

Pamphlet No. 6

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**SELECTION AND USE OF THE  
ELECTRIC RANGE**

Pamphlet No. 6

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- Division of Home Economics

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## Introduction

Conferences with homemakers who were using electric ranges revealed the fact that there was need for accurate and definite data upon the efficient operation of the electric range.

How can the range be managed to reduce the expenditure of time and fuel, and still have standard products? Does reducing the heat, after boiling begins, affect the flavor and texture of the product? Is the cost of operation reduced by using the oven instead of the elements, in preparing meals? Is it more economical to sear meats on the elements or in the oven? Does cooking in small quantities of water affect the flavor of foods?

A study was made and definite experimental work under controlled conditions has been carried out in the hope that some of these questions might be answered. This pamphlet includes the results of these studies.

### Foot-note Acknowledgment

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## Construction of the Electric Range

The heating elements of the electric range may be classified as:

1. Open type
2. Enclosed type

See Figure

The open types of heating elements consist of two sets of wires imbedded in a semi-porcelain asbestos brick. A heat resisting insulation block placed just beneath the element holds the heat on the base of the cooking utensil and prevents loss of heat downward. The entire element is encased in a metal frame, which may be removed easily. The heating elements are properly drained to carry off liquid spilled in cooking.

The enclosed type of heating element has the wires enclosed between metal plates. These units have insulating blocks on the bottom to prevent the loss of heat downward. In appearance, the enclosed elements resemble wood range lids.

### Oven

The construction of the electric oven is based on the heat storage principle. The oven is surrounded by heavy insulating material which varies with the type of range. The ovens differ in the type and the amount of insulation, type of lining, and doors. The thoroughly insulated oven prevents loss of heat. The electricity may be turned off for a part of the baking period and the product finished on stored heat, thus making a material saving in the cost of baking.

The oven is equipped with two heating elements one upper and one lower. Generally each element is controlled by a separate three heat switch. These switches may be turned so that the heat will be high, medium or low. Some ranges have reciprocating switches which can be turned backwards and forwards.

### Switches

When the heating elements on electric ranges are equipped with three way switches, the first snap of the switch to the right (high) gives a full or maximum amount of heat, the second snap to the right (medium) gives one half as much, and the third snap (low) one fourth as much heat.

### Fuses

In some electric ranges, each element is fused separately, the fuse being located directly below the handle of the switch. The fuse may easily be removed and replaced if the fuse is blown or wears out.

### Thermometers and Thermostats

Many of the electric range ovens are equipped with a thermometer which shows the temperature in the baking compartment. Some of these thermometers indicate the temperature as measured in Fahrenheit degrees, while others measure and register the temperature on an arbitrary scale. The cook books or time and temperature cooking charts given by the companies manufacturing electric ranges should be the guides in determining at what degree of heat to bake and roast foods.

The thermostat is a device placed on the oven which in some cases registers the temperature of the oven, as well as keeps the temperature constant. The thermostat is set at the desired temperature, and the current is automatically turned off when the oven reaches that temperature. If the temperature of the oven drops a few degrees below the desired temperature, the current is automatically turned on. The control adds slightly to the initial cost, but it prevents temperatures from going higher than desired, thereby saving fuel, food, lining of the oven and life of the element.

### Special Features of Electric Ranges

Some ranges have special features such as automatic clock controls which start and stop the cooking operations and maintain even oven temperatures.

Some models of electric ranges have signal lights, red and green, that light when the range is in operation. A red light indicates that the main switch is turned on, a green light that the oven is in operation.

#### Vent

The vent leading from the oven allows the steam to escape and maintains normal air conditions. If steam in the oven does not affect the products the vent may be entirely closed. However if steam is undesirable the vent should be opened. In all oven cooking where a browned product is desired the vent should be partially opened.

Excessive moisture is released by way of the vent, which may be automatic or set. This insures proper ventilation in the oven and causes only a slight loss of heat.

Oven doors should close tightly to prevent loss of heat. Some doors however have small vent spaces at upper corners and in cases of steam cooking in the oven a slight amount of steam will escape at these corners.

#### Appliance Receptacles and Convenient Outlets

On the front or side of many ranges is located an outlet for attaching such special appliances as the percolator, waffle iron, or electric cooker.

