

OKLAHOMA
AGRICULTURAL AND MECHANICAL COLLEGE
STILLWATER, OKLAHOMA

EXTENSION DIVISION

IN COOPERATION WITH

UNITED STATES DEPARTMENT OF AGRICULTURE

W. D. BENTLEY, DIRECTOR OF EXTENSION AND STATE AGENT

LESSON III

PLANNING OF MEALS

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1—REFERENCES

1. Functions and Uses of Foods, Circular 46, United States Department of Agriculture, Office of Experiment Stations, Washington, D. C.
2. Principles of Nutrition and Nutritive Value of Food, Farmers' Bulletin No. 142, United States Department of Agriculture, Washington, D. C.
3. Planning of Meals, University of Illinois, No. 30, Department of Household Science, Urbana, Illinois.
4. Some Points to Be Considered in the Planning of a Rational Diet, Department of Household Science, University of Illinois, Urbana.
5. The Principles of Menu Making, No. 333, University of Texas, Austin.

(Most of these may be obtained free by writing to above addresses. We do not have them for distribution.)

2—DIETETICS

The body must be furnished the right kind of food to keep it healthful. It must be given enough of each kind that it needs. It must not have too much of any one or two kinds. A well selected ration is one that will furnish the body the proper amount of food material to keep it in good condition and able to do a full day's work or play. The body needs **protein**, **carbohydrates** and **fats** for fuel, **mineral salts** and **cellulose material** every day.

A working man needs three to four ounces of protein a day. He also needs fuel enough to furnish him 3,000 to 3,500 calories a day. The calorie is the measure of the amount of heat or power a food or fuel can make. A ton of hard coal will furnish more heat or power than a ton of soft coal. Therefore hard coal furnishes more calories of heat. A pound of pure lard will furnish the body more heat or power than a pound of sugar. Therefore it furnishes the body more calories of heat or energy. A pound of lard furnishes the average person 4,082 calories, and a pound of granulated sugar 1,815 calories. Therefore the lard furnishes more heat and energy per pound than sugar.

	Protein	Calories of Fuel
A man doing farm labor needs each day about	4 oz.	3,600
A man doing office work needs each day about	3 oz.	3,000
A woman needs each day about	3 oz.	2,700
Child 10 years old needs each day about	3 oz.	2,500
Child 10 years old needs each day about	2½ oz.	2,000
Child 6 years old needs each day about	2¼ oz.	1,400
Child 2 years old needs each day about	1¼ oz.	1,100

Preparation

In planning the meals for a family it is well to choose the food in this proportion:

One food from the list entitled Proteins

Two from those entitled Carbohydrates

One from those called Mineral Salts and Cellulose Material.

The fat usually takes care of itself.

It is well to be careful about getting too much fat.

The fat should not be more than the protein in the meal.

The Meals for a Working Man for 1 Day

Foods	Weight Oz.	Protein Oz.	Fats Oz.	Carbohydrates Oz.	Calories	Cost
Breakfast						
Prunes	2	.035	.....	1.25	146	\$.02
Oatmeal	1.5	.23	.1	.99	168.9	.006
Eggs	3.2	.37	.29	.....	129	.025
Bread 4	2.7	.25	.03	1.79	200	.015
Butter .....	.5	.005	.42	.....	108.9	.008
Sugar	1	.....	.....	1	113.4	.0036
Whole milk	8	.26	.3	.39	157	.012
Coffee .....	.....	.....	.....	.....	.....	.01
Dinner						
Baked potato	4	.0705	.004	.55	76	.005
Beef braised	4	.745	.29	.....	162.8	.035
Escalloped cabbage	6	.18	.029	.6	200	.024
Graham bread	4	.15	.26	1.72	300	.0089
Butter .....	.5	.0049	.42	.....	108.9	.008
Apple dumpling	4	.14	.12	1.44	171.5	.02
Sugar	1	.....	.....	1	113.5	.0036
Whole milk	4	.13	.15	.2	56.7	.0125
Supper						
Cheese fondue	6	.44	.72	.24	262	.026
Rice cakes	2	.16	.041	1.69	220.6	.016
Biscuits	5	.21	.045	1.24	175.98	.01
Butter .....	.5	.005	.42	.....	108.9	.008
Tomatoes	2	.018	.008	.07	13	.01
Cotton seed oil dressing .....	.3	.....	.39	.....	100	.006
Cookies .....	.9	.057	.09	.72	113	.0052
Apricots	2.2	.021	.....	.28	88.8	.007
Sugar	1	.....	.....	1	113.4	.0033
Tea .....	.....	.....	.....	.....	.....	.....
Totals .....	.....	3.53	4.15	15.57	3,707.48	\$.3051

If you count the dishes used in this menu you will find that there are twelve foods from the carbohydrate group, six from the protein group and six from the cellulose group.

