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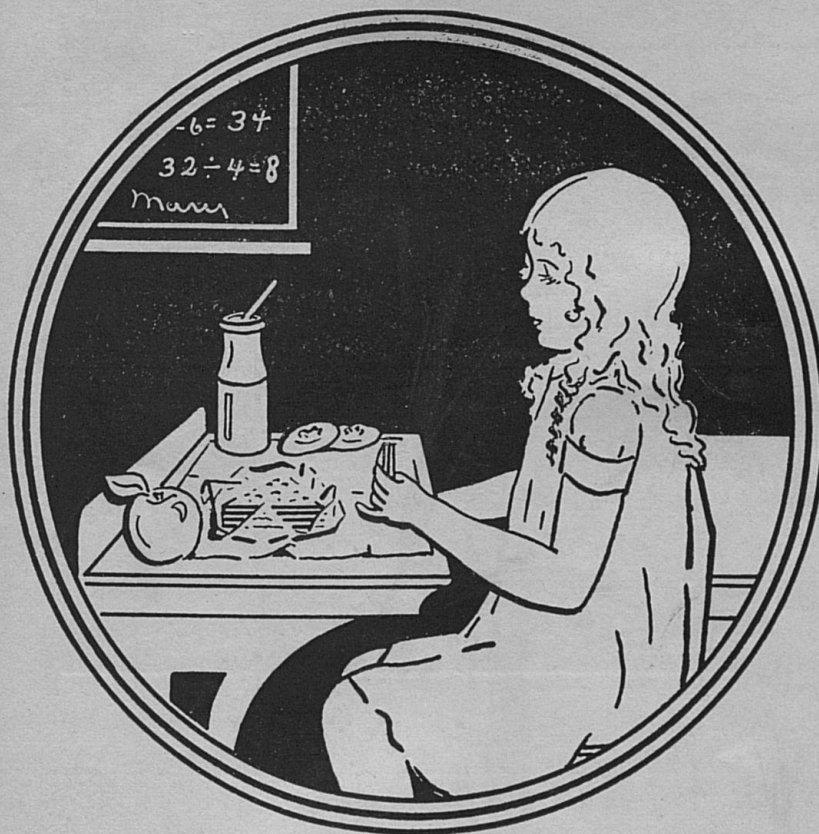
COLLEGE OF AGRICULTURE