In full clock type automatic ranges, the clock may be set to turn on an electric percolator or any special piece of equipment at a predetermined time.

#### Advantages of Electric Cooking

The insulation of the electric range conserves the heat for cooking purposes so that even at high temperatures there is very little heat lost. The exterior of the range does not become hot enough to burn when touching it, hence a small amount of heat is given off into the room.

There are no fumes or odors from the heating elements and no danger of gas poisoning.

Cleanliness may be realized by the use of the electric range. The elements are flameless, without fumes or soot. The bottoms of the kettles do not become discolored when in contact with the element. There are no residues, fumes or soot to discolor walls and woodwork.

A turn of the switch gives full even heat, while another turn or two lowers the degree of heat as desired. The heat is evenly and uniformly distributed and not localized. The heat in the oven comes from both the top and the bottom elements, which gives excellent control of temperature. Electricity provides steady, reliable heat.

#### Selection of a Range

There are many items to consider in purchasing an electric range: the location of the range in the kitchen, the size of the space, and the direction of the light. The space for the range should be carefully measured so that the range will fit the allotted space.

Direct light from the windows should fall on the top elements; hence the oven should be opposite the window.

Cost is also an item to consider. The cost depends largely upon the finish and the special features. The finish may be black, black and white, gray, white or colored enamel with nickel trimmings. Enameled gray, white and colored ranges are the most expensive. The same make of range, regardless of the type of finish, produces the same cooking results; the difference is only in its appearance.

The size, finish, lining, and height of the oven should be considered. There is greater cost in heating a large oven than heating a small one. The size of the oven should correspond to the needs of the family.

#### Cleaning Surface Units

Because of the even heat developed in electric elements, boiling over is very infrequent. If it does occur the deposit is easily removed. The iron top may be cleaned by scraping with a knife or steel wool and washed.

The intense heat of the open element prevents accumulation of foreign matter. However, never attempt to scrape or brush the open element as it is delicate and may easily be damaged.

#### How Much Electricity Do You Waste?

Experiments were carried out to determine the effect on the flavor and texture of boiled potatoes, and the amount of electricity consumed in preparing potatoes when cooked with the element on high for the entire cooking period, and cooking on high until boiling started, then switching to low to complete the cooking. In this work they were cooked under very carefully controlled conditions, and an exact record was kept of the kilowatt hours used. The potatoes were judged and scored. There was found to be no difference so far as the judges could observe, in the cooked potatoes, while the kilowatt hour used showed great variation. The same quantity of potatoes boiled with the switch on high for the entire period required 0.825 kilowatt hour while those started on high, until boiling, then switched to low, showed a consumption of 0.313 kilowatt hour. The work was further carried out to determine how long boiling would continue after the current was turned off. It was found that when the current was turned off 5 minutes before cooking was completed the potato resulting was as good in all respects as the one cooked on high for the entire period. The kilowatt hour reading showed a reduction to 0.275 kilowatt hour. By correctly manipulating the heat in this one operation it is possible to save 0.550 kilowatt hour of electricity or 16.5 kilowatt hours per month, if potatoes are cooked once each day.

#### Water Used in Cooking on Electric Range

Experiments on the boiling of potatoes were carried out to determine the best amount of water to use in preparing a standard boiled potato. The amount of water varied from  $\frac{1}{4}$  cup in the first experiment to 8 cups in the last. The potatoes were scorched, browned or excessively browned when cooked in less than  $\frac{2}{3}$  cup of water. The judges scored no difference in flavor, texture, and appearance due to cooking potatoes in  $\frac{2}{3}$  cup of water as compared to cooking in larger quantities of water. The  $\frac{2}{3}$  cup of water was adopted as the best amount of water to be used with an electric current consumption of 0.275 kilowatt hour, while 8 cups of water required 0.589 kilowatt hour of current. The large quantity of water not only affects the nutritive value of the potatoes but also increases the fuel used 0.314 kilowatt hour. This work shows that for each product cooked the least quantity of water possible should be used.

