four napkins, a platter, one serving spoon, and one serving fork.

METHOD OF WORK.

Discuss meal service both from the standpoint of choice and combination of foods and from the method of service. Have the class plan one meal, then go through the form of serving that meal at a table. In the absence of a table the top of the desks can be used for a table. Later in the course the teacher should plan to combine this lesson with a cooking lesson and have the food served. In each cooking lesson suggestions for the service of the food should be made and each cooked dish should be carefully served. Interest in this lesson may be increased by allowing the children to make original menus, and if they are having some lessons in drawing, simple menu cards may be planned and executed.

LESSON IX. MILK.

Care, Cost, and Food Value of Milk. Value and Use of Sour Milk—Cottage Cheese, Clabber. Rice or Cornstarch Pudding (Plain, Caramel, or Chocolate).

SUBJECT MATTER.

Milk contains all the foodstuffs which the body requires, and therefore is capable of sustaining life for comparatively long periods. It is one of the most important protein foods, but it contains so small a per cent of carbohydrate (milk sugar) that for the adult it must be supplemented with carbohydrate foods. For the baby, milk is a perfect food, and it is a valuable adjunct to the diet of all children. One quart of milk should be allowed for the diet of each child daily after the twelfth month. The diet of the adult can well be supplemented by the use of milk. The greatest care should be exercised to protect milk from dust and dirt, for it is easily contaminated and may be the means of carrying disease germs to the body. The changes which milk undergoes when souring do not render it harmful to the body. For many people buttermilk is more easy of digestion than sweet milk, because of the changes produced by souring and the absence of fat. Sour milk is of value in cooking, producing a tender bread which can readily be made light by the addition of soda—one teaspoon of soda to 1 pint of sour milk that has clabbered.

In the preparation of cheese, the whey is separated from the curds, thus extracting most of the water, sugar, and salts, and leaving a substance rich in protein and fat. Cheese is of value in cooking, for it increases the food value of those foods to which it is added.

PRELIMINARY PLAN.

The teacher should make inquiries a few days in advance to be sure that 1 quart of sour milk can be secured, and when it is brought, she should examine it to see that it is in proper condition to make cottage cheese. She should arrange to have about 1 quart of sweet milk brought and such other supplies as are necessary for the pudding.

Opportunity can be found to discuss the use of left-over cereal by the preparation of the rice pudding, if the teacher provides some cold cooked rice for the lesson. In the absence of cold rice, the cornstarch pudding can be prepared.

RECIPES.

Cottage Cheese.

Heat sour milk slowly until the whey rises to the top, pour the whey off, put the curd in a bag and let it drip for six hours without squeezing. Put the curd into a bowl and break fine with a wooden spoon; season with salt, and mix into a paste with a little cream or butter. Mold into balls, if desired, and keep in a cold place. (It is best when fresh.)

See Farmer's Bulletin No. 363, The Use of Milk as Food; No. 487, Cheese and its Economical Uses in the Diet.

Rice Pudding.

½ cup boiled rice.
2 cups milk.
2 eggs.
½ cup sugar.
⅛ teaspoon salt.
½ teaspoon vanilla.

Scald the milk and add the rice, heat until rice is soft; add well-beaten yolks of eggs, sugar, and salt; cook three minutes, over water; remove from fire; add the well-beaten whites and flavoring, and serve cold. Serves 8.

Cornstarch Pudding.

¼ cup sugar.
5 tablespoons cornstarch, or ½ cup flour.
1 teaspoon vanilla, or other flavoring.
3 cups milk.
1 egg.

Combine sugar and cornstarch thoroughly. Add one cup cold milk and stir until smooth. Heat remainder of the milk, add cornstarch mixture slowly and stir until it begins to thicken. Continue cooking over hot water 20 minutes. Beat egg well, add hot pudding slowly, strain, and cool. Serve with milk or cream and sugar. (Egg may be omitted, if desired.) Serves 8.

For chocolate cornstarch pudding, use ¼ cup sugar additional and two squares Baker's chocolate. Melt chocolate carefully, add sugar, and add to cornstarch mixture.

For caramel cornstarch pudding, use two cups brown sugar and one cup boiling water. Heat sugar until it becomes a light-brown liquid; add boiling water and stir until sugar is all dissolved. Let cool; then add to cornstarch mixture.

METHOD OF WORK.

As soon as class meets demonstrate the method of making cottage cheese. Show separation of curd and whey by adding vinegar or lemon juice to sweet milk. While cheese is draining, make assignments and have the rice or cornstarch pudding made.

Emphasize the use of protein foods in this lesson and in those following.

Discuss food value of milk and its use in cooking. Discuss the food value and purposes for which skimmed milk and sour milk can be used in cooking.

Use the cottage cheese and the pudding for the school lunch.

LESSON X. SOUPS.

Cream Soups. Cream of carrot, potato, or onion soup, green pea soup or cowpea soup. Toast, croutons, or crisp crackers to serve with soup.

SUBJECT MATTER.

Cream soups.—The strained pulp of cooked vegetables, greens, or cereals, with an equal portion of thin white sauce, is the basis for cream soups.

A binding of butter and flour is used to prevent a separation of the thicker and the thinner parts of soup. This is combined as for white sauce and poured into the rest of the hot liquid just before the soup is to be served. The soup should not be allowed to boil after the vegetable pulp and milk have been combined, but kept hot over hot

water. The acid present in nearly all vegetables is very apt to produce a curdling in the milk if too high a temperature is maintained after they are combined.

Two tablespoons of flour to each quart of soup is a good proportion to observe for thickening all vegetable soups that are not of a starchy nature; half that amount will be sufficient for soup prepared from a very starchy vegetable.

Attractive cream soups can be prepared from left-over vegetables and a combination of flavors may give good results.

Accompaniments.—Crisp crackers, croutons, soup sticks, or bread sticks are served as accompaniments with cream soups and are valuable because they necessitate thorough mastication, thus inducing the flow of the saliva and aiding in the digestion of the starchy ingredients of the soup.

PRELIMINARY PLAN.

The teacher should secure a vegetable that the girls have for use in their own homes as a basis for the soup, and crackers or bread to serve with the soup.

If dried peas are used, they should be put to soak the night before and put on to cook early in the morning.

It will be well to have the cooking of the carrots begun before the lesson period. If the carrots are cut up in small pieces, they will cook more quickly.

RECIPES.

Cream of Carrot Soup.

1 pint carrots, sliced.
2 tablespoons butter.
4 tablespoons flour.
1½ quarts hot milk.
2 teaspoons salt.
¼ teaspoon pepper.

Cook carrots until very tender in enough boiling water to cover, then rub all through a strainer with a wooden spoon.

Heat butter, add flour and then the carrot mixture, and when it boils well, add hot milk and seasonings. Serve at once. Serves 6.

Cream of Potato Soup.

1 pint milk or milk and water.
2 teaspoons chopped onions.
3 potatoes.
1 tablespoon butter.
1 tablespoon flour.
1 teaspoon salt.
⅛ teaspoon pepper.
2 teaspoons chopped parsley.

Heat the milk over hot water. Add the chopped onions. Boil the potatoes until soft; drain, mash, and add the hot milk. Strain. Melt the butter, add the flour and seasonings and the potato mixture slowly. Cook 5 minutes; add the chopped parsley and serve at once. Serves 4.

Cream of Onion Soup.

3 large onions.
3 tablespoons butter.
½ cup flour.
2 teaspoons salt.
⅛ teaspoon pepper.
1 quart milk or water.

Chop or slice onions, add the hot butter, and fry to a red brown. Add flour and seasonings and cook until slightly brown. Add hot liquid and cook to a creamy consistency. Strain, reheat, and serve. Serves 8.

Green Pea Soup.

1 pint or 1 can peas.	2 tablespoons flour.
1 quart water.	½ teaspoon salt.
1 pint milk or cream.	$\frac{1}{16}$ teaspoon white pepper.
2 tablespoons butter.	½ teaspoon sugar.

Wash the peas and cook until soft in one quart of boiling water. Mash them in the water in which they were cooked, strain, and add the milk or cream; melt butter, add flour and seasoning, then the liquid, and cook until of creamy consistency. If the peas are fresh, some of the pods may be cooked with them. Serves 8.

Pea Soup.

1 cup split peas or cowpeas.	3 tablespoons flour.
2½ quarts water.	1½ teaspoons salt.
2 tablespoons chopped onion.	¼ teaspoon pepper.
3 tablespoons butter.	1 pint milk.

Wash the peas and soak them over night in cold water; drain and rinse thoroughly; add 2½ quarts of cold water and the onion; cook slowly until soft; rub through a strainer and add the remainder of the liquid; melt butter, add flour and seasonings, then hot milk with the liquid from the peas, and cook until it is like thick cream. Cooking a ham bone with the soup improves the flavor. Serves 6 to 8.

Toast.

Cut stale bread into slices one-fourth inch thick; put on the toaster or fork, move gently over the heat until dry, then brown by placing nearer the heat, turning constantly. Bread may be dried in oven before toasting. Hot milk may be poured over dry toast.

Croutons.

Cut stale bread into one-half-inch cubes and brown in the oven.

Crisp Crackers.

Put crackers in oven for a few minutes or split and butter thick crackers and brown in a hot oven; serve with soup.

METHOD OF WORK.

Devote a few minutes to a discussion of cream soups and a review of the cooking of vegetables and white sauce.

Divide the work among the members of the class, assigning enough to each girl to keep her busy and arranging the work so that the soup and its accompaniments will be ready for serving at the same time.

LESSON XI. EGGS.

Food value and general rules for cooking eggs. Cooked in shell, poached, scrambled, and omelet.

SUBJECT MATTER.

Eggs are a very valuable food because of the large amount of protein and fat they contain. Though lacking in carbohydrates, they furnish material for building up the muscles and provide heat and energy to the body. If cooked at a low temperature, eggs are very

easily and very completely digested. Combined with other foods they serve as thickening (for sauces and soups) and as a means of making batters light (popovers and sponge cake). They add flavor and color and increase the nutritive value of other foods.

See Farmers' Bulletin No. 128, Eggs and their Uses as Food.

PRELIMINARY PLAN.

The lesson on eggs furnishes one of the best opportunities to teach the muscle-building foods. If eggs are scarce, it may be well to give this lesson at some other time in the course. Each pupil should be asked to bring an egg; one or two should bring a little milk; and enough bread should be provided to toast for the poached eggs. The teacher should not undertake to give too many recipes in this lesson, but should try to acquaint the girls with a sufficient variety of ways of cooking eggs to make egg cookery interesting. A moderate temperature for cooking eggs should be emphasized.

RECIPES.

Soft-Cooked Eggs.

Put the eggs in boiling water sufficient to cover, remove from the fire, cover, and allow them to stand from 5 to 8 minutes.

Hard Cooked Eggs.

Put the eggs in cold water, heat, and when the water boils, reduce heat and let them stand 20 minutes with water just below the boiling point, then put into cold water.

Poached Eggs.

Break each egg into a saucer carefully, slip the egg into boiling water, decrease heat, and cook 5 minutes or until the white is firm, and a film has formed over the yolk. Take up with a skimmer, drain, trim off rough edges, and serve on slices of toast. Season.

Poached eggs are attractive covered with white sauce to which chopped parsley has been added.

Baked eggs.

Line a buttered baking dish with buttered bread crumbs, break eggs in dish without separating, add one tablespoon milk or cream for each egg. Season with salt and pepper, and sprinkle with grated cheese, if desired; or the dish may be lined with cold mashed potatoes. Bake in a moderate oven until eggs are set.

Creamed Eggs.

3 hard cooked eggs. 6 slices toast.
1 cup medium white sauce.

Prepare white sauce and add hard cooked eggs cut in halves, sliced, or chopped, and when hot serve on toast.

Or separate whites and yolks, chop whites fine, add to white sauce, and when hot serve on toast and garnish with yolks run through sieve or ricer. Season with salt and pepper. Serves 4 to 6.

Creamy Omelet.

1 egg.
¼ teaspoon salt.
1 tablespoon milk.
Pepper.
½ teaspoon butter.

Beat egg slightly, add milk and seasonings; put butter in hot omelet pan, when melted turn in the mixture; as it cooks draw the edges toward the center until the whole is of a creamy consistency; brown quickly underneath fold and turn onto a hot platter. Serve at once. Serves 1.

Scrambled Eggs.

Double the quantity of milk given for creamy omelet and stir all the time while cooking

Foamy Omelet.[1]

1 egg.
⅛ teaspoon salt.
Cayenne or white pepper.
1 tablespoon milk or water.
½ teaspoon butter.

Beat the yolk of the egg until creamy, add seasoning and milk; beat the white until stiff, but not dry, cut and fold into the yolk carefully; heat an omelet pan, rub bottom and sides with the butter, turn in the omelet, spread it evenly on the pan. Cook gently over heat until omelet is set and evenly browned underneath; put it into a hot oven for a few minutes to dry slightly on top: fold and serve immediately. Serves 1.