Extension Division

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CIRCULAR NO. 226

FOOD FOR THE SCHOOL CHILD

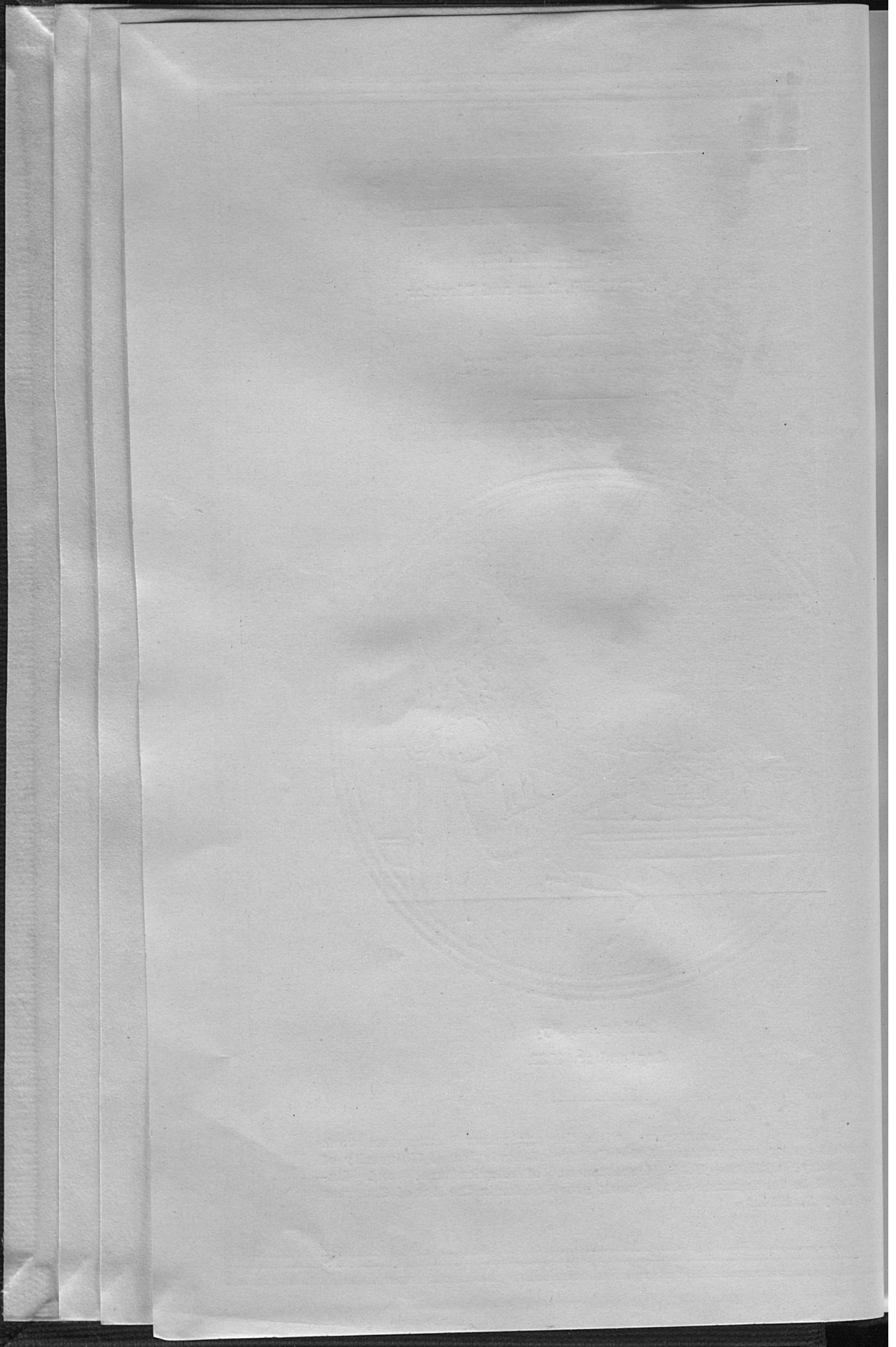


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CIRCULAR NO. 226

Food For The School Child

By FLORENCE IMLAY

TYPES OF FOOD

By the time a child is ready for school, all the foods essential for optimum growth and for health have been added to the diet. The diet should include daily:

- | | |
|--|--|
| One quart of milk | Green leaf vegetables three times per week |
| A whole cereal | Two fruits, one raw |
| One cooked vegetable, besides potatoes | One egg |
| One raw vegetable | A serving of fish or meat three times per week |

The coarser raw fruits and vegetables may be added gradually to the diet. Care should be taken that a quart of milk be still used in some form, and that the amount of meat be not increased to the extent that it displaces other foods such as vegetables, cereals or the milk.

The wise mother will still serve foods which are simply prepared and easily digested. Rich gravies, pastries, cakes, fried and highly seasoned foods should be avoided. During this period a child can take care of two to two and one-half level tablespoons of sugar either in the form of sugar itself or in cakes, jams, jellies, candies, etc.

AMOUNT OF FOOD

The period in a child's life from six to twelve years may well be called the "Age of Activity." He is becoming interested in vigorous contest games, long hikes, and thru his school and church has many interests outside the home. Since

activity means expended energy, it is necessary for the child to eat sufficient carbohydrates and fats to supply this needed energy. A definite standard for the energy requirement cannot be set, because children vary so much in size at a given age, as in intensity of activity. However, Dr. Mary Swartz Rose* gives the following figures, which she says have been deduced from the observations of many persons on the energy requirements of children.

TABLE 1

Age in years	Total Calories Per Pound of Body Weight
6	35-37
7	34-36
8-9	32-35
10-12	30-34

For instance a child 6 years old, weighing 50 pounds, should have at least 1800 calories of energy food daily. A child who is very active may eat more than this.

It must be remembered that the energy requirement is only a part of the story. Besides supplying energy, the food must furnish the proteins needed for building and repairing muscular tissues, the minerals necessary for hardening the bones and teeth, making good blood, and those essential for the various body processes, and the vitamins needed for normal growth and health. It would be necessary for a mother to have a detailed knowledge of food values, to be assured that her children were receiving the correct amounts of proteins, minerals and vitamins, but not having this information, she should have at hand lists of the foods rich in the various elements and should make use of the suggestions given in table 2 in planning her menus.

*"Feeding the Family," Dr. Mary Swartz Rose.