#### Recipes for Electric Cooking

The following recipes were taken from the results of Experimental Cookery of the Home Economics Department, University of Minnesota. In these, proportions, manipulations, and methods had been carefully worked out, a gas stove being used for the cooking and baking. After testing these in an electric range, in many instances it was found necessary to change the amount of liquid and temperature to produce a standard result.

The electrical conditions were constant throughout, voltage being constant at 110. The time, as given in the following recipes, is worked out on the basis of 110 voltage. In communities where voltage fluctuates, slight changes in time may be necessary. The recipes which follow are given with definite directions for cooking and baking on the electric range. Except where specified, the shelves for baking were placed 4 inches from the bottom of the oven.

### Measurements

All measurements are level insuring uniform results.  
Sift flour once before measuring. Place in cup with tablespoon and level with knife.  
Pack fats tightly in cup or spoon.

Abbreviations Cup, c; Tablespoon, tb; Teaspoon, t.

### Use of the Thermostat

When a thermostat is used to control oven temperatures, set the thermostat at the temperature given in the recipe. When the food is placed in the oven, switch off the upper oven unit (if operated on separate switch) and leave lower oven unit on (high). If oven is controlled by one switch only, leave it on (high).

When the thermostat is not used and the temperature must be controlled by operation of the switches, follow directions as given for "oven regulation" in the recipe.

### Recipes

#### Batters and Doughs

#### Chocolate Drop Cookies

Sour Milk $\frac{1}{2}$ c	Bread Flour $1\frac{1}{2}$ c	Brown Sugar 1 c	Fat $\frac{1}{2}$ c	Egg 1 Salt
Salt $\frac{1}{4}$ t	Soda $\frac{1}{2}$ t	Baking Powder 2 t	Chocolate 2 squares	Nuts $\frac{1}{2}$ c

Melt butter, add sugar and beaten eggs, cream thoroughly.

Mix and sift dry ingredients - add to the mixture.

Add chocolate and chopped nuts and mix thoroughly.

Drop on greased tin about 1 inch apart.

Temperature of oven 375° F.

Time for baking, 8 minutes.

Oven regulation

Switch upper and lower elements to high about 10 minutes.

Place cookies in oven.

Switch upper element off.

Keep lower element high until last batch is in oven.

Switch lower element off to bake last batch.

#### Syrup Sponge Cake

Water $\frac{1}{2}$ c	Sugar $1\frac{1}{4}$ c	Egg Whites $\frac{3}{4}$ c	Egg Yolks $\frac{1}{2}$ c	Pastry Flour $1\frac{1}{8}$ c	Cream Tartar 1 t
	Lemon Juice 1 t			Salt $\frac{1}{2}$ t	

Boil water and sugar to 238° F. or until it threads  $\frac{3}{4}$  inch.

Beat whites stiff but not dry - about  $1\frac{1}{2}$  minutes.

Pour syrup over egg whites, beating constantly.

Add cream of tartar, beating until cool, (about 8 minutes with wire whisk)

Add lemon juice.

Add well beaten yolks to syrup mixture and beat until even colored.

(1½ minutes, wire whisk)

Gently fold in flour and salt, which has been sifted 3 times.

Place in tube pan.

Temperature of oven, 325° F.

Time of baking, 1 hour

Oven regulation

Place cake in cold oven

Switch lower element medium 30 minutes.

Switch lower element off 30 minutes

### Pie Crust

Water	Flour	Fat	Salt
3 tb	1 c bread or 1-½ c pastry	1/3 - 1/4 c	¼ t

Mix and sift dry ingredients

Work in fat with fork, knives or fingers.

Add water slowly using fork to mix.

Roll lightly.

Amount - 2 crusts Diameter 8-¾ in.

Depth 1-½ in.

### Apple Pie

Apples	Sugar	Flavor
6 medium	½ to ¾ c	½ t nutmeg or 1 t cinnamon

Cut apples in 1/16ths and fill pie, alternating apples and sugar.

Cover with upper crust.

Sprinkle sugar over top of crust.

Temperature of oven, 450° F

Time of baking, 45 minutes. (until apples are done)

Oven regulation

Switch upper and lower element high (about 12 minutes)

Switch upper element off when pie is placed in oven.

Keep lower element high (30 minutes)

Switch lower element off (20 minutes)

Bake on grate in center of oven.