The twelve from the carbohydrates are: Prunes, oat meal, bread and sugar for breakfast; baked potato, graham bread, dumplings and sugar for dinner; rice cakes, biscuits, cookies and sugar for supper.

The six protein foods are: Eggs and whole milk for breakfast; braised beef and whole milk for dinner; cheese and milk for supper.

The six from the cellulose group are: Escalloped cabbage and apples in dumplings for dinner; tomatoes and apricots for supper. The prunes and oat meal for breakfast also furnish considerable cellulose and mineral salts.

The woman will need the same food as is outlined here for the man, except that she will not eat quite such large quantities.

The ten and fifteen-year-old children will eat the same menu, except that they will not eat quite as much as the man.

The six-year-old child can get a wholesome ration from this menu by eating for breakfast the prunes, oat meal and toast and having milk to drink. Baked potatoes, a little of the meat, graham bread and some of the apples that were prepared for the dumpling, but none of the dumplings itself, and milk for dinner. Rice—this had better not be fried, but taken from the boiled rice before it is made up into rice cakes. Biscuits, cookies, apricots and milk for supper.

The baby can also get suitable food from this menu by being given the prune juice strained, oat meal, toast and milk for breakfast. Baked potato, graham bread, some of the apples like those for the larger child, and milk for dinner. The rice the same as for the ten-year-old child. Bread, cookies, apricots and milk for supper.

This menu shows that the woman who would prepare a menu similar to the one indicated above would without any extra labor have prepared a suitable meal for every member of her family.

COMPOSITION OF SOME COMMON FOOD MATERIALS

(From Government Bulletins and other sources)

FATS

Foods that Are Largely Fat

These supply fuel to the body for heat and power:

	Protein Percent	Fat Percent	Carbohy- drates Percent	Calories per Pound
1 Bacon	10.5	64.8	.....	2,885
2 Lard, refined .....	.....	100	.....	4,082
3 Butter	1	85	.....	3,490
4 Pork, side meat	9.1	55.3	.....	2,425
5 Pork, fat salt	1.9	86.2	.....	3,555
6 Compound .....	.....	100	.....	4,080
7 Cottonseed oil .....	.....	100	.....	4,080
8 Olive oil .....	.....	100	.....	4,080
9 Suet	4.7	81.8	.....	3,425
10 Fried potato chips	6.8	89.8	46.7	2,675
11 Cream (40 percent)	2.2	40	3	1,725

CARBOHYDRATES

Foods that Are Largely Carbohydrates

These supply fuel to the body for heat and power.. (Some of these also furnish considerable cellulose material; these are marked with a star):

	Protein Percent	Fat Percent	Carbohy- drates Percent	Calories per Pound
1 Bananas	1.3	.6	22	450
2 Bread, light	9.1	1.6	53.3	1,200
3 Buckwheat flour	6.4	1.2	77.9	1,580
4 Shredded wheat	10.5	1.4	77.9	1,660
5 Corn meal	9.2	1.9	75.4	1,615
6 Crackers, soda	9.8	9.1	73.1	1,875
7 *Flgs	4.3	.3	74.2	1,435
8 Rye flour	6.8	.9	73.7	1,590
9 Wheat flour	10.8	1.1	74.8	1,610
10 *Fruit butter	1.2	.1	53.5	1,088
11 Hominy	8.3	.6	79	1,610
12 Honey .....	.4	-----	81.2	1,480
13 Macaroni	13.4	.9	74.1	1,625
14 Molasses	2.4	-----	69.3	1,300
15 *Oat meal	16.1	7.2	67.5	1,810
16 *Potato, white	2.2	.1	18.4	380
17 *Potato, sweet	1.8	.7	27.4	560
18 *Prunes	2.1	-----	73.3	1,370
19 *Raisins	2.6	3.3	76.1	1,560
20 Rice	8	.3	79	1,590
21 Corn starch	-----	-----	90	1,630
22 *Cracked wheat	11.1	1.7	76.5	1,640

PROTEIN

Foods Composed of Much Protein

These supply the body with building material. Proteins are almost all mixed with a good deal of other food materials.