TABLE 2
Sources of Nutrients

Food Nutrients	Sources for Adequate Daily Requirements
Protein	1 quart of milk 1 egg 1 whole wheat bread three times a day (whole wheat cereals may be substituted) A serving of meat or fish three times per week.
Minerals	Calcium—1 quart of milk Iron—1 egg daily, two vegetables, daily, with green leaf cooked vegetable three times per week, whole wheat bread or cereal, three times daily, two fruits daily, a serving of meat three times per week. Note: See table in material on minerals for detailed information on sources of iron.
Vitamins	Vitamin A—1 quart of milk Butter Thin green leafed raw vegetable daily One egg (yolk) Vitamin B—(Widely distributed) A diet including at least three vegetables including potatoes, two fruits, and an egg will take care of vitamin B needs. Vitamin C—Potatoes once a day, with two other vegetables Orange or tomatoes daily One fruit besides orange or tomato

Note: See mimeographed material on Vitamins

EFFECT OF FAULTY FOOD HABITS

1. Too Little Food

A menu may have all the requisites of a good diet, but the various requirements of the body will not be met, unless a sufficient quantity of all foods are eaten. Occasionally a child has

a poor appetite and does not eat sufficient food for growth and health, and as a result the body is stunted. However a child is likely to have a good appetite but may not eat sufficient quantities of one or more foods which are required to supply certain properties necessary for optimum growth and health. For example, if a child does not eat foods rich in iron, he eventually becomes anemic, or if his diet does not include an ample supply of calcium he will become rachitic and there may not be sufficient calcium to meet the requirements for normal heart action.

2. Wrong Proportion of Food

Two things may result if a child eats a large amount of one type of food as bread, potatoes, sweets or meats; first, other foods may be displaced and some of the properties essential for growth and health be lacking in his diet, and second the proportion of carbohydrate, protein or fat may be wrong for good health.

3. Irregular Meals

Meals should be approximately five hours apart, thus giving plenty of time for the food of one meal to be digested and for a sense of hunger to develop before another is eaten. When meals are too close together, a person is not hungry and usually little food is eaten, and as a result the day's total intake is not sufficient for the bodily needs.

Eating between meals has the same effect as having the meals too close together. Fruits or milk are the only foods which should be allowed to be eaten between meals.

SOME EVIDENCES OF MALNUTRITION

Altho food is one of the important factors necessary for growth and health, it is essential that the body be organically sound, that good hygienic habits are practised, and that the environment is a happy one. Malnutrition is a serious condition and should have the attention of a physician. However, the parents should have the following points in mind as symptoms that the child is not up to par:

1. Easily fatigued
2. Poor posture
 - a. Protruding abdomen
 - b. Rounded shoulders
 - c. Sway-backed
3. Flabby muscles
4. Poor skin conditions
 - a. Eruptions
 - b. Dry
 - c. Rough
5. Poor color
 - a. Pale
 - b. Muddy
 - c. Sallow
6. Dull expression in eye
7. Dark circles under the eyes
8. Tired facial expression when in repose
9. Breathes thru the mouth
10. Chronic constipation
11. Does not go to sleep easily
12. Restless and nervous
13. Plays either inactive games or flits from one thing to another
14. High-pitched voice
15. Irritable
16. Seldom hungry
17. Finicky appetite
18. More than 10% below or 20% above weight
19. Failure to gain during a period of several weeks

CORRECTING MALNUTRITION

An underweight child who is organically sound may be brought up to weight by regulating his food and hygienic habits. He should have long hours of sleep at night, a rest period during the day, at least three hours of outdoor play, live in a calm atmosphere, and eat more food than would ordinarily be needed for growth and health. A weekly weighing at the same time of day and as far away from meal time as possible, and with the same weight clothing is a good plan. However, if a child does not respond to this regime and begin to gain within a couple of weeks, he should have a thoro examination by a competent physician to locate the organic difficulty and should then have immediate treatment.

DISTRIBUTION OF THE DAY'S FOOD

Breakfast

Breakfast should always include milk in some form. It may be used as a beverage itself or in the form of cocoa, milk toast, cereal cooked in milk, etc. Raw fruits, or those cooked with very little sugar, and a whole cereal, either in the form of a breakfast food or whole wheat toast, should be eaten to give laxative qualities to the diet.