METHOD OF WORK.

Devote one-half the class period to a discussion of the structure of the egg and the effect of heat upon it. Use simple experiments or watch the poached egg to make a study of the changes produced in the egg by heat. If girls are sufficiently experienced, have them work together in small groups, first scrambling an egg, then making an omelet. Demonstrate the cooking of the omelet before the entire class. Serve the egg dishes carefully while hot.

LESSON XII. SIMPLE DESSERTS—CUSTARDS.

SUBJECT MATTER.

A custard is a combination of eggs and milk, usually sweetened and flavored and either steamed or baked, as cup custard, or cooked in a double boiler as soft custard. The whole egg may be used or the yolks alone. The yolks make a smoother, richer custard.

The egg must be thoroughly mixed, but not beaten light, the sugar and salt added and the milk scalded and stirred in slowly. The custard must be strained through a fine sieve and cooked at a moderate temperature. It is desirable to strain a custard in order to remove the bits of membrane present from about the yolk. The cup custard should be strained before cooking, the soft custard may be strained after cooking.

[1] The omelet recipes given are for individual portions. To make a large omelet, multiply quantity of each ingredient by number of eggs used. The best results will be obtained by making an omelet of not more than four eggs, as larger omelets are difficult to cook thoroughly and to handle well. A two-egg omelet will serve three people. A four-egg omelet will serve six people.

A soft custard is cooked over water and is stirred constantly until done. When done, the froth disappears from the surface, the custard is thickened and coats the spoon and sides of the pan, and there is no sign of curdling. If the custard is cooked too long, it becomes curdled. If a custard becomes curdled, put it into a pan of cold water and beat until smooth.

A steamed or baked custard is done when it becomes set and when a silver knife will come out clean after cutting it.

PRELIMINARY PLAN.

This lesson will furnish opportunity for review of milk and eggs. The pupils can plan to bring the necessary materials from their homes.

RECIPES.

Steamed Custards.

1 quart milk (heated).
4 eggs or 10 egg yolks.
½ cup sugar.
½ teaspoon salt.
2 tablespoons caramel or
½ teaspoon nutmeg.

Beat eggs sufficiently to mix them thoroughly; add sugar, salt, and hot milk slowly. Strain into cups, flavor with caramel, or sprinkle nutmeg on top, and steam until firm over gently boiling water, 20 to 30 minutes.

Baked Custards.

Prepare as steamed custards, set in pan of hot water, and bake in slow oven until firm; 20 to 40 minutes.

Chocolate Custards.

Use recipe for steamed custards, adding 1 ounce chocolate (melted) to the hot milk. Steam or bake as desired.

Soft Custard.

1 pint milk (heated).
4 egg yolks.
4 tablespoons sugar.
⅛ teaspoon salt.
½ teaspoon vanilla extract.

Beat egg yolks sufficiently to mix them thoroughly, add sugar, salt, and hot milk slowly. Cook over water that is boiling gently. Stir constantly until the custard thickens. Strain. Flavor when cool.

For soft chocolate custard add ½ ounce chocolate (melted) to the hot milk. Serves 6.

Floating Island.

Use recipe for soft custard and when cold garnish with a meringue made according to the following recipe:

Meringue.

4 egg whites.
¼ cup powdered sugar.

Beat egg whites very light, add powdered sugar and continue beating. Drop in large spoonfuls on cold custard. Serves 8 to 10.

METHOD OF WORK.

It may be possible to teach two or three recipes in this lesson. The cup custard can be put into the oven while the soft custard or floating island is being made. Serve at the school lunch.

LESSON XIII. BATTERS.

Corn Bread and Hoecake.

SUBJECT MATTER.

Batters.—Batters are mixtures of flour or meal and a liquid, with salt or sugar to give flavor, butter to make tender, and air or gas to make light.

One scant measure of liquid is used with one measure of flour for thin or pour batter. One measure of liquid is used with two measures of flour for a thick cake or drop batter. One measure of liquid is used with three measures of flour for a soft or bread dough. One measure of liquid is used with four measures of flour for a stiff or pastry dough.

Before mixing a batter the oven or griddle should be at the proper temperature, with the fire well regulated and in good condition. The oven should be tested by putting in a piece of white paper or two tablespoons flour which should brown in three minutes. The pans should be prepared by greasing with lard, salt pork, or beef dripping. All materials should be measured and ready before beginning to combine ingredients. When the batter has been combined and beaten until smooth, it should be baked at once.

PRELIMINARY PLAN.

The teacher will be better prepared to give the lessons on batters if she first acquaints herself with the kinds of breads that are used in the homes and the methods followed in their preparation. The simple general methods of preparing batters should be taught. The teacher should not attempt the preparation of more than one or two batters in the lesson. Corn bread and hoecake can be made in the same lesson, since the first is made in the oven and the second cooked on a griddle on top of the stove.

RECIPES.

Corn Bread.

1 cup scalded milk.
½ cup white corn meal.
1 teaspoon salt.

Add salt to corn meal and pour the milk on gradually. Turn into a well-greased shallow pan to the depth of one-fourth inch. Bake in a moderate oven until crisp.

Hoecake.

1 cup white corn meal.
Boiling milk or water enough to scald.
½ teaspoonful salt.

Make the batter thick enough not to spread when put on the griddle. Grease the griddle with salt pork, drop the mixture on with a large spoon. Pat the cakes out till about half an inch thick; cook them slowly, and when browned put a bit of butter on the top of each cake and turn it over. Long cooking is desirable, but be careful that they do not burn.

METHOD OF WORK.

Discuss batters briefly. Have all measurements made, fire regulated, pans prepared, etc. Demonstrate combining of corn bread, put it in the oven, and while it is cooking demonstrate combining and cooking of hoecake. Serve the breads nicely after they are cooked.

LESSON XIV. BATTERS (continued).

Egg Corn Pone or Corn Muffins—Baking Powder Biscuits.

SUBJECT MATTER.

Methods of making batters light.—Batters are made light by beating air into them, by adding eggs into which air has been beaten, or by entangling gas in the batter. Gas is secured by using soda and sour milk in a batter (1 teaspoon of soda to 1 pint of sour milk), or soda with molasses (1 teaspoon of soda to 1 cup of molasses), or soda with cream of tartar (1 teaspoon of soda with 2 slightly rounding teaspoons of cream of tartar). The soda should be combined well with the other dry ingredients, then the sour milk or molasses added, the whole beaten up quickly and baked at once.

Baking powder is a preparation containing soda and cream of tartar, and can be used in place of soda if sweet milk is used. Two level teaspoons of baking powder should be used with one cup of flour.

PRELIMINARY PLAN.

This lesson is a continuation of the lesson on batters. Care should be taken not to undertake more than can be done nicely in time available.

RECIPES.

Egg Corn Pone.

1 cup white corn meal.
1 teaspoon salt.
1 teaspoon soda.
1 egg.
1 pint sour milk.
1 tablespoon melted butter, lard, or other fat.

If sweet milk is used, omit the soda and use 2 level teaspoons baking powder. Sift together corn meal, salt, and soda, add the egg well beaten, then the milk and melted butter. Beat thoroughly, put into a shallow, well greased dish, preferably earthen, granite, or iron, and bake 30 to 35 minutes in a hot oven.

Corn Muffins.

1 cup flour.
¼ cup corn meal.
3 teaspoons baking powder.
1 tablespoon sugar.
½ teaspoon salt.
1 cup milk.
1 egg.
2 tablespoons butter.

Mix and sift dry ingredients. Add egg and milk beaten together. Add melted butter last. Bake in gem pans or muffin tins 25 to 30 minutes. Serves 12 to 16.

Baking-Powder Biscuits.

2 cups flour.
4 teaspoons baking powder.
1 teaspoon salt.
2 tablespoons fat.
½ to 1 cup milk or water.

Mix dry ingredients, chop fat into the flour with a knife, slowly add sufficient milk to make a dough not too soft to be handled. Toss and roll dough gently on a slightly floured board, and cut into small biscuits. Moisten tops with a little milk. Handle dough quickly, lightly, and as little as possible. Place on a buttered sheet. Bake in a hot oven till brown, from 12 to 15 minutes. Either white or whole wheat flour may be used for biscuit. Serves 6 to 8. Oven test—oven should be hot enough to color a piece of unglazed white paper to golden brown in one minute.

Soda Biscuits.

1 pint flour.
½ teaspoon soda (scant).
2 tablespoons shortening (lard or other fat).
½ teaspoon salt.
1 cup sour milk (scant).

Proceed as for baking-powder biscuits.

If the sour milk is not thich enough to clabber, it will not contain sufficient acid to neutralize the soda and the biscuits will be yellow and bitter. To avoid this, cream of tartar can be combined with the soda (1 teaspoonful). If there is no cream of tartar at hand, it will be wise to use the recipe for baking-powder biscuits.

METHOD OF WORK.

Have oven and pans prepared and all measurements made. Demonstrate the combining of the corn pone, and while that is baking, demonstrate the combining of the biscuits. Have one girl take charge of the baking of the corn pone and another girl take charge of the baking of the biscuits. When the breads are done, have the girls sit down and serve them to one another, or to all the pupils at the school lunch hour.

LESSON XV. MEAT.

Composition and food value. How to make tough cuts of meat palatable. Pork chops with fried apples. Beef or mutton stew with vegetables and dumplings. Rabbit stew. Bacon.

SUBJECT MATTER.

Meats are rich in protein and usually in fats, but are lacking in the carbohydrates. They build up the muscular tissue, furnish heat and energy, are more stimulating and strengthening than any other food, and satisfy hunger for a greater length of time. For the most part, meats are a very expensive food. One can not perform more labor by use of a meat diet than on a diet of vegetable foods. Those who use large quantities of meat in their diet suffer from many disturbances of the system. Hence, meats should form a very small part of the diet. The cuts of meat that come from those portions of the animal's body that are much exercised are tough, owing to the development of the fibers, but they contain a high per-

centage of nutrition. The flesh of chickens, turkeys, and other fowls is very nutritious and is easily digested, if not too fat. In the older birds it may become very tough.

The flavor of meats is developed by cooking. Dry heat develops the best flavor, hence the tender cuts are cooked by the processes known as broiling and roasting. Tough cuts of meat require long, slow cooking in moist heat, hence they are prepared in the form of stews and pot roasts or used in meat soups.

PRELIMINARY LESSON.

After the teacher has found out what meats are used in the homes or what they can afford to use, she should determine upon a recipe that will help to make the meat palatable, digestible, and attractive. If it can be prepared as a stew, she should use a recipe in which vegetables are also used, and if possible have dumplings prepared to serve with the meat, as a review of the lesson on batters.

RECIPES.

Beef or Mutton Stew.

2 lbs. beef or mutton.
1 quart water.
Salt, pepper, flour to dredge.
1 onion, cut in slices.
½ cup turnip, cut in dice.
½ cup carrot, cut in dice.
4 potatoes, cut in ½-inch slices.
1 teaspoon salt.
¼ teaspoon pepper.
½ cup flour.
¼ cup cold water.

Remove fat and cut the meat into 1-inch pieces. Reserve half of the best pieces of meat, put the rest of the meat and the bone into cold water, soak for one hour, then heat until it bubbles. Season half the raw meat and roll it in the flour; melt the fat in a frying pan, remove the scraps, brown the sliced onion, and then the floured meat in the hot fat; add both to the stew and cook for two hours at a low temperature. To this add the vegetables and cook one-half hour, then add the flour and seasonings, which have been mixed with one-half cup cold water, and cook for one-half hour longer until the meat and vegetables are tender. Remove the bone from stew and serve. Serves 6 to 8.

Rabbit.

If beef and mutton are not commonly used and are not readily obtainable, but rabbit can be secured, substitute rabbit for beef in the stew. After the rabbit has been thoroughly cleaned, cut up in eight pieces (four leg and four body pieces), season, and dredge with flour, brown in fat and proceed as with beef stew.

Dumplings.

2 cups flour.
4 teaspoons baking powder.
½ teaspoon salt.
2 tablespoons fat (lard or butter).
¾ cup milk or water (about).

Sift dry ingredients together, cut in the butter, and add milk gradually to make a soft dough. Roll out on a floured board, cut with a biscuit cutter, lay on top of meat in stew pan (they should not sink into the liquid), cover kettle closely, keep stew boiling, and cook dumplings 10 minutes without removing lid. (Do not put dumplings in to cook until meat is tender.)

To Cook Bacon.

Place thin slices of bacon (from which the rind has been removed) in a hot frying pan and pour off the fat as fast as it comes out. When the bacon is crisp, drain on paper. Keep hot. Or lay bacon on a rack in a baking pan and bake in a hot oven until crisp.

Pork Chops.

Wipe the chops with a damp cloth, sprinkle with salt and pepper, place in a hot frying pan, and cook slowly until tender and well browned on each side. Pour the fat out of the pan as fast as it is melted.

Fried Apples.