### Apple Cobbler

Egg	Sugar	Bread Flour	Baking Powder	Salt	Milk	Butter	Vanilla	Apples
1	2/3 c	1 c	1 t	¼ t	¼ c	2 t	½ t	2

Combine sugar and beaten eggs.

Add dry ingredients alternately with milk.

Beat well, add melted butter and vanilla.

Line a buttered baking dish with apples sliced ½ inch thick.

Sprinkle apples with sugar and cinnamon.

Cover apples with batter and bake.

Temperature of oven 350° F.

Time of baking 35 minutes.

Oven regulation

Switch upper and lower element high, preheat (about 10 minutes)  
 Switch upper element off when cobbler is placed in oven  
 Keep lower element high (15 minutes)  
 Switch lower element off (20 minutes)

Baking Powder Biscuit

Liquid	Bread Flour	Fat	Baking Powder	Salt
1 c	2 $\frac{3}{4}$ -3 c	3 to 6 tb	6 t	1 t

Sift dry ingredients and work in fat.  
 Do not work too fine.  
 Add liquid slowly mixing with fork.  
 Place dough on a floured board and pat  $\frac{1}{2}$  to 1 inch in thickness.  
 Place biscuits on slightly floured tin so as not to touch.  
 Allow them to stand 15 minutes before baking.  
 Temperature of oven, 450° F.  
 Time to bake, 15 minutes.

Oven regulation

Switch upper and lower elements high (about 12 minutes).  
 Switch upper element off when biscuits are placed in oven.  
 Keep lower element high 10 minutes after placing biscuits in oven.  
 Switch lower element off 5 minutes before removing biscuits, unless a second batch is to be baked.

Coffee cake, spread in pan, spread with mixture of sugar (6 tb) cinnamon (1 t) and butter. Bake as baking powder biscuits.

Cinnamon rolls, roll coffee cake dough  $\frac{1}{2}$  inch thick.  
 Spread with butter, sugar and cinnamon. Roll in long roll and cut crosswise into buns.  
 Blueberry biscuits add one cup fresh blueberries to drop biscuit dough.  
 Temperature of oven 450° F.  
 Time to bake, 15 to 20 minutes.

Oven regulation

Switch upper and lower elements high (about 12 minutes)  
 Switch upper element off when food is placed in oven.  
 Keep lower element high 10 minutes after placing food in oven.  
 Switch lower element off 5 minutes before removing food, unless a second batch is to be baked.

Gingerbread

Liquid	Bread Flour	Fat	Sugar	Molasses	Egg	B.P.	Soda	Salt	Flavor
1 c milk or water	2 $\frac{3}{4}$ c	$\frac{1}{4}$ c	$\frac{1}{2}$ c	1 c	1	3 t	$\frac{1}{2}$ t	$\frac{1}{2}$ t	1 t ginger $\frac{1}{2}$ t cinnamon $\frac{1}{2}$ t cloves
1 c sour milk	2 $\frac{3}{4}$ c	$\frac{1}{4}$ c	$\frac{1}{2}$ c	1 c	1	1 t	1 t	$\frac{1}{2}$ t	$\frac{1}{2}$ t cloves $\frac{1}{2}$ t cinnamon 1 t ginger

Sift dry ingredients  
 Add milk, molasses, beaten egg and melted fat.  
 Beat enough to thoroughly mix. Time for baking 45 minutes.  
 Temperature, 350° F.

Oven regulation

Switch upper and lower elements high (about 10 minutes to preheat)  
 Switch upper element off when gingerbread is placed in oven.  
 Switch lower element medium (35 minutes)  
 Switch lower element off (10 minutes)

Beverages

	Coffee	Coffee		Egg
	2 tb	Water		0-1 t
		1 c		

Pour water in covered pan or coffee pot and place on smallest element.  
 Switch high until water boils (12 to 14 minutes for 4 cups).  
 Add coffee and egg mixed, with enough cold water to moisten.  
 Switch off and let coffee stand four minutes without boiling.  
 Add 1 tb cold water and let stand (removing from element) 3 minutes before serving.