	Protein Percent	Fat Percent	Carbohy- drates Percent	Calories per Pound
1 Beans, dried	22.5	1.8	59.6	1,565
2 Beans, lima	18.1	1.5	66.9	1,586
3 Baked beans (canned)	6.9	2.5	19.6	583
4 Fish (fresh water)	18.6	2.8	-----	450
5 Buttermilk	3	.5	4.8	160
6 Cheese, American	27.7	36.8	4.1	2,080
7 Cheese, Dutch or cottage	20.9	1	4.3	500
8 Chocolate	12.9	48.7	30.3	2,770
9 Cocoa	21.6	28.9	37.7	2,255
10 Chicken, broilers	21.5	2.5	-----	490
11 Chicken, fowls	19.3	16.3	-----	1,015
12 Cowpeas, dried	21.4	1.4	60.8	1,550
13 Ham, fresh	15.7	33.4	-----	1,590
14 Ham, smoked	16.5	38.8	-----	1,885
15 Cod, salt	25.4	.3	-----	475
16 Eggs	13.4	10.5	-----	670
17 Liver	20.7	6.7	-----	650
18 Milk, skimmed	3.4	.3	3.3	220
19 Milk, whole	3.3	4	5	315
20 Oysters	6	1.3	3.3	220
21 Peanuts (shelled, roasted)	29.8	43.5	17.1	2,625
22 Peas (dried)	24.6	1	62	1,610

	Protein Percent	Fat Percent	Carbohy- drates Percent	Calories per Pound
23 Turkey	21.1	22.9	.....	1,320
24 Veal, forequarter	20.1	8	.....	690
25 Veal, hindquarter	20.7	8.3	.....	715
26 Pork sausage	13	44.2	1.1	2,680
27 Pork chops	16.4	32	.....	1,605
28 Beef, forequarter	18.3	18.9	.....	1,105
29 Beef, hindquarter	16.3	18.3	.....	1,005
30 Heart	14	24.7	.9	1,292
31 Loin, steaks or roast	19	19.1	.....	1,125
32 Neck	15.1	5.9	.....	493
33 Round	20.9	10.6	.....	810
34 Tongue	18.9	9.2	.....	720
35 Pecans	12.1	70.7	12.2	3,225
36 Peanut butter	29.3	46.5	17.1	2,740
37 Salmon, canned	21.8	12	.....	890
38 Cottonseed flour	48.2	13.1	22.8	.....
39 Lamb, forequarter	14.9	21	.....	1,127
40 Lamb, hindquarter	18.6	22.6	.....	1,260

MINERAL SALTS AND CELLULOSE MATERIALS

Foods containing large amounts of Mineral Salts and Cellulose in proportion to the other food materials of which they are made.

These help to keep the body in good condition and build the bones, etc.

	Protein Percent	Fat Percent	Carbohy- drates Percent	Calories per Pound
1 Apples .....	.4	.5	14.8	285
2 Asparagus	1.8	.2	3.3	100
3 Beans, string, green	2.3	.3	7.4	190
4 Beets	1.6	.1	9.7	210
5 Cabbage	1.6	.3	5.6	145
6 Carrots	1.1	.4	9.3	205
7 Celery	1.1	.1	8.3	85
8 Corn, green	2.3	1.2	19	455
9 Cucumber .....	.8	.2	8.1	80
10 Grapes	1.3	1.6	19.2	435
11 Lemons	1	.7	8.5	200
12 Lettuce	1.2	.3	2.9	85
13 Onions	1.6	.3	9.9	220
14 Peaches .....	.7	.1	9.4	185
15 Peas, green	7	.5	16.9	455
16 Radishes	1.3	.1	5.8	135
17 Spinach	2.1	.3	8.2	110
18 Squash	1.4	.5	9	210
19 Strawberries	1	.6	7.4	175
20 Tomatoes9	.4	3.9	105
21 Turnips, edible portion	1.3	.2	8.1	180
22 Watermelon4	.2	6.7	135

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AIM OF THIS LESSON

1. To help people to select the proper food materials in the right proportion to furnish them all necessary building and fuel material.

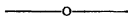
2. To help them to do this without making the housekeeper a lot of extra work.

RECIPES**Broiled Bacon**

Cut the bacon very thin. If it is salty, boil it a few minutes in enough water to cover it. Put it in a moderately hot fryingpan and cook it until crisp. Do not allow it to get hot enough for the fat to smoke.

Escalloped Tomatoes

Butter a bakingpan. Put in thin slices of bread to cover the bottom of the pan. Pour some cooked tomatoes over this. Put in another layer of bread. Add a little butter, salt and pepper for seasoning. Cover with more tomato and bake.

**FOR TEACHERS**

The following is a suggestive plan for developing this lesson and relating it to other school lessons:

1. Materials—
Some Wood
Some Coal.

Notice how much heat these give when burning, and notice how long they last.

Have the children plan some meals.

For school lunch have the children bring some bacon from home and cook it.

Suggestions for Correlation With Other School Lessons

1. English.—Give new words used in this lesson. Define the new words and the use of the same.

3. Arithmetic.—If a pound of lard furnishes 4,200 calories or heat units, how many will two ounces furnish? If a tablespoon of sugar furnishes 175 calories, how many calories will one tablespoon of sugar furnish?