Wash apples and slice to the center, removing the core. Roll in flour if very juicy. After the chops have been removed from the pan, lay the apples in and cook till tender. Serve around the chops.

See Farmers' Bulletins No. 34, Meats: Composition and cooking; No. 391, Economical use of meat in the home.

METHOD OF WORK.

If the meat is to require two or three hours' cooking, arrange to have the lesson divided and given at two periods through the day. A half hour before opening the morning session or a portion of the morning or noon recess may be sufficient to put the meat on to cook and to prepare the vegetables. When the second class period is called, the vegetables should be added to the partially cooked meat and the dumplings made. It would be well to serve the completed dish at the lunch period. There should be as much discussion of the kinds of meat, their food value, and methods of cooking as time permits, but it may be necessary to complete these discussions at some other class periods.

Should it be possible for the teacher to give additional lessons on meat, it may be well to devote one lesson to the preparation and cooking of poultry, directions for which can be easily secured from reliable cookbooks.

LESSON XVI. BAKED PORK AND BEANS, OR BAKED COWPEAS—CORN-DODGERS.

SUBJECT MATTER.

Peas, beans, and lentils, which are dried for market contain a high percentage of protein, carbohydrate, and mineral matter. They form an excellent substitute for meat and are much cheaper in price. Their digestion proceeds slowly, involving a large amount of work; so they are not desirable food for the sick, but are satisfactory for those who are well and active. The dried legumes must be soaked overnight in water, when cooked for a long time, to soften the cellulose and develop flavor.

PRELIMINARY PLAN.

It will be necessary to plan this lesson several days in advance if the beans are to be baked. As they will be prepared and put on to bake before the lesson period, the corndodgers can be made to serve with them.

RECIPES.

Corndodgers.

2 cups fine white corn meal.
Boiling water to moisten.
1 teaspoon fat.
1 teaspoon sugar.
½ teaspoon salt.
2 or 3 tablespoons milk.
2 eggs.

Pour boiling water over the meal so that it is all wet but not soft; add fat, sugar, salt, and milk; when cold add the eggs, yolks and whites beaten separately. The batter should drop easily from the spoon, but it should not be thin enough to pour nor stiff enough to require scraping out. It should be shaped in oval shapes on a pan that is well greased and hissing hot, and the oven should be as hot as possible. Bake until brown and puffy.

Boston Baked Beans.

1 quart navy beans.
1 tablespoon salt.
½ tablespoon mustard.
3 tablespoons sugar.
2 tablespoons molasses.
1 cup boiling water.
½ pound fat salt pork.
Boiling water to cover.

Look over the beans and soak in cold water overnight.

In the morning drain, cover with fresh water, and heat slowly until skins will burst, but do not let beans become broken.

Scald one-half pound fat salt pork. Scrape the pork. Put a slice of pork in bottom of bean pot. Cut the remaining pork across top in strips just through the rind, and bury pork in beans, leaving rind exposed.

Add one cup boiling water to seasonings and pour over the beans. Cover with boiling water. Bake slowly, adding more water as necessary. Bake from six to eight hours, uncover at the last, so that water will evaporate and beans brown on top. Serves 12.

See Farmers' Bulletin No. 256, The preparation of vegetables for the table.

Baked Cowpeas.

Cook 1 quart of large white cowpeas slowly in water until they begin to soften. This will require five or six hours. Put them into a bean pot, add one-half pound of salt pork and one tablespoonful of molasses. Cover with water and bake slowly six or seven hours. It is well to have the pot covered except during the last hour.

See Farmers' Bulletin No. 559, Use of corn, kafir, and cowpeas in the home.

METHOD OF WORK.

Have the beans washed and put to soak the night before the lesson is to be given. Assign to one of the girls the task of putting them on to boil early the next morning. Call the class together for a few moments when the beans are ready to put in to bake. Assign one of the girls to attend to the fire and the oven. Let the beans bake all

day. If the lesson is to be given late in the afternoon, the beans may be ready to serve, or the cooking may be continued the second day and the lesson completed then. It would be well to serve the dish at the lunch period. Have the corndodgers prepared to serve with the baked beans or cowpeas.

LESSON XVII. BUTTER CAKES—PLAIN YELLOW CAKE—COCOA—COFFEE—TEA.

SUBJECT MATTER.

Cakes.—Cakes made with fat resemble other batters, except that the fat, sugar, and eggs are usually larger in amount and the texture of the baked batter is much finer and more tender.

When preparing cake, first get the pans ready, greasing them with the same kind of fat that is to be used in the mixture, or sprinkle with flour, or line with greased paper. Make sure that the oven is at the proper temperature. For a small cake the oven should be hot enough to brown a small piece of unglazed paper or a tablespoon of flour in three minutes. Bake a small cake 20 to 30 minutes. When done, the cake will shrink from the sides of the pan; the crust will spring back when touched with the finger; the loud ticking sound will cease; a needle or straw will come out clean if the cake is pierced, and the crust will be nicely browned. When the cake is removed from the oven, let it stand in the pan about three minutes, then loosen and turn out gently. Do not handle while hot. Keep in a clean, ventilated tin box in a cool, dry place.

Cocoa.—Chocolate and cocoa are prepared from the bean of a tropical tree. This bean is rich in protein, fat, carbohydrate, mineral matter, and a stimulant called theobromine. The seeds are cleaned, milled, and crushed into a paste in the preparation of chocolate. In the preparation of cocoa much of the fat is removed and the cocoa is packed for market in the form of a fine powder. Cocoa is more easy of digestion than chocolate, because it is less rich. Though the amount of cocoa used in a cup of the beverage is not large, when prepared with milk it serves as a nutritious food. It is slightly stimulating as well, because of the theobromine present and because it is served hot.

Coffee and Tea.—Coffee and tea have no food value when prepared as a beverage. They contain stimulating properties that are harmful to the body if taken in large quantities, hence they should be used with discretion. They should never be given to children or to those troubled with indigestion. If carelessly prepared, both coffee and tea may be decidedly harmful to the body. Coffee should not be boiled for more than eight minutes. Tea should never be permitted to boil. Freshly boiling water should be poured on the leaves and left for three minutes. It should then be strained off for serving and kept hot until used.

PRELIMINARY PLAN.

It will be well to plan to give the lesson on some special occasion, as it is well adapted to serve for the refreshments for a mother's club or a little class party.

RECIPES.

Plain Yellow Cake.

½ cup butter.
1 cup sugar.
2 eggs.
½ cup milk.
2 teaspoons baking powder.
1½ cups flour.
1 teaspoon spice or
1½ teaspoons flavoring.

Cream butter, add sugar gradually, mix well. Add well-beaten yolks of eggs, then flour and baking powder alternately with the milk. Then add flavoring and cut and fold in whites of eggs carefully. Turn into buttered pans and bake at once in a moderately hot oven.

For chocolate cake 2 ounces of melted chocolate may be added after yolks of eggs. Serves 16 to 20.

Gingerbread.

½ cup butter.
½ cup sugar.
1 egg.
½ cup molasses.
½ teaspoon soda.
1¾ cups flour.
1 teaspoon ginger.
½ teaspoon cinnamon.
Salt.
½ cup milk (sour if possible).

Cream the butter, add sugar gradually, then well-beaten egg. Add molasses. Sift all dry ingredients together, and add alternately with milk. Bake in a buttered tin or in gem pans in a moderate oven 25 or 35 minutes. Serves 8 to 10.

Cocoa.

¼ cup cocoa.
¼ cup sugar.
1 cup water.
3 cups milk.

Mix the cocoa and sugar with the water and boil 10 minutes. Stir into the hot milk and then cook in double boiler one-half hour. Serves 8 to 10.

Tea.[1]

1 teaspoon green or 2 teaspoons black tea.
2 cups boiling water (freshly boiling.)

Scald teapot, put the tea in the teapot and pour boiling water over it; steep 3 minutes, strain, and serve. Serves 4.

Coffee.[1]

Use two tablespoons of ground coffee for each cup of boiling water that is to be used. Put the coffee in the coffee pot and add enough cold water to moisten the coffee and make it stick together, about one teaspoon of water to each tablespoon of coffee. Pour the boiling water over the coffee and boil it for 3 minutes. Place it where it will keep hot, but not boil, for 5 minutes or more, and then serve. (If a small amount of egg white and shell is mixed with the coffee grounds and cold water it will aid in settling the coffee.)

[1] The recipes for coffee and tea are given so that the teacher can discuss their preparation with the girls and compare their value with the value of cocoa. If coffee and tea are both commonly used in the homes, it may be well to have the girls prepare them in the class, to be sure that they appreciate the importance of proper cooking.

METHOD OF WORK.

Begin the lesson period with a discussion of the methods of preparing cakes and put the cake in the oven as soon as possible. While it is baking prepare the cocoa. If the cocoa is not to be served for some time, it can be kept hot or reheated over hot water.

LESSON XVIII. YEAST BREAD.

SUBJECT MATTER.

Yeast bread is made light by the presence of a gas produced by the growth of yeast in the sponge or dough. Yeast is a microscopic plant which grows in a moist, warm temperature and feeds on starchy materials such as are present in wheat. A portion of the starch is converted into sugar (thus developing new and pleasant flavors), and some is still further changed, giving off the gas upon which the lightness of the bread depends. If the yeast is allowed to grow too long a time or the temperature is very hot, a souring of the dough may result. This souring can be prevented by kneading the dough thoroughly as soon as it has risen well or doubled in bulk or by putting it in a very hot oven to bake when it has reached this stage. If the dough becomes chilled, the yeast will not grow so well, and if the temperature of the dough should become hot the activities of the yeast would become arrested. A boiling temperature will destroy the growth of the yeast.

Yeast develops in a natural state on the hops and other plants. It is prepared for market in the form of dry or moist cakes. The moist cakes must be kept very cold. For home use a liquid yeast is often prepared from the dry cakes. This has the advantage of being more active.

When the yeast has been added to a batter it is spoken of as a sponge. When the batter has had enough flour added so that it can be handled it is called a dough. If the bread is to be made in a few hours, the yeast is made up at once into a dough. If it is to stand overnight, a sponge is often started first. More yeast is required for quick rising. Under ordinary circumstances one yeast cake is sufficient for 1 quart of liquid. Thorough kneading and baking are both essential to the success of the bread.

PRELIMINARY PLAN.

Arrange to have the class meet the afternoon before to start the sponge and come early in the morning to care for the dough. Begin the study of flour, yeast, and bread in a previous class period, correlating the work with geography, nature study, or some other subject. Either white or whole-wheat flour may be used for the breads.

RECIPES.

Bread.

(Prepared with dry yeast.)

1 dry yeast cake.
1 cup warm water.
1 cup flour.
1 quart water or milk (scalded).
Flour enough to make a soft dough.
2 teaspoons salt.
2 tablespoons sugar.
2 tablespoons lard or butter.

At noon put a dry yeast cake to soak in a cup of warm water. When it is soft, add a cup of flour, cover, and put in a warm place to grow light. This will require several hours.

In the evening when ready to start the dough, mix salt, sugar, fat, and hot liquid in a large bowl; when lukewarm add the cup of light yeast and enough flour to knead (about three quarts). Mix thoroughly and knead it into a smooth dough, and continue until it is soft and elastic. Return dough to the bowl, moisten, cover, and set in a moderately warm place for the night. Be sure that the place is free from drafts. In the morning knead slightly; divide into loaves or shape in biscuits; put into pans for baking; cover and let rise until double in bulk. Bake large loaves 50 to 60 minutes. Biscuits will bake in from 25 to 35 minutes, for they require a hotter oven. (Makes 4 loaves). It is of utmost importance that all yeast breads be thoroughly cooked.

(Time required for making bread with dry yeast, 16 to 20 hours.)

Bread.

(Prepared with compressed yeast.)

2 cups milk or water (scalded).
2 teaspoons salt.
2 teaspoons sugar.
1 tablespoon lard or butter.
½ cake compressed yeast (1 cake if set in morning.)
¼ cup water (lukewarm).
Flour, white or whole wheat.

Put the hot water or milk, salt, sugar, and fat in a bowl; when lukewarm add the yeast softened in the lukewarm water, then the flour gradually, and when stiff enough to handle, turn dough out on floured board and knead until soft and elastic (20 minutes). Return dough to the bowl, moisten, cover, and let it rise in a warm place until double its bulk; then knead slightly, divide into loaves, or shape into biscuits, cover and let rise in the pan in which they are to be baked until double in bulk, and bake 50 to 60 minutes. (Makes 2 loaves.)

(Time required for making bread, if one cake compressed yeast is used, 6 hours.)

See Farmers' Bulletins, No. 389, Bread and bread making; No. 807, Bread and bread making in the home.

METHOD OF WORK.

If the class is large, prepare two or three bowls of sponge, so that all can have some experience in stirring and kneading. Do not make too large a quantity of bread to bake in the oven unless arrangements can be made to do some of the baking at the near-by home of one of the girls. Use the bread for the school lunch or divide it among the girls to take home.

Plan a bread contest so that each girl will be interested to make bread at home.