Cocoa

Water	Milk	Cocoa	Sugar	Cornstarch	Salt
1/3 c	2/3 c	2 t	2 tb	1/4 t	pinch

Mix dry ingredients and add water.  
 Place on small element.  
 Switch high, cook until thick (5 minutes).  
 Add milk and bring to boiling point.  
 Switch off, and while on the stove beat with dover egg beater.

Eggs

Soft Cooked Eggs

Eggs	Water
4 - 8	1/2 c

Place eggs and water in covered pan.  
 Switch element high to bring water to boil (6 minutes).  
 Switch element off when water reaches boiling point.  
 Let stand 3 to 5 minutes, covered.  
 Remove and serve.

Time

6 minutes to reach boiling.  
 3 to 5 minutes stand.  
 For hard cooked allow eggs to stand in water 30 minutes.

Foamy Omelet

Eggs	Water or milk	Salt	Butter
2	2 tb	1/4 t	1 tb

Add water to egg yolks and beat smooth.  
 Fold in beaten whites.  
 Place butter in small skillet or omelet pan.  
 Switch low - place pan on small element.  
 Let heat until fat melts.  
 Add omelet mixture.  
 Let cook on low uncovered until slightly dry on top and brown on bottom.  
 Fold and remove to warm platter.

**Fruit  
Coddled Apples**

**Apples**  
5 to 8 whole

**Sugar**  
2 c

**Water**  
½ c

Wash, peel, and core apples or use unpeeled.  
Place in tightly covered pan that fits the element.  
Fill cavity with sugar.  
Add water and cover, place on small element.  
Switch high until steam appears (about 10 minutes).  
Switch low until apples are nearly tender (15 minutes).  
Switch off and finish cooking (5 minutes).  
Apples may be cut in halves or in slices.  
If red apples are desired use red cinnamon candies or vegetable coloring.

**Steamed Apples**

**Apples**  
5

**Sugar**  
1 c

**Water**  
½ c

**Cinnamon Candy**  
¼ c

Wash, peel, and core apples or use unpeeled.  
Place in bottom deep well cooker.  
Fill core with sugar and candy.  
Cover tightly. Switch high until steam appears (20 minutes).  
Switch low and cook until nearly tender (30 minutes).  
Switch off and finish cooking (5 minutes).

**Baked Apples**

**Apples**  
5

**Sugar**  
1 c

**Water**  
½ c

**Cinnamon Candy**  
¼ c

Wash and core apples.  
Place in pan and cover.  
Add sugar, water, and candy.  
Place in oven with remainder of meal and cook until soft.  
For medium sized apple at 300° F. (30 to 35 minutes).

**Prunes in Oven**

**Prunes**  
1 lb

**Sugar**  
½ c

**Water**  
2 c

Wash prunes. Cover with water and place in oven with a two hour meal.  
Oven temperature 250° to 300° F.

**Prunes**

**Prunes**  
1 lb

**Sugar**  
½ c

**Water**  
2 c

Wash prunes, cover with water, and soak over night.  
Place on any element with heat remaining after other food has been removed.  
Cook until prunes are soft.

**Meats**  
**Directions for Broiling**

Remove broiling pan from oven.  
Set thermostat at 500° F.; switch upper element high.  
Rub broiling rack with fat to prevent sticking. Place a small amount of water in the broiling pan to prevent burning of fat as it drips down.  
Place clean meat on broiling rack and place one inch under top element.  
Turn frequently, avoiding piercing of meat.  
Broil until uniformly brown (steak 10 to 15 minutes).  
Remove, add a little butter and season with salt.

**Directions for Roasting**

Wipe meat with damp cloth. Rub in salt. Place in cold oven.  
Set thermostat at desired temperature. Switch upper and lower elements high.  
Upper element sears meat as well. Switch lower medium for roasting period.  
Switch upper element off when oven reaches desired temperature.

**Pork Roast**

<b>Pork</b>	<b>Flour</b>	<b>Salt</b>
4 lbs	1 t per lb	1 t per lb

Rub with salt and flour. Place in cold oven. Temperature 300° F.  
Time 30 minutes per pound.

**Oven regulation**

Place roast in cold oven.  
Switch upper and lower elements high 8 minutes.  
Switch upper element off.  
Switch lower element medium until cooking period is nearly completed.  
Switch lower element off 20 to 30 minutes before cooking period is completed.