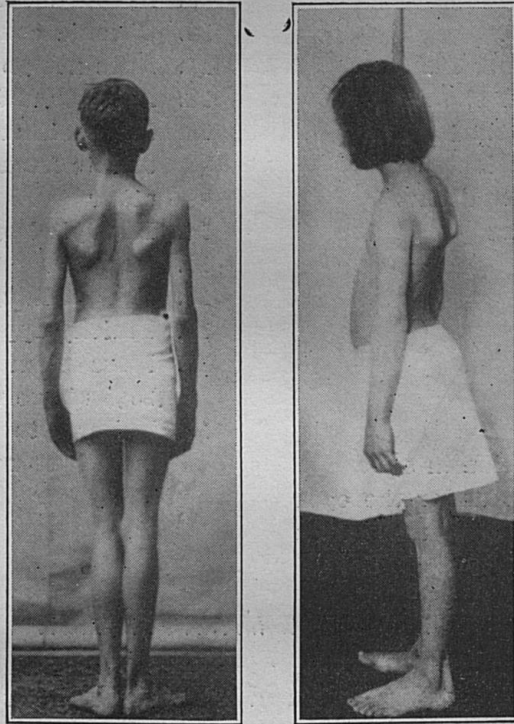


Fig. 1. Malnourished boy and girl.

Midday Meal

When possible the heavy meal of the day should be served at noon, since the school child should go to bed early in the evening. Meat dishes should be served at noon, as the stimulating effect of meat at the evening meal may cause the child to be restless during the forepart of the night.

Evening Meal

The evening meal should be one that digests quickly. Soups, creamed vegetables, fruit sauces and custards are good types of food for this meal. An egg should be served if it has not been included in one of the other meals of the day. The remainder of the child's quart of milk should be served in some form.

SCHOOL LUNCH

The school lunch is one of the big problems in feeding the child for this age. The lunch must be appetizing, easily

digested, and contain foods which can be carried from home. Too often it is heavy meat or jam sandwiches, with a piece of cake or pie. This type of lunch is hard to digest, dry, uninteresting and frequently the child eats very little of it. As a result he is hungry when he arrives home in the afternoon, eats a lunch, and then is not hungry at supper time. In analysing this situation we find the following possibilities:

- a. The total food intake of the child may be too little for his needs.
- b. Because he does not have vegetables or milk at noon, he may not be getting his full quota of each.
- c. The foods in the lunch do not digest quickly, and the child is not up to par mentally in the afternoon.
- d. He may be having a diet which brings on constipation.
- e. He may be developing bad food habits.

The Lunch Problem

First, cold lunch carried from home. The foods may be those which will supplement the other meals of the day and at the same time be appetizing. Sandwiches with fillings made of chopped egg, cottage cheese, cream cheese, peanut butter or vegetables are moist and easily digested. Sandwich fillings which will soak into the bread and make it soggy should be carried separately and placed between the slices of bread at noon. Tomatoes and jams are good examples of this type of filling. Having two kinds of sandwiches helps to make the lunch appetizing.

A bottle of milk helps to keep the lunch from being dry and to assure that the child receives his quart per day.

Raw fruits, such as apples, peaches, pears or oranges, stewed fruits with little sweetening and custards make delicious desserts. Graham crackers will usually satisfy the desire for sweets, but plain cake or cookies may be used to give variety.

Sandwiches and cake should be wrapped in wax paper to keep them moist. Two napkins should be placed in the box, one for the child to use and the other to place on the desk, under the food.

Second, cold lunch supplemented by a hot dish carried from home. If the child has a small thermos bottle, he can have a hot soup, cocoa, stew, etc., for his lunch. The hot dish makes the lunch appetizing and, because of that fact, the child is likely to eat more food than he otherwise would. This is undoubtedly an easy way to solve the lunch problem. If it is impossible to have a thermos bottle, foods may be carried in a fruit jar and placed in a pan of hot water to be reheated. (The pan must have a false bottom.)