LESSON XIX. SERVING A SIMPLE DINNER WITHOUT MEAT. BAKED OMELET. MACARONI AND CHEESE.

PRELIMINARY PLAN AND METHOD OF WORK.

At some previous time the teacher should talk over the plans for the dinner with the girls. It will be well to let them ask the members of the school board or other people interested in their work to partake of the dinner. They should decide on the menu with help and suggestions from the teacher. They should choose foods that they can bring from their homes. The main course of the dinner should consist of such a vegetable dish as baked beans, cowpeas, an omelet, or macaroni with white sauce and grated cheese. To accompany it there should be potatoes and a fresh green vegetable, such as spinach or cabbage and a hot bread.

A simple dessert which the girls know how to make should be chosen. One duty should be assigned to each girl and she should be entirely responsible for that portion of the work. The teacher should supervise all the work carefully.

The girls may be able to make simple menu cards for the dinner. The work of making the cards can be taken up in a drawing lesson.

RECIPES.

Baked Omelet.

2 tablespoons butter.
2 tablespoons flour.
½ teaspoon salt.
Pepper.
1 cup milk, heated.
4 eggs.
2 teaspoons fat.

Melt the butter, add the flour and seasonings, combine thoroughly, then add the hot milk slowly. Separate the eggs; beat the yolks, and add the white sauce to them. Beat the whites until stiff and cut and fold them carefully into the yolk mixture so that the lightness is all retained. Turn into a greased baking dish and bake in a moderate oven 29 to 30 minutes. Serve hot. Serves 6.

Macaroni and Cheese.

1 cup macaroni, noodles, or rice.
2 tablespoons fat.
3 tablespoons flour.
½ teaspoon salt.
Pepper.
1½ cups milk.
1 cup grated cheese.
2 cups buttered bread crumbs (two tablespoons butter or other fat).

Break the macaroni in 1-inch pieces and cook it in a large amount of boiling water salted 30 to 45 minutes. Drain it well when tender and pour cold water through it.

Grate the cheese, break up the bread crumbs, and add two tablespoons melted butter to them. Make a white sauce of the fat, flour, seasonings, and milk. Add the macaroni and cheese to the white sauce, pour it into a butter-baking dish, cover with bread crumbs, and bake from 20 to 30 minutes in the oven, browning nicely. Serves 8.

LESSON XX. SUGAR.

Food value and cooking. The use of peanuts in candy. Peanut cookies, or peanut, molasses, or fudge candies to be made for a special entertainment.

SUBJECT MATTER.

Sugar is valuable to the body as a source of heat and energy. While it is easy of digestion, it is very irritating to the body if taken in large quantities, and hence it should be taken in small quantities and preferably at meal time or with other food. Two or three pieces of candy taken at the end of the meal will not be harmful, but candy eaten habitually between meals is sure to produce harmful effects in the body. Large quantities of candy are always disturbing to the body.

Sugar is present in many fruits and some vegetables. Milk contains a good per cent of sugar. In preparing foods to which the addition of sugar seems desirable, care should be taken not to add it in large quantities.

PRELIMINARY PLAN.

As it is desirable to have a discussion of sugar and its value to the body, the preparation of cookies or candy for some school function or Christmas party can be undertaken in conjunction with this lesson. The lesson should be given at a time when it will mean most to the girls. The work should be so planned that the girls will learn something of the principles of sugar cookery as well as the specific recipes they are using.

RECIPES.

Cookies.

1 cup fat.
1 cup sugar.
2 eggs.
¼ cup milk.
3 cups flour.
3 teaspoons baking powder.
1 tablespoon cinnamon.
½ cup sugar.

Cream the butter, add sugar and well-beaten eggs. Then add milk alternately with flour (sifted with baking powder). Mix to the consistency of a soft dough, adding more milk if necessary. Roll lightly, cut in shapes, and dip in the one-half cup sugar and cinnamon that have been sifted together. Place on buttered sheets, and bake in a hot oven about 10 minutes. Slip from pan and lay on cake cooler. To make a softer cooky, use only one-half cup butter in recipe. (3 to 4 dozen.)

Peanut Cookies.

2 tablespoons butter.
¼ cup sugar.
1 egg.
1 teaspoon baking powder.
⅛ teaspoon salt.
¼ cup flour.
2 tablespoons milk.
½ cup finely chopped peanuts.
½ teaspoon lemon juice.
2 dozen whole peanuts shelled.

Cream the butter, add the sugar and the egg well-beaten. Mix and sift dry ingredients, add to first mixture, then add milk, peanuts, and lemon juice. Drop from the teaspoon onto an unbuttered baking sheet, an inch apart, and place ½ peanut on top of each. Bake 12 to 15 minutes in a moderate oven. (2½ to 3 dozen.)

Peanut Brittle.

1 cup sugar. 1 cup peanuts (1 quart with shells on).

Heat sugar until it all melts and liquid becomes clear, remove immediately, add peanuts, chopped if desired, mixing them in thoroughly; quickly spread upon a smooth tin or iron sheet, press into shape with knife and cut into bars or squares. Serves ten.

Molasses Candy.

2 cups molasses.
½ cup sugar.
2 tablespoons butter.
1 tablespoon vinegar.
½ teaspoon soda.

Put molasses, sugar, and butter into a thick saucepan or kettle, and stir until sugar is dissolved. Boil until mixture becomes brittle when tried in cold water. Stir constantly at the last to prevent burning. (Butter may be omitted if it can not be easily secured.)

Add vinegar and soda just before removing from fire.

Pour into a well-greased pan and let stand until cool enough to handle. Then pull until light and porous and cut in small pieces with scissors, arranging on buttered plates. Serves 16 to 20.

Caramel Fudge.

2 cups sugar.
1 cup milk.
½ cup caramelized sugar.
1 tablespoon butter.
½ cup nuts, broken up.

Boil sugar and milk together, add caramelized sugar and butter, and boil to the soft ball stage. Take from fire and beat until the candy becomes creamy. Add nuts and turn into buttered pans; when cool cut into squares. Serves 16 to 20.

See Farmers' Bulletin No. 535, "Sugar and its value as food."

METHOD OF WORK.

Devote a separate period to the discussion of the food value and cooking of sugar, if possible; then assign two recipes for the practical work, allowing the girls to work in groups. Assign only as much work as can be carefully supervised. Do not undertake both the cookies and the candy.

TWENTY LESSONS IN SEWING.

For the Rural Schools.

OUTLINE OF THE COURSE.

Lesson I. Preparation for sewing. Preparation and use of working equipment: Needles, pins, thread, tape measure, thimble, scissors, box for work. Talk on cleanliness and neatness (care of hands, etc.). Discussion of hemming. Hems folded on sheets of paper.

Lesson II. Hemming towels. Turning and basting hems. Hemming towels of crash, flour, or meal sacks, or other coarse material for use in washing and drying dishes at home or in school.

Lesson III. Hemming towels, continued. The overhanding stich and the hemming stitch.

Lesson IV. Bags. A school bag. Bag (made of obtainable material) to hold sewing materials or cooking apron. Measuring and straightening the material for the bag. Basting the seams.

Lesson V. Bags, continued. Sewing up the seams with a running stitch and a back stitch.

Lesson VI. Bags, continued. Overcasting the seams and turning the hem at the top of the bag.

Lesson VII. Bags, continued. Hemming the top of the bag and putting in a running stitch to provide a space for the cord.

Lesson VIII. Bags, continued. Preparing a cord or other draw string for the bag. Putting a double draw string in the bag so that it can easily be drawn up. Use of the bodkin.

Lesson IX. Darning stockings. Use of a darning ball or a gourd as a substitute for the ball. Talk on care of the feet and care of stockings.

Lesson X. Patching (used when special problem comes up). Hemming patches on cotton garments. Talk on care of clothes.

Lesson XI. Cutting out an apron (or an undergarment).[1]

Lesson XII. Apron (or undergarment), continued. Basting the hem for hemming on the machine or by hand. Uneven basting.

Lesson XIII. Apron (or undergarment), continued. Gathering the skirt and stitching to the belt.

Lesson XIV. Apron (or undergarment), continued. Making the bib.

Lesson XV. Apron (or undergarment), continued. Making the straps.

Lesson XVI. Apron (or undergarment), continued. Putting the bib and skirt on to the belt.

Lesson XVII. Methods of fastening garments. Sewing buttons on aprons, petticoats, or other garments.

Lesson XVIII. Methods of fastening garments, continued. Button holes on practice piece and on apron.

Lesson XIX. A padded holder for handling hot dishes. Binding.

Lesson XX. A cap to wear with the cooking apron.

SUGGESTIONS TO THE TEACHER.

The teacher should be well acquainted with the conditions in which the girls live, should know how much money they can afford to pay for materials, what materials are available, what previous handwork the girls have had, whether they can afford to have sewing machines in their own homes, to what extent they make their own clothes, and to what extent they buy them ready-made.

The lessons should be planned to furnish hand training, to give the instruction of which the girls can immediately make use in the care of their own clothes, and to provide opportunity for preparing the apron for the cooking lessons that are to follow. They should tend to

[1] Should the teacher feel that an apron or petticoat is too large a piece for her girls to undertake, and should she desire to have more time put on the first 10 lessons, Lessons XI to XVIII may be omitted, two periods each devoted to both Lessons XIX and XX, and three lessons used for the making of a simple needle book or other small piece.

develop habits of thrift, industry, and neatness. The girls should be encouraged to learn to sew, both to improve their own home conditions and to give them suggestion for a possible means of livelihood. If sewing machines are available and are in use in the homes represented in the school, it is well to have lessons given in machine sewing and to have the long seams run by machine. If the girls can not have sewing machines in their own homes, the lessons given should be limited to hand sewing. In some schools it may be necessary to simplify the lessons; in others an increased number of articles may be prepared in the time allotted. Should the apron and cap not be needed for the cooking class, an undergarment (petticoat) can well be substituted.

The teacher should have a definite plan of procedure in mind for each lesson. The lesson should be opened with a brief and concrete class discussion of the new work that is to be taken up or the special stage that has been reached in work that is already under way. Though individual instruction is necessary, it should not take the place of this general presentation of subject matter, which economizes time and develops the real thought content of the work.

New stitches can be demonstrated on large pieces of muslin with long darning needles and red or black Germantown yarn. The muslin may be pinned to the blackboard with thumb tacks and the stitches made large enough for all to see without difficulty. A variety of completed articles should be kept on hand to show additional application of points brought out in the lesson. Each class may be given the privilege of preparing one article to add to this collection, and a spirit of class pride and valuable team work thereby developed.

During the lesson, posture, neatness, and order should be emphasized. Application can be secured by making the problems of interest. Care must be taken that none of the work demands unnecessary eye strain. Each lesson should be closed in time to have one of the members of the class give a brief summary of the steps that have been covered.

Since the class period for sewing in the rural school will necessarily be brief, the girls can be encouraged to continue their work at some other period. However, no work outside of the class period should be permitted until the pupil has mastered the stitch and can be trusted to do the work in the right way. The privilege of sewing can be made the reward for lessons quickly learned, home practice can be assigned, or the class can meet out of school hours. All outside practice must be carefully supervised, the pupil bringing her work to the teacher for frequent inspection.

If it is possible to keep on hand a permanent equipment for sewing, the following should be provided for a class of 12:

	Approximate cost.
Scissors, 1 dozen	$3.00
Thimbles, 1 dozen	.25
Tape measures, 1 dozen	.40
Emery, 1 dozen	.40
Boxes for work, 1 dozen	.84
	4.89

The teacher who is to give lessons in sewing should secure a helpful elementary textbook on sewing or some bulletin that deals with the teaching of sewing. Such bulletins are issued in some States by the extension departments of the State university, college, or normal schools. A leaflet that will prove of value, entitled "Sewing for Rural Schools" (Vol. VII, No. 7), is published by the Hampton Normal and Agricultural Institute, Hampton, Va. It will be sent free to southern teachers upon request.

A suggestive list of textbooks on sewing, for use in elementary rural schools.

Burton, Ida R. and Myron G.—"School Sewing, Based on Home Problems." Price, $1. Vocational Supply Co., Indianapolis.

Flagg, Etta P.—"Handbook of Elementary Sewing." Price, 50 cents. Little, Brown & Co., Boston.

Fuller, M. E.—"Constructive Sewing Book I" (paper). Price, 60 cents. Industrial Book & Equipment Co., Indianapolis.

Hapgood, Olive G.—"School Needlework." Price, 50 cents. Ginn & Co., Boston.

Kinne, Helen, and Cooley, Anna M.—"Clothing and Health." Price, 65 cents. The Macmillan Co., New York City.

McGlauflin, Idabelle.—"Handicraft for Girls." Price, $1. The Manual Arts Press, Peoria, Ill.

Patton, Frances.—"Home and School Sewing." Price, 60 cents. Newson & Co. New York City.

Woolman, Mary S.—"A Sewing Course." Price, $1.50. Frederick A. Fernald, Washington.