**Beef Roast**

<b>Beef rib roast</b>	<b>Salt</b>
4 lbs	½ t per lb

Rub with salt. Place in cold oven.  
Time 15 minutes per pound rare; 20 medium rare; 25 well done.  
Temperature - 300° F.

**Oven regulation**

Place roast in cold oven - center shelf.  
Switch upper and lower elements high 8 minutes.  
Switch upper element off.  
Switch lower element medium until cooking period is nearly completed.  
Turn lower element off 20 minutes before cooking is completed.

**Meat Loaf**

<b>Pork</b>	<b>Veal</b>	<b>Beef</b>	<b>Bread Crumbs</b>	<b>Milk</b>	<b>Salt</b>	<b>Pepper</b>	<b>Egg</b>
½ lb	½ lb	1 lb	½ c	½ c	1 t	½ t	1 - slightly beaten

Grind meat, add ingredients in order given, and mix until well blended.  
Shape into loaf, place in baking tin. Place several thin slices of bacon on top.

Temperature - 400° F.  
Time of baking - 1½ hours.

Oven regulation

Switch upper and lower elements high to preheat -- 11 minutes.  
Switch upper element off.  
Switch lower element medium 45 minutes.  
Switch lower element off and bake on stored heat remainder of baking period.

Beef Stew in Deep Well Cooker

Beef	Water	Carrots	Onions	Potatoes	Salt	Flavor
1 lb	1 c	2 medium sized	2	5 small	1 t	celery or bay leaves if desired.

Remove rack from cooker.  
Switch high to preheat (25 minutes).  
Add bits of suet to cooker while preheating. Roll meat in flour, place in cooker.  
Keep high and brown meat (25 minutes). Add water and turn low 1 hour.  
Add vegetables, cut small. Switch high to cook vegetables (20 minutes).  
Switch low until vegetables are tender. Time, 2¼ to 2½ hours.

Beef Stew

Beef	Water	Carrots	Onions	Potatoes	Salt	Flavor
1½ lbs	1 c	2 medium	2	2 small	1 t	½ c celery or 1 bay leaf

Place heavy iron or aluminum kettle on small element.  
Switch high to heat kettle (5 minutes).  
Wipe beef with damp cloth. Cut into 1½ inch cubes - roll in flour and brown (25 minutes).  
Switch low and add 1 cup cold water - let simmer 1 hour.  
Add vegetables and switch high to boil vegetables (20 minutes).  
Switch low and finish cooking (30 minutes).  
Time 2¼ to 2½ hours. Temperature, simmering (190° F).

Pan Broiled Bacon

Place slices of bacon cold in frying pan. Place pan on 8 inch element.  
Switch medium, broil and drain frequently.  
Keep medium during entire process.  
Shift bacon in pan, keeping slices flat and uncurled. Remove to hot platter.  
Time 13 minutes on small element. 7 minutes on large element.

Vegetables

Carrots  
Boiled carrots

Place in a pan which fits the element. Fit with tight cover. Add 2/3 c boiling water.  
Add 1 t salt.  
Switch current to high until steam appears (10 minutes).  
Switch to low and cook until nearly soft (20 minutes).  
Turn off and cook 5 minutes.

Baked Carrots

Place in pan. Cover or leave uncovered. Add ½ c boiling water. Add 1 t salt.  
Place in oven with roast and other food.  
At 300° F. Bake about 40 minutes. Practical only when oven is being used.

### Steamed Carrots

Place on rack of deep well cooker. Add 2/3 c water to steamer.  
Switch on high until steam appears (about 20 minutes).  
Turn to low and cook until nearly soft (about 45 minutes).  
Switch off and cook 20 minutes. Remove carrots from rack.

### Potatoes

#### Steamed Potatoes in Deep Well Cooker

Place on rack of deep well cooker. Add 2/3 c water.  
Switch high until steam appears (about 20 minutes). Steam 5 minutes.  
Switch low and cook until tender.  
Drain and place back on burner to expel excess moisture.

### Boiled Potatoes

Place 2/3 c water in pan and place on small element.  
Bring to boil (4 minutes) add potatoes and bring to boil (5 minutes).  
Switch low for 30 minutes until nearly done.  
Switch off and finish cooking (5 minutes). Drain, place on burner to expel moisture.