Third, cold lunch supplemented by one hot dish prepared at school. In the larger schools, where there are kitchen facilities, it is comparatively easy to prepare a hot dish such as a cream soup, vegetable, cocoa, etc. It is possible to prepare a hot dish for all the children in a one room school, but the plan is not as practical as having each child have a thermos bottle.*

SUGGESTIONS FOR SCHOOL LUNCHES

Cold Lunches:

(The number of sandwiches depends upon the age and appetite of the child)

Peanut butter sandwich	Chopped egg sandwich
Tomato sandwich	Cottage cheese sandwich
Baked custard and cookie	Celery
Milk	Peach and sponge cake—milk
Carrot and egg sandwich	Nut bread and butter sandwich
Raisin sandwich	Shredded lettuce sandwich
Baked apple	Tomato stuffed with cottage cheese
Milk	Milk—Graham cracker
Chicken sandwich	Peanut butter and cottage cheese
Bread and jelly sandwich (Jelly added at noon)	Minced celery sandwich
Tapioca custard	Fruit gelatin with soft custard
Milk	Sauce (custard carried in separ- ate dish) Milk

*Suggestions for managing the preparation of a hot dish in the one-room school will be furnished upon request.

Hot Lunches—

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| Cream of carrot soup | Cocoa |
| Bread and butter sandwich | Egg sandwich |
| Apple | Peach sauce |
| Graham cracker | Cookie |
| Vegetable stew | Creamed peas |
| Cabbage and celery sandwich | Bread and butter sandwiches |
| Baked custard | Baked apple—Sponge cake |
| Milk—Cookie | Milk |
| Vegetable soup | Boiled rice with raisins and milk |
| Crackers | Bacon and celery sandwich |
| Stewed prunes | (brown bread) |
| Brown sugar roll | Orange |
| Milk | |

RECIPES

COCOA

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|-----------------------------------|-------------------|
| $\frac{3}{4}$ tbsp prepared cocoa | 1 c milk |
| 1 tbsp sugar | 1 c boiling water |
| Few grains salt | |

Scald milk. Mix cocoa, sugar and salt, add one cup boiling water and boil a few minutes until consistency of a thick syrup. Turn in scalded milk and beat with egg beater.

VEGETABLE SOUP

- | | |
|------------------------------|----------------------|
| 1 qt water | 1 c tomatoes |
| 1 c shredded cabbage | 1 tbsp minced celery |
| $\frac{2}{3}$ c diced potato | 1 tbsp green pepper |
| 1 minced carrot | 2 tbsp drippings |
| 2 minced onions | 4 tsp salt |

Have water boiling in stew pan, add all vegetables except potatoes and tomatoes. Boil rapidly for ten minutes then simmer gently for one-half hour. Add potatoes and tomatoes and cook for another half-hour. Meat stock may be used instead of water and the vegetables may be varied.

TOMATOES STUFFED WITH COTTAGE CHEESE

Remove skin from medium-sized tomatoes. Remove thin slice from top of each and take out seeds and some of pulp. Fill tomatoes with cottage cheese mixed with mayonnaise dressing. Arrange in lettuce leaves and pin together at top with toothpicks.

BAKED CUSTARD

2 c milk	$\frac{1}{4}$ c sugar
2 or 3 eggs, according to size	$\frac{1}{2}$ tsp vanilla or other flavor
$\frac{1}{8}$ tsp salt	

Heat milk. Beat eggs with sugar and salt and add hot milk. Cook in double boiler or bake in dish or custard cups.

SANDWICHES

Sandwiches should be made from at least one-day-old bread. Variations can be given by using various kinds of breads, as whole wheat, rye, raisin, nut, etc., as well as by using different fillings. Bread should be cut about $\frac{3}{8}$ -inch thick and spread thinly with butter.

SANDWICH FILLINGS

1. Finely chopped hard-cooked egg, celery and nuts. Mix with cream or a mild salad dressing.
2. Finely chopped hard-cooked egg and cottage cheese.
3. Finely chopped hard-cooked egg and cream cheese, moistened with cream.
4. Slices of hard-cooked eggs put between thin slices of bread spread with butter mixed with chopped parsley.
5. Finely chopped hard-cooked egg and ground raw carrot, mixed with a boiled salad dressing.
6. Peanut butter, cottage cheese and salad dressing or cream.
7. Peanut butter and grated apple.
8. Peanut butter softened with enough milk to make it spread easily.
9. Cottage cheese, and chopped parsley softened with cream or salad dressing.
10. Cottage cheese, chopped celery and nuts softened with salad dressing.
11. Finely chopped chicken mixed with a mild salad dressing.
12. Ground raisins, dates, figs or prunes and chopped nuts.
13. Thin slices of tomato, seasoned with salt or salad dressing.
14. Crisp slices of bacon and tomatoes.

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