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DETAILED LESSON PLANS FOR THE COURSE IN SEWING.

LESSON I. PREPARATION FOR SEWING.

Preparation and use of working equipment: Needles, pins, thread, tape measure, thimble, scissors, box for work. Talk on cleanliness and neatness (care of hands, etc.). Discussion of hemming. Hems folded on sheets of paper.

SUBJECT MATTER.

A hem is a fold used to finish a cut surface, made by twice turning over the edge of a piece of cloth toward the worker, and then sewing it down. In turning a narrow hem the first fold must be less deep than the second, in order that the hem may lie smoothly. If the hem is a wide one, the first fold can be much less deep than the second.

PRELIMINARY PLAN.

The teacher should have interested the children in the sewing lessons before the first meeting of the class, and each girl should be asked to come to class with the box in which to keep her materials and such other equipment as is required. If the school is to furnish the equipment, the teacher should be sure that there is an adequate amount on hand.

It will probably be necessary to have towels hemmed to be used in the cooking classes at school, and the girls should be interested in doing the hemming. If some of the girls want to hem towels for use in their own homes, it will be desirable to allow them to do so. Flour or meal sacks will answer. It may be well to have the girls each hem a towel for home use as well as for school use, in order to impress them with the desirability of having hemmed dish towels for daily use. The towels can be planned during this lesson and the girls can arrange to bring the material from home, if they are to provide them. It will be well for the teacher to have material for one or two towels already on hand. Plain paper will answer for the practice folding of the hem in the first lesson.

METHOD OF WORK.

The teacher should devote a few minutes to a talk on cleanliness, emphasizing the importance of cleanliness, and the necessity for care in handling the sewing materials. This should be followed by a discussion of the care of the hands and the condition in which the

hands should be for the sewing lesson. Each girl should inspect her own hands and show them to the teacher.

When sure that all the girls have their hands in proper condition for sewing, the teacher should look over their supplies with them, give them suggestions as to how they are to keep the supplies, and have them arrange their boxes.

Next she should tell them what their first work is to be, show them the material for the towels, and discuss with them the best method of finishing the ends of the towels. (See Lesson II.)

Before turning the hem the girls should make a cardboard ruler from heavy paper and notched to indicate the depth of the hem. A few minutes should be devoted to practice in measuring and turning a hem the desired depth on a sheet of paper. This should give experience with the double turning necessary—first, the narrow turn to dispose of the cut surface; second, the fold to finish the edge.

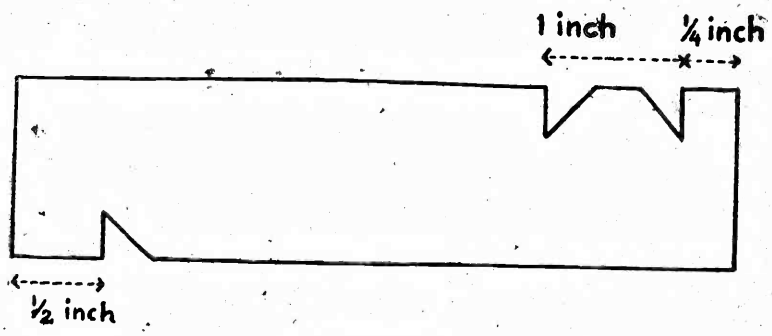


FIG. 2.—Gauge.

Careful measuring should help to give the girls practice, so that they will be able to measure with the eye a designated distance in inches or fraction of an inch.

When the lesson hour has come to an end the boxes should be put away in systematic order. All scraps should be always carefully picked up from the desks and floor.

LESSON II. HEMMING TOWELS.

Turning and basting hems. Hemming towels of crash, flour or meal sacks, or other material, for use in washing and drying dishes at home or in school.

SUBJECT MATTER.

Basting is used to hold two pieces of material together until a strong stitch can be put in. It is done by taking long stitches (one-fourth inch) from right to left and parallel to the edges that are to to be basted together. In starting, the thread is fastened with a

knot; when completed it is fastened by taking two or three stitches one over the other.

PRELIMINARY PLAN.

The teacher should have the necessary materials for sewing on hand, or should have them supplied by the children. The materials needed will include material for towels, white thread for basting and hemming, and cardboard pieces for measuring.

The teacher should also have a large square of unbleached muslin or canvas, 18 by 18 inches, and a large darning needle and colored worsted thread to use for demonstration purposes. The canvas should be pinned to the blackboard, where the class can see it easily.

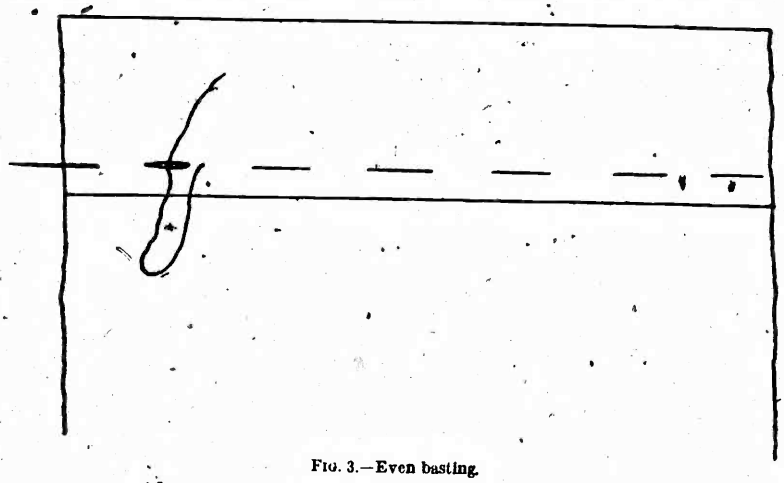


FIG. 3.—Even basting.

METHOD OF WORK.

As soon as class is called, supplies are at hand, and hands are in proper condition, the teacher should demonstrate the basting stitch with a large needle and thread on the square of canvas that has been fastened on the wall. Materials should be passed for work. Each girl should straighten the ends of her towel by drawing a thread. Then she should turn and baste a hem three-eighths of an inch in depth at each end.

At the close of the lesson the girls should fold up their work carefully and put it neatly in their boxes.

LESSON III. HEMMING TOWELS (Continued).

The Overhanding Stitch and the Hemming Stitch.

SUBJECT MATTER.

Overhanding (also called overseaming or whipping).—The edges to be overhanded are held between the first finger and thumb of the left hand with the edge parallel to the first finger. The needle is inserted just below and perpendicular to the edge. The needle is pointed straight toward the worker The stitches proceed from right to left, each stitch being taken a little to the left of the preceding stitch.

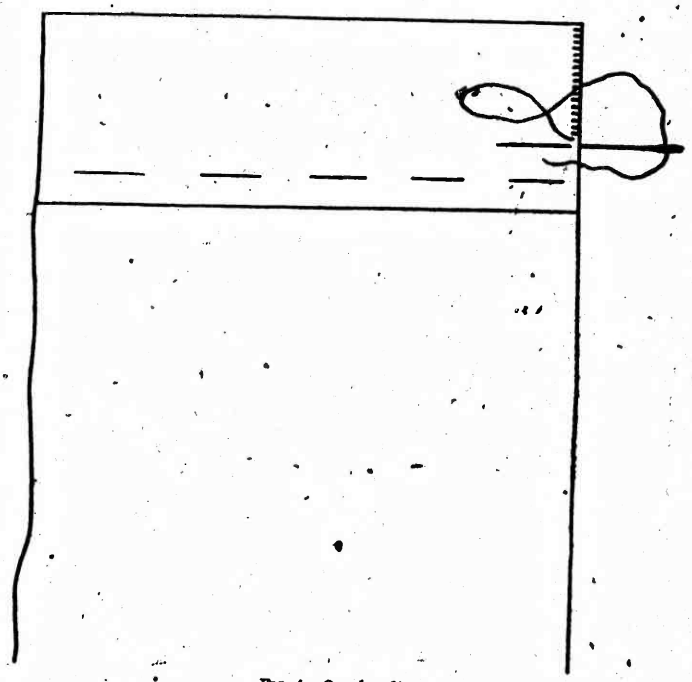


FIG. 4.—Overhanding.

The stitches should all be straight on the right side, but they will slant a little on the wrong side. The stitches should not be deep. It may be desirable to use this overhanding stitch at the ends of hems to hold the edges of the material together. The overhanding stitch is also used for seams, for patching, and for sewing on lace.

The overhanding of narrow hems is not always necessary, but the ends may be made stronger thereby, and the stitch is a valuable one for the girls to know.

Hemming.—The hemming stitch is placed on the inside of the hem. The end of the basted hem is laid over the first and under the second finger of the left hand with the folded edge outside and the material

toward the worker. It is held in place with the thumb. The stitch is begun at the end of the hem. The fastening of the thread is concealed by slipping it underneath the hem in the inside fold of the material. The needle is pointed over the left shoulder, a small stitch is taken through the material just under the hem, then through the edge of the hem. This is repeated, making the next stitch nearer the worker, and moving the goods from right to left away from the worker as necessary. Uniformity of slant, size, and spacing of stitches is important.

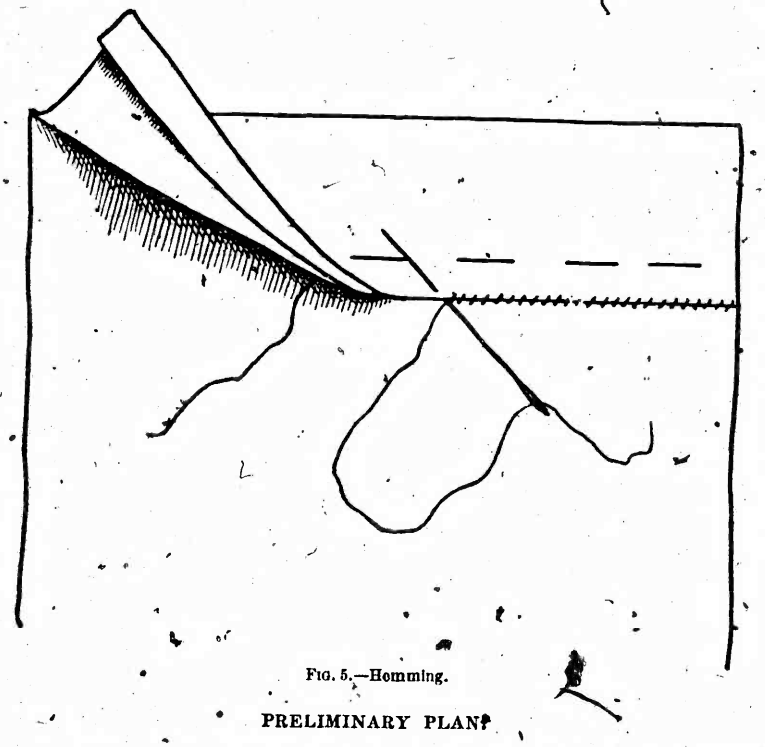


FIG. 5.—Hemming.

PRELIMINARY PLAN.

Before this lesson is given, all the girls should report to the teacher with both ends of their towels basted so that they will all be ready to proceed at once with the new stitches.

METHOD OF WORK.

The teacher should begin the lesson by demonstrating the stitches to be used on the large square of canvas, with the large needle and heavy thread. After overhanding the end of the hem, the hemming stitch should follow with the same thread. The girls will probably not be able to finish the hemming in this first lesson, so provision should be made for additional time. This can be required as an out-

side assignment, if they have mastered the method during the class period. The teacher may be able to give them some supervision while she is looking after other classes.[1]

LESSON IV. BAGS.

A school bag. Bag (made of material obtainable) to hold sewing materials or the cooking apron. Measuring and straightening the material for the bag. Basting the seams.

SUBJECT MATTER.

The basting stitch will be used as a review of work in the second lesson.

PRELIMINARY PLAN.

At some previous time the teacher should talk with the girls about what material they will be able to provide for their bags, and, if the material has to be purchased, she should suggest something that is suitable, washable, and inexpensive. The bag should cost only a few cents. If the bag is to be used for carrying the cooking apron back and forth from home, it must not be too light in color. The dimensions of the finished bag should be about 12 by 18 inches.

METHOD OF WORK.

The girls should get out the materials they have brought for their bags and determine upon their size and shape. It will not be necessary for them to make bags of uniform shape and size. The teacher should help them to use their material to the best advantage. The material should be straightened, pulled in place, and measured carefully. When the bags have been cut out, the sides should be basted up.

LESSON V. BAGS (Continued).

Sewing up the seams with a running stitch and a back stitch.

SUBJECT MATTER.

Running is done by passing the needle in and out of the material at regular intervals. Small, even stitches and spaces should follow consecutively on both sides of the material. The stitches should be much shorter than for basting, the length being determined largely by the kind of cloth used.

When running is combined with a back stitch, two or more running stitches and one back stitch are taken alternately. The back stitch is a stitch taken backward on the upper side of the cloth, putting the needle back each time into the end of the last stitch and bringing it out the same distance beyond the last stitch.