### Baked Potatoes

Place in oven with remainder of meal  
Cook until soft - 400° F. oven - 55 minutes.  
For other temperatures (450° F. oven - 45 minutes.  
the time is given at (350° F. oven - 60 to 65 minutes.  
the right. (300° F. oven - 1½ hour.

### Browned Potatoes with Roast

Select small potatoes or quarter large potatoes.  
Place around roast 1 hour before serving.

### Scalloped Potatoes

Potatoes	Salt	Flour	Butter	Milk
5 c	1 t	2 tb	1½ lb.	1½ c

Slice ½ inch, arrange in layers, adding flour and salt.  
Add milk, cover with bread crumbs. Pour melted fat over top.  
Temperature of oven 350° F.

#### Oven regulation

Turn upper and lower elements high (12 minutes). Place potatoes in oven.  
Switch upper element off.  
Keep lower element high 15 minutes.  
Switch lower element low 1 hour.

### Cauliflower

Cauliflower	Salt	Water
1 head	1 t	1 c

Wash and trim cauliflower. Place in cold salt water, top down.  
Place 1 c water in kettle and place on small element.

Switch high bring water to boil (5 minutes).  
Put cauliflower in water, top down. Bring to boiling (3 minutes).  
Switch low, cook until tender (20 minutes).  
Switch off, drain, and place on burner to dry off moisture.

### String Beans

Place 1 c water in kettle to fit element. Switch high to boil water (5 minutes).  
Add beans. Keep high 5 minutes until boiling begins.  
Switch low, cook 40 minutes. Switch off cook 5 minutes.

### Vegetables cooked with Oven Meals

Vegetables cooked in the oven in small amounts of water lose some minerals but the amount of water is so small that it can easily be utilized. The water is often absorbed or passes off as steam during cooking.

No special utensil is needed for baking vegetables. Any ordinary saucepan with a tightly fitting cover may be used, excepting those that have wooden handles. Casseroles, triplicate pails, sauce pans and glass jars or ordinary fruit jars are very satisfactory. Oven sets may be purchased but are not essential.

Cooking vegetables in the oven saves time in watching and saves electricity when cooked with an oven meal.

Vegetables are prepared as for boiling and placed in the container with a small amount of water, enough to keep them from sticking, and to start steaming. A half cup of water seemed to give the best results. Sprinkle with salt and cover tightly.

### Save Electricity by Planning Meals for Several Days

Since heating the oven is a fuel using process it is necessary to plan to utilize as much of the heat as possible. By planning menus for several days in advance foods for coming meals may be included to provide a full oven and consequently eliminate having to prepare the food separately, on an element at some later period.

In preparing any one meal in the oven, it is often possible to include one or more dishes for the following meal or even the following days.

Place the rack in the oven and the utensils so that air will circulate around and under the utensils, thereby allowing even distribution of heat. Vegetables may be baked in the oven with the meal, in covered containers, with as little water as possible (as indicated in the vegetable chart).

Baking requires a fairly high and even temperature and should be done preceding an oven meal. After removing the baked product the meal can be placed in the oven, heating to the desired temperature and then the current turned off and cooking continued on stored heat. If the range has a thermostatic control, set the control and  $\frac{1}{2}$  hour before removing the food the current may be turned off entirely. If the oven does not have a thermostatic control, the bottom switch may be turned to medium after the oven reaches the desired temperature. The oven may be turned off  $\frac{1}{2}$  to  $\frac{1}{4}$  of an hour before cooking is completed. The time the meal remains in the oven depends upon the products.

Prepare jello after breakfast.  
After removing coffee place water for jello on the same element.  
Remove bacon.