[1] If the girls have time to do more hemming than the towels require, they may enjoy making simple curtains of plain mull or dotted swiss for the windows of the schoolroom. This work can be taken up in additional lesson periods or after school hours.

PRELIMINARY PLAN.

The teacher should be sure that all the teachers are ready to report, with the sides of their bags basted ready for stitching.

METHOD OF WORK.

The teacher should first demonstrate the running stitch with the back stitch, and the girls should begin to sew up the sides of the bag, using the running stitch. They should commence the running stitch at three-fourths of an inch from the upper end of the bag, so that there will be a space left for slits in the hem to run the cord.[1] The

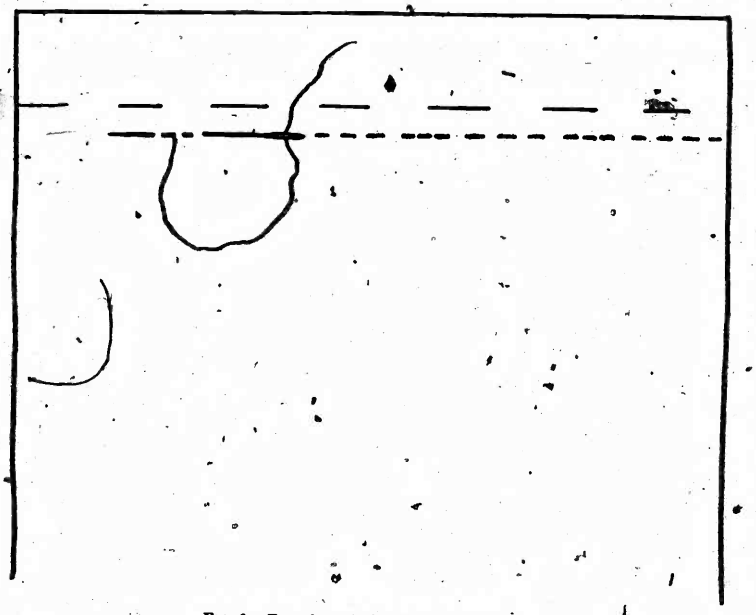


FIG. 6.—Running stitch with a back stitch.

seams will doubtless have to be finished outside of the class hour and should be assigned for completion before the next lesson.

LESSON VI. BAGS (Continued).

Overcasting the seams and turning the hem at the top of the bag.

SUBJECT MATTER.

Overcasting is done by taking loose stitches over the raw edge of the cloth to keep it from raveling or fraying.

[1] The draw string or cord is to be run through the hem from the inside of the bag and it will be necessary to leave three-fourths of an inch of space at the ends of the seams to provide slits for the cord outlets.

PRELIMINARY PLAN.

The teacher should be sure that all the girls are ready to report, with the sides of their bags neatly sewed up with the running stitch.

METHOD OF WORK.

The teacher should demonstrate the method of overcasting and explain its use. She should have the girls trim the edges of their seams neatly and overcast them carefully. After the seams have been overcast, she should discuss with the girls the depth of the hem that they expect to use and the method of turning and basting it. The girls should turn and baste the hems, using the cardboard measure for securing the depth of the hem. If the bags are deep enough to admit of a heading at the top, a deep hem (about 2½ inches) can be made and a running stitch put in one-half inch (or

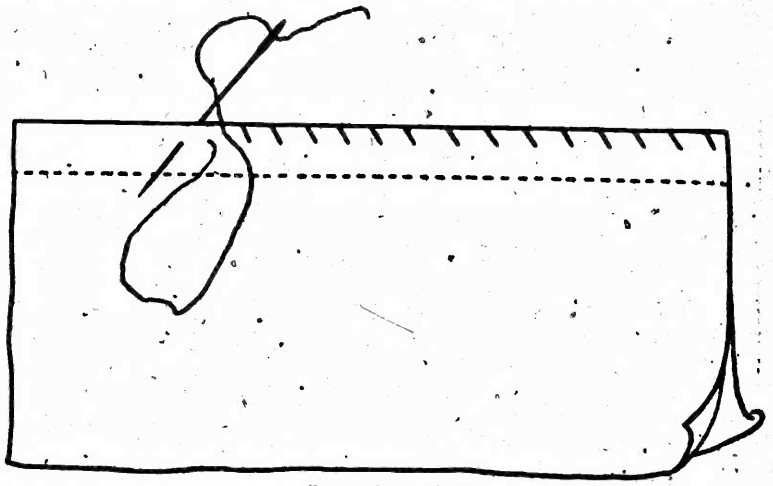


FIG. 7.—Overcasting.

more) above the edge of the hem to provide a casing or space for the cord. If it is necessary to take a narrow hem, the hem itself can be made to answer as space for the cord; in this case the hem should be made about one-half inch deep.

LESSON VII. BAGS (Continued).

Hemming the top of the bag, putting in running stitch to provide a space for the cord.

SUBJECT-MATTER.

Review of hemming stitch and running stitch.

PRELIMINARY PLAN.

The girls should report to the class with the hems basted.

METHOD OF WORK.

The teacher should review briefly with the girls the method of making the hemming stitch and the running stitch, asking them to describe these stitches and to demonstrate them on the large square of canvas before the class. The basted hems should then be sewed down with the hemming stitch.

After the hem is finished the girls should run a basting thread around the bag to mark the location of the running stitch that is to be half an inch above the hem. They should measure for this carefully with the cardboard rule.

If there is not time to do all the hemming in the class period, the hemming stitch and the running stitch (that is to provide space for the draw string) should be assigned for outside work, and each girl should bring in her finished hem at a designated time before the next class period.

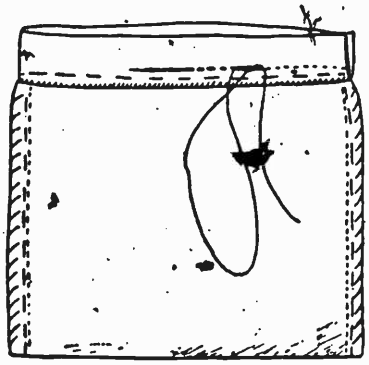


FIG. 8.—Bag nearly completed.
From Junior Circular No. 26, Agricultural Extension Department, Ames, Iowa.

LESSON VIII. BAGS (Continued).

Preparing a cord or other draw string for the bag. Putting in a double draw string in the bag so that it can easily be drawn up. Use of the bodkin.

SUBJECT MATTER.

To make a cord, it is necessary to take more than four times as much cotton as the final length of the cord will require, for some of the length will be taken up in the twisting of the cord. The cord should be doubled, the two lengths twisted together firmly, and the ends brought together again and held in one hand while the center is taken in the other hand, and the lengths are allowed to twist firmly together. The ends should be tied. It will be easier for two to work together in making a cord. The cord should be run into the bag with a bodkin or tape needle. If one cord is run in from one side, and another is run in from the other side, each cord running all the way around, the bag can be drawn up easily.

PRELIMINARY PLAN.

If the children are not able to supply cords for their own bags, the teacher should have a sufficient supply of cord on hand. She should be sure the girls' bags are in readiness for the cord before the class period.

METHOD OF WORK.

The teacher should begin the lesson by describing the method of making the cord, estimating the amount necessary, and demonstrating the process with the assistance of one of the girls. The girls should be numbered so that they can work in groups of two. After they have completed the cord, and run it into the bag, methods of finishing the ends neatly should be suggested to them.

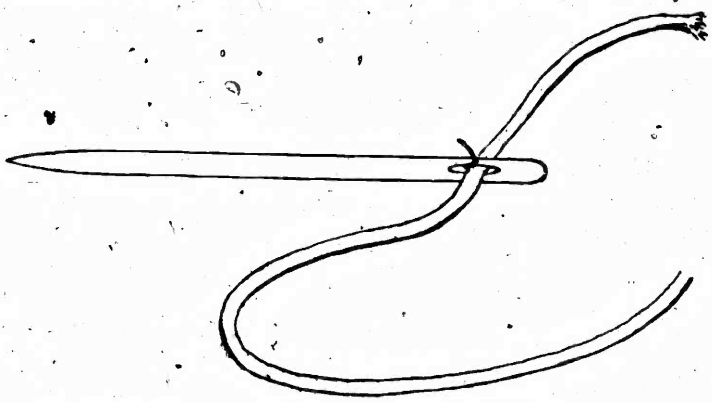


FIG. 9.—Bodkin.

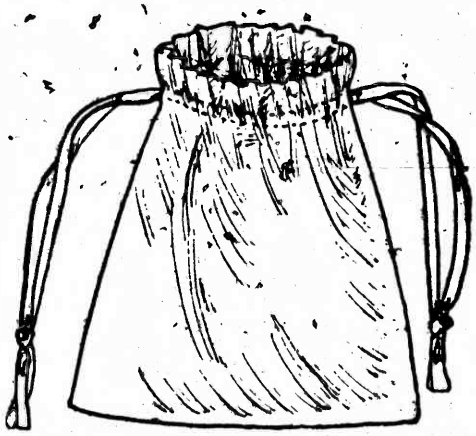


FIG. 10.—Completed bag.

From Junior Circular No. 26, Agricultural Extension Department, Ames, Iowa.

LESSON IX. DARNING STOCKINGS.

Use of darning ball or gourd as a substitute for ball. Talk on care of the feet and care of the stockings.

SUBJECT MATTER.

This lesson will involve running and weaving. Darning is used to fill in a hole with thread so as to supply the part that has been de-

stroyed or to strengthen a place which shows signs of weakness. A darning ball, gourd, or a firm piece of cardboard should be placed under the hole. The darn should extend one-quarter of an inch beyond the edge of the material, beginning with fine stitches in the material, making rows of stitching close together in one direction, then crossing these threads with rows that run at an angle to them. Care should be taken to alternately pick up and drop the edge of the material about the hole so that no raw edges will be left and to weave evenly in and out of the material and of the cross threads.

PRELIMINARY PLAN.

Each girl should provide a pair of stockings with a few small holes and a gourd or ball of some sort that she can use for a darning ball.

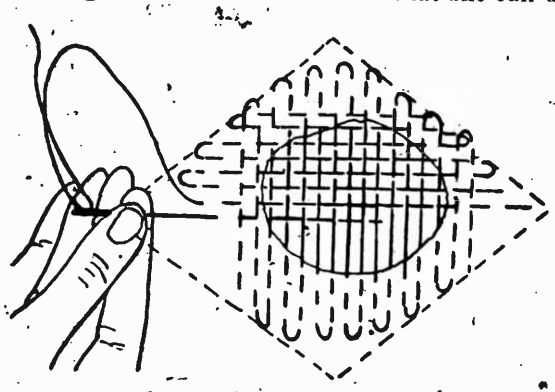


FIG. 11.—Darning.
From Junior Circular No. 26, Agricultural Extension Department, Ames, Iowa.

METHOD OF WORK.

When the class meets the teacher should discuss briefly the care of the feet, and of stockings, and demonstrate the method of darning on a large piece of coarse material with heavy yarn and a needle. If the girls finish one darn during the lesson-period, the making of another darn for practice outside of class should be assigned.

LESSON X. PATCHING.[1]

Hemmed patches on cotton garments. Talk on care of clothes.

SUBJECT MATTER.

This lesson will involve measuring, trimming, basting, and hemming. A patch is a piece of cloth sewed on to a garment to restore the worn part. The material used for the patch should be as nearly like the original fabric in color and quality as possible. In placing the patch, the condition of the material about the hole must be taken into consideration, as well as the size of the hole itself. The hole should be trimmed to remove worn parts near it. The patch should be 2 inches larger than the trimmed hole. The corners of the hole should be cut back diagonally, so that the edges may be turned

[1] Used when special problem comes up.

under. The patch should be matched and pinned onto the large piece, leaving the edges of the patch to project evenly on all four sides. The edges of the material about the hole should be turned in and basted to the patch. The edges of the patch should be turned in so that they extend one-half inch from the edge of the hole when finished. The patch and the cloth should be basted together and hemmed.

PRELIMINARY PLAN.

The lesson on patching should be given at any time in the course when it can be applied to an immediate need. If a girl snags her dress while playing at school or if she wears a torn apron, the teacher can announce a patching lesson for the next sewing class, and request each girl to bring a torn garment and the material for the patch from home. It may be desirable to use two or three periods for this lesson.

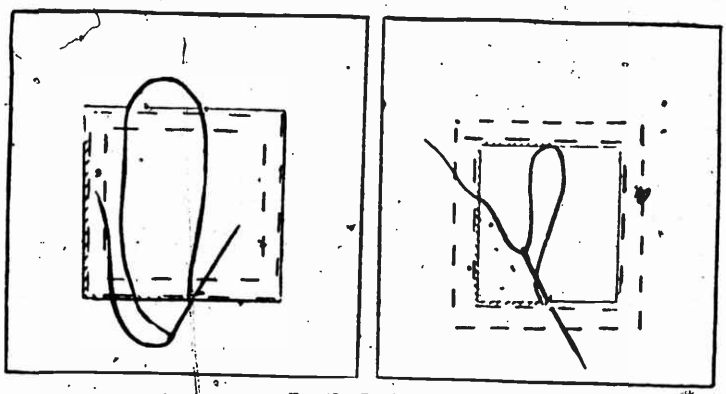


FIG. 12.—Patching.
From Junior Circular No. 26, Agricultural Extension Department, Ames, Iowa.

METHOD OF WORK.

The teacher should demonstrate the various processes of patching on a large piece of muslin. The girls should practice placing a patch on a piece of paper with a hole in it Each process should be assigned in succession—examination of article, to determine its condition; calculation of size and preparation of patch; placing the patch; trimming the article about the hole; basting the patch and material together; and hemming the patch.

LESSON XI. CUTTING OUT APRONS OR UNDERGARMENTS.

SUBJECT MATTER.

When cutting out an apron, the length of the skirt should first be measured, and to this measure 6 inches should be added for hem and seams. One length of the material corresponding to this length

should be cut. This should be folded through the center lengthwise. Three-fourths of an inch should be measured down on this fold, and the material cut from the end of the selvage to this point in order to slope the front of the apron. When the waist measure is taken, 2 inches should be added to it (1 for the lap and 1 for finishing). Two pieces this length, and 2½ inches wide, should be cut lengthwise of the material for the belt. A measure should be made from the middle of the back of the waist line, over the shoulder, to a point 5 inches to the right to the center front and on the waist line. Two pieces the length of this measure, and 4½ inches wide, should be cut lengthwise of the material for the shoulder straps. A piece 9 by 12 inches should be cut for the bib, the longer distance lengthwise of the material. These measurements allow one-quarter inch for seams.

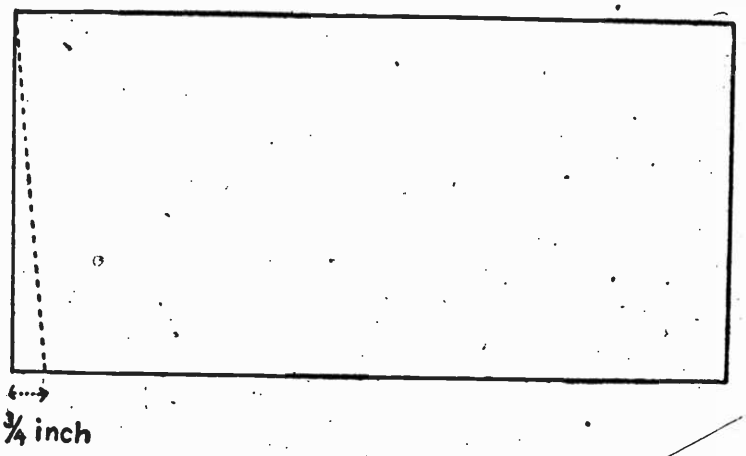


FIG. 13.—Cutting out skirt of apron.

PRELIMINARY PLAN.

Previous to the lesson the teacher should see if arrangements can be made to secure the use of one or two sewing machines, so that the girls can sew all the long seams of their aprons by machine.

At a previous lesson she should discuss with the girls the material of which they can make their aprons. They should consider whether the apron should be white or colored, and whether it should be of muslin, cambric, or gingham. Each girl will need from 1½ to 2 yards of material, according to her size. The taller girls will need 2 yards.

There should be on hand a sufficient number of tape measures, pins, and scissors, so that the girls can proceed with the cutting of their aprons with no unnecessary delay.

The apron to be made is to have skirt, bib, and shoulder straps, in order to be a protection to both dress, skirt, and waist.[1]

METHOD OF WORK.

As soon as the class meets, the girls should make the measurements for their aprons. One measurement should be assigned at a time and the reason for each measurement given. The girls should follow the measurements explicitly, as they are apt to become confused if directions are complicated. They should work carefully so that the material does not become mussed or soiled, and at the conclusion of the lesson they should fold it carefully and put it away neatly. All threads and scraps of material should be carefully picked up off the floor, and the room left in order.

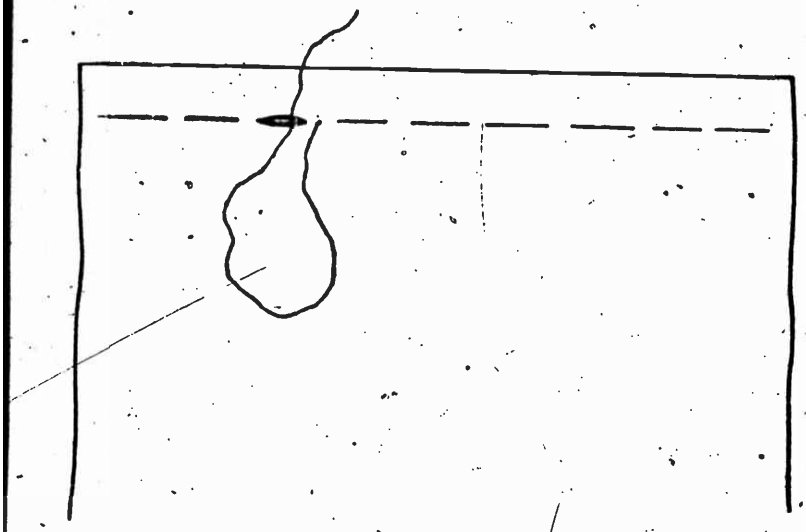


FIG. 14.—Uneven basting.

LESSON XII. APRONS OR UNDERGARMENTS (Continued).

Basting the hem for hemming by the machine or by hand. Uneven basting.

SUBJECT MATTER.

An uneven basting forms the better guide for stitching. In uneven basting the stitches are made about twice as long as the spaces between. The stitch should be about one-fourth of an inch on the upper side of the material and one-eighth inch on the under side.

[1] If the girls are very inexperienced and find the sewing difficult, it may be advisable to omit the bib and straps and to make the simple full-skirted apron. If a machine is not at hand to use for the long seams, the limits in time may make the simpler apron necessary. This will give more time for the various processes. Lessons XIV and XV can then be omitted, Lesson XVI made simpler, and less outside work required.

PRELIMINARY PLAN.

In addition to the apron material which has been cut out in the previous lesson, each girl should provide her own spool of thread (number "Sixty" white thread will probably answer for all the work), a piece of cardboard 5 inches wide to use for marker, and pins to use in fastening the hem.

METHOD OF WORK.

As soon as the class meets, the girls should prepare a 5-inch measure of cardboard to guide them in turning the hems of the skirts of their aprons. They should make a half-inch notch in the measure for the first turn in the material. A one-half inch edge should be turned up from the bottom of the skirt, then a 5-inch hem turned, pinned, and basted carefully with uneven basting. The card board marker should be used for both measurements.

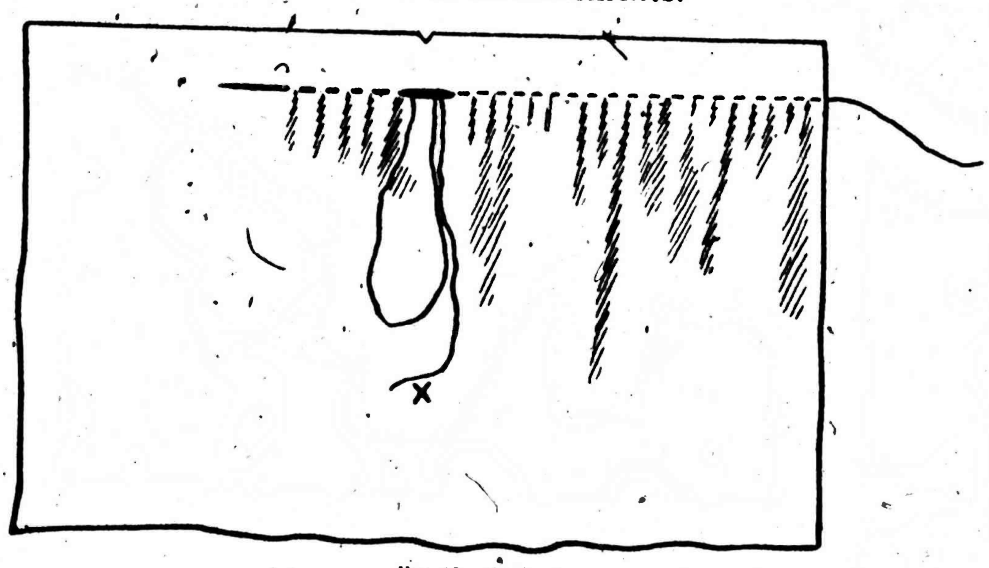


FIG. 15.—Gathering.

LESSON XIII. APRONS OR UNDERGARMENTS (Continued).

Gathering the skirt and stitching to the belt.

SUBJECT MATTER.

In gathering, the running stitch is employed. Small stitches are taken up on the needle with spaces twice as great between them. The top of the skirt should be divided into halves, and gathered with two long double threads, using fine stitches and placing them one-quarter inch from the edge. The center of the belt and the center of the top of the skirt of the apron should be determined upon. The belt should be pinned to the wrong side of the apron at these points, and the fullness drawn up to fit (approximately one-half of the waist measure). The skirt and belt should be pinned, basted, and sewed together.

PRELIMINARY PLAN.

If the hems have been completed in the skirts, the girls are ready to gather the skirts and attach them to the belt. It will be well to have pins on hand to use in fastening the skirt and belt together.

METHOD OF WORK.

The teacher should first demonstrate the method of gathering and assign that portion of the lesson. When the skirts have all been gathered she should show the girls how to measure, pin, and baste the skirt to the belt.

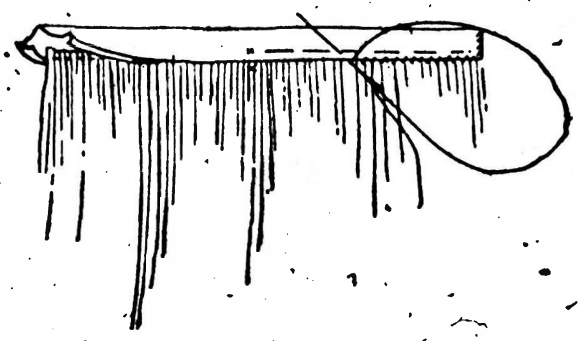


FIG. 16.—Sewing on the belt of the apron.

From Junior Circular No. 26, Agricultural Extension Department, Ames, Iowa.

LESSON XIV. APRONS OR UNDERGARMENTS (Continued).

Making the bib.

SUBJECT MATTER.

A 2-inch hem should be turned across one short end of the bib. This should be basted and hemmed. The bottom of the bib should be gathered, using the method employed for the top of the skirt, and leaving enough thread to adjust the gathers easily.

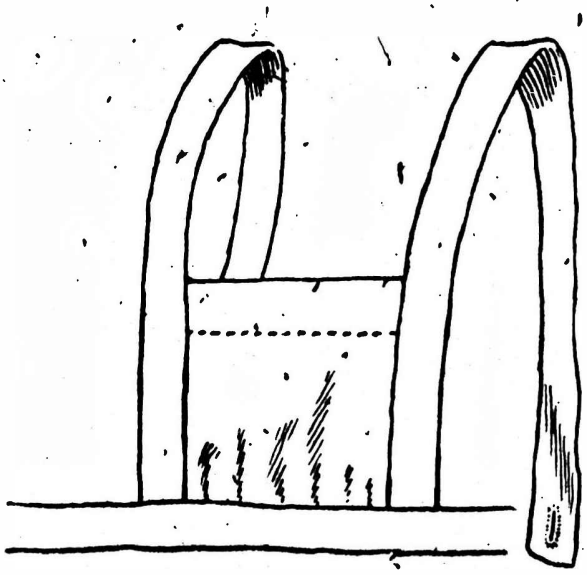


FIG. 17.—Bib and straps of apron.

PRELIMINARY PLAN.

If the girls have completed the skirts and attached them to the belts, they are ready to make the bibs. They should be provided with a 2-inch marker for use in making the hems in the top of the bibs.

METHOD OF WORK.

The teacher should guide the girls carefully in the making of the bibs, reviewing their knowledge of basting, hemming, and gathering.

LESSON XV. APRONS OR UNDERGARMENTS (Continued).

Making the straps.

SUBJECT MATTER.

One end of one of the straps should be placed at the bottom of the bib. The side of the strap should be pinned, basted, and sewed to the right side of the bib with a running stitch. The other long side of the strap should then be turned in one-quarter of an inch and the ends turned in one-half of an inch. The strap should then be folded through the center for its entire length and the free side basted to the wrong side of the bib and hemmed down. The remaining edges of the strap should be overhanded together. The other strap should be sewed to the other side of the bib in the same way.

PRELIMINARY PLAN.

The bibs should have been completed before the girls report for this lesson.

METHOD OF WORK.

As soon as the girls report for the lesson, the teacher should explain the method of attaching the straps to the bib and tell them how to finish the straps. As they proceed with their work, she should supervise them carefully and assign the unfinished portion of the work for completion outside of the class.

LESSON XVI. APRONS OR UNDERGARMENTS (Continued).

Putting the bib and skirt on the belt.

SUBJECT MATTER.

The center of the bottom of the bib should be determined, and pinned to the upper edge of the belt, to which the skirt has already been attached. The belt should be fastened to the wroing side of the bib. The gathering string of the bib should be drawn up, leaving 2 inches of fullness on each side of the center. The bib should be pinned, basted, and sewed to the belt. The remaining long edges of the belt should be turned in one-fourth inch, and the ends one-half inch. The edges of the other belt piece should be turned in the same way, and should be pinned over the belt to which the skirt and bib have been attached (with all the edges turned in), and basted carefully to keep the edges even. The skirt and bib should be hemmed to this upper belt, and all the remaining edges should be overhanded.

PRELIMINARY PLAN.

The bib and straps of the apron should be completed before the girls report for this lesson.

METHOD OF WORK.

The teacher should guide the girls carefully in the various steps necessary in fastening the bib to the belt and in completing the belt. If the hemming and overhanding is not completed during the class hour, they can be assigned for outside work.

LESSON XVII. METHODS OF FASTENING GARMENTS.

Sewing buttons on the aprons, petticoat, or other garment:

SUBJECT MATTER.

This lesson should teach neatness in dress through a consideration of the best methods of fastening garments. The position of the button is measured by drawing the right end of the band one inch over the left end. The location of the button should be marked with a pin on the left end of the band. A double thread is fastened on the right side of the band, drawn through one hole of the button, and back through the other, taking it through the band close to the first stitch. A pin should be inserted on top of the button under the first stitch, and left there until the button is firmly fastened in place; then removed. Before fastening the thread, it should be wrapped two or three times around the threads holding the button, between the button and the cloth, then fastened neatly on the wrong side with a few small stitches one on top of the other.

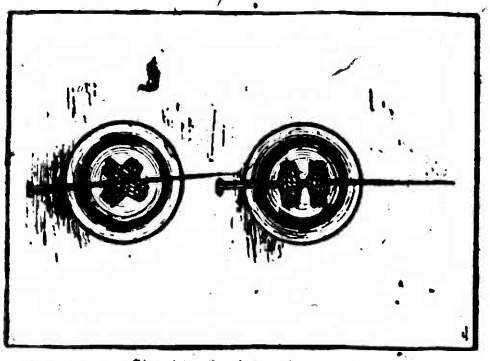


FIG. 18.—Sewing on buttons.
From Junior Circular No. 35, Agricultural Extension Department, Ames, Iowa.

PRELIMINARY PLAN.

Each girl should come to the class with her apron as nearly completed as possible, and with three buttons to sew on it for fastening the belt and straps.

METHOD OF WORK.

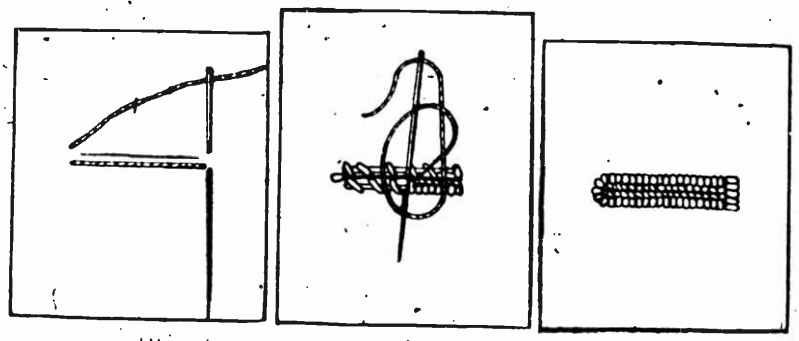
The teacher should discuss the best methods of fastening garments with the girls, and she should demonstrate the method of sewing on buttons. The girls should sew one button on the left end of the apron band in the middle of the width about 1 inch from the end and another button 4 inches from each end of the band to hold the shoulder straps.

LESSON XVIII. METHOD OF FASTENING GARMENTS (Continued.

Buttonholes on practice piece, and on apron.

SUBJECT MATTER.

Directions for making the buttonhole.—Measure the location of the buttonhole carefully lengthwise of the band, so that the end will come



(a) Starting the button hole. (b) The buttonhole stitch. (c) The finished button hole.

FIG. 19.—Working buttonholes.

From Junior Circular No. 35, Agricultural Extension Department, Ames, Iowa.

one-fourth inch from the edge of the garment. Mark the length of the buttonhole on the material by putting in two lines of running stitches at the ends. To cut the buttonhole, insert the point of scissors at the point marked by the running stitches nearest the edge of the garment and cut carefully along the thread of the material to the row of stitches marking the length at the other end.

To make the buttonhole, use a thread of sufficient length to do both the overcasting and the buttonholing. Beginning at the lower right corner, overcast the raw edges with stitches one-sixteenth of an inch deep. Do not overcast around the ends of the hole. As soon as the overcasting is done, go right on with the buttonholing without breaking the thread. Hold the buttonhole horizontally over the first finger of the left hand and work from right to left. Insert the point of the needle through the buttonhole (at the back end), bringing the point through toward you four or five threads below the edge

of the buttonhole. Bring the doubled thread from the eye of the needle from right to left under and around the point of the needle, draw the needle through, forming a purling stitch. At the end of the buttonhole make a fan by placing from five to seven stitches. The thread should be fastened carefully on the under side of the buttonhole

PRELIMINARY PLAN.

For this lesson it will be desirable to have small pieces of muslin on hand to use as practice pieces for the buttonholes.

METHOD OF WORK.

The teacher should demonstrate the making of a buttonhole, illustrating each process on a large piece of canvas. The girls should sew two small strips of muslin together and cut a buttonhole one-fourth inch from the edge of the material and lengthwise of the material, to work for practice. When the buttonhole has been sufficiently perfected on the practice piece, the girls should make a buttonhole on the band of the apron. The buttonhole should be made in the right end of the band, and in each end of each shoulder strap.

LESSON XIX. A PADDED HOLDER FOR HANDLING HOT DISHES. BINDING.

SUBJECT MATTER.

A holder 6 inches square will be satisfactory for handling hot dishes. It can be made of quilted padding bound with tape or of two thicknesses of outing flannel covered with percale or denim and bound with tape or braid. If made of the outing flannel and covered, it should be quilted by stitching from the middle of one side to the middle of the opposite side in both directions in order to hold the outing flannel and the outside covering together. The tape that is to be used for the binding should be folded through the center lengthwise, then beginning at one corner of the padding the edge should be basted, half on one side and half on the other. Right-angled corners should be formed. When basted all around, the tape should be sewed down on each side with a hemming stitch.

If the holder is to be suspended from the apron band, a tape of from 27 inches to 36 inches in length should be attached to one corner. The raw edge at one end of the tape should be turned in. The end should be so placed that it overlaps the corner of the holder about one-half inch and should be basted to the holder. The tape should then be secured firmly to the holder, hemmed down one edge across the bottom, and up the other edge. The other end of the tape should be finished with a 2-inch loop. The raw edge should be folded over, the tape turned 2 inches down for the loop, and basted in place. This

should be hemmed across the end. One-fourth inch up from the end the double thickness of tape should be back-stitched together and the edges of the tape overhanded from there to the hemmed end.

PRELIMINARY PLAN.

Each girl should provide sufficient denim, percale, muslin, or other easily washable material to cover the two sides of a holder 7 inches square and enough outing flannel or canton flannel for a double lining. About 1¼ yards of straight tape one-half inch wide will be needed for the binding and to suspend the holder from the apron.

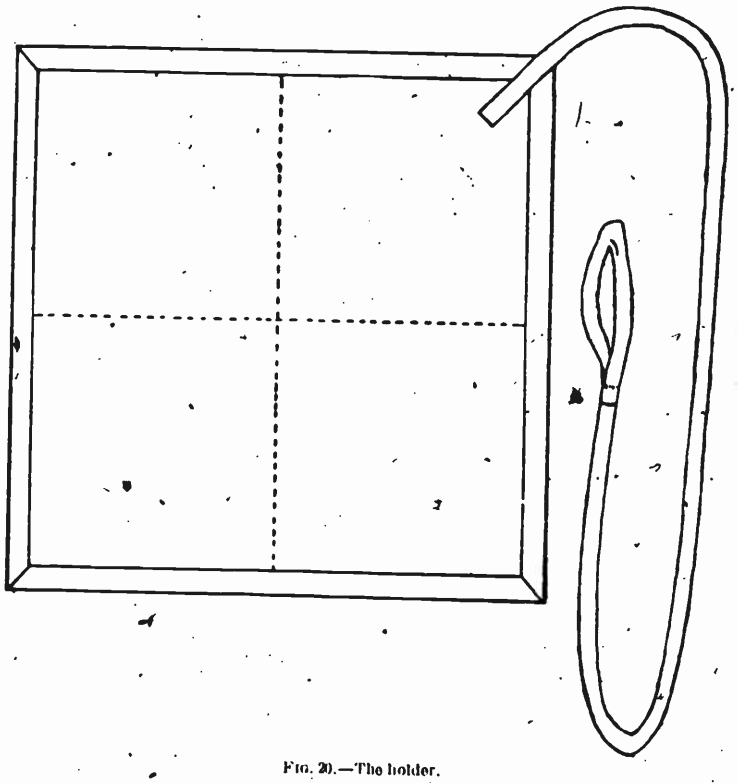


FIG. 20.—The holder.

METHOD OF WORK.

The girls should first carefully measure and turn the material for the covering of the holder and then prepare the lining, basting it all together, then putting in the running stitch and finishing with the binding.

If it is not possible to complete the holder in one period, a second lesson period should be provided, or arrangements made to have supervised work done out of lesson hours.

LESSON XX. A CAP TO WEAR WITH THE COOKING APRON.

SUBJECT MATTER.

The simplest cap to make will be the circular cap. A pattern should be made by drawing a circle 21 inches in diameter with a pencil and string on a piece of wrapping paper. The material for the cap should be cut carefully around the circle and finished with a narrow hem. A tape to hold the draw string should be placed 1½

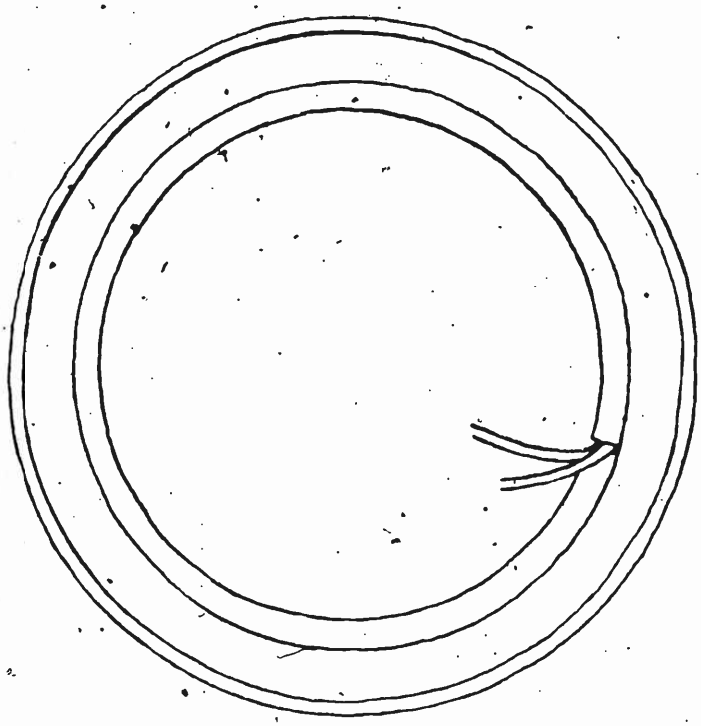


FIG. 21.—Cap.

inches inside the edge of the hem. A small piece of cardboard cut about one-half inch wide should be used for measuring the location of the tape. Bias strips three-fourths inch wide can be prepared for the tape, or a commercial tape three-eighths inch wide can be purchased. The outer edge of the tape should be basted down first, the edges joined, then the inner edges should be basted, keeping the edge smooth. Both edges should be neatly sewed down with hemming stitch by hand or on machine. An elastic should be inserted in the band, carefully fitted to the head, and ends fastened neatly.

PRELIMINARY PLAN.

This lesson will give good opportunity to make a cap that will answer for a dust cap or serve as a part of the cooking uniform. If such a cap does not seem desirable and the former lesson has not been completed, the cap can be omitted and the work on the holder continued.

METHOD OF WORK.

The girls should first make the pattern for the cap and then cut out their material. The hem should be basted and stitched with the hemming stitch. The bias strip should be basted on and sewed down with the running stitch. It will probably not be possible for the girls to complete the cap in one class period, but if the material has been cut out and the work started, they may be able to complete it at some other time. The stitches are not new and the work will serve as an excellent test of the skill they have acquired in the course.