Four Days Meals and Schedule in Preparing Meals

Menus for Four Days Meals

Breakfast		Monday Lunch	Dinner
Orange and Grapefruit Cup	Bacon	Macaroni & Cheese Sauce Stewed Tomatoes Fruited Jello	400°F Oven Meat Loaf Pear Salad Bread Ginger Bread & Whipped Cream Escalloped Potatoes Buttered String Beans Butter Tea
Toast	Milk	Tea	
Coffee			

Tuesday

Breakfast		Lunch	Dinner
Prunes	Oatmeal	Spinach & Hard Cooked Eggs Cold Meat Loaf	300°F Oven Pork Roast Cream Gravy Celery Baked Apples Browned Potatoes Buttered carrots Graham bread Sugar Cookies
Toast	Jelly	Bread	Coffee
Soft Cooked Eggs	Milk	Left Over Ginger Bread Hard Sauce	
Coffee		Milk	

Wednesday

Breakfast		Lunch	Dinner
Rhubarb Sauce	French Toast Syrup	Salmon and Pea Salad Creamed Potatoes Custard Pudding	300°F Oven Baked Ham, Baked Sweet Potatoes Pineapple Salad Whole Wheat Bread Apple Cobbler Butter Cream
Coffee	Milk	Rolls Tea	

Thursday

Breakfast		Lunch	Dinner
Sliced Oranges	Jelly	Cream of Tomato Soup Croutons	300°F Oven Beef Roast Parsley Buttered Potatoes Hot rolls Fresh Buttered Peas Lettuce Salad Orange Cup Cakes Gravy Butter French Dressing Vanilla Sauce
Omelet	Bread & Butter	Baked Lima Beans Fruit Sauce	
Coffee	Milk	Rye Bread Cookies Tea	

Schedule of Work for Four Days Meals

Monday

At breakfast time

Start bacon on one element, and coffee on the smallest element.

While both are cooking prepare fruit cup.

Toast may be prepared on a toaster at the table or by using a wire toaster on the element after removing bacon.

After removing coffee place water for jello on the same element.

Prepare jello after breakfast.

At lunch time

Cook macaroni on the element.

While macaroni is cooking, salad dressing may be cooked on another element.

Remove macaroni to drain and prepare cheese sauce on the element on which the salad dressing was prepared.

Pour cheese sauce over macaroni and heat on the same element.

At dinner time

Bake ginger bread.

Remove, set regulator at 400° and place meat, potatoes and beans, and cereal for Tuesday's breakfast in oven.

One half hour before removing the meal place the rhubarb for Wednesday and prunes for Tuesday's breakfast in the oven.

Tuesday

At breakfast time

Prepare coffee on smallest element.

While coffee is heating, eggs are prepared on another element.

Heat cereal on a third element.

Eggs for lunch are left in the water and removed after breakfast.

At lunch time

Cook spinach on a small element.

Remove and place water for tea on the same element while preparing spinach for the table.

At dinner time

Bake graham bread - after removing bread, bake cookies.

After removing cookies place pork roast in the oven.

Forty five minutes before roast is removed, place potatoes, carrots and apples in the oven.

Make gravy on a small element.

Remove the gravy and heat water for tea.

Wednesday

At breakfast time

Prepare French toast on element. Prepare coffee on another element.

Custard might be prepared at this time after removing coffee or at lunch time as desired.

At lunch time

Prepare white sauce on one element, add potatoes and heat slowly.

Remove potatoes and heat water for tea on same element.

At dinner time

Prepare apple cobbler and bake before placing the ham in the oven.

Remove the cobbler and place ham and lima beans, which have been soaked, in the oven.

Thursday

At breakfast time

Prepare cocoa on the small element, and omelet on a medium sized element.

The sauce for cup cakes might be prepared at this time after removing cocoa.

At lunch time

Finish cooking lima beans on one of the elements.

Heat tomato soup on a second element.

Remove tomato soup and heat water for tea on same element.

**At dinner time**

Bake cup cakes before placing roast in oven, after cakes are baked, place roast in oven with peas and cereal for the next day.

One hour before removing the roast place potatoes in oven.

Prepare gravy on the element. Melt butter for potatoes in oven.

**Reduce the Electric Bill**

In order to reduce the electric bill remember:

**Elements**

To use small elements instead of large ones whenever possible. To use as few elements as possible for any meal.

**Utensils**

To use utensils which are flat and rest firmly on the element. To use utensils which fit, or are larger, but never smaller than the element. To use closed or tightly covered vessels. To use triplicate pails - two or three foods may be cooked on one element.

**Water in Cooking**

To use small quantities of water in cooking. To heat the exact amount of water needed for each food. That after water reaches the boiling point it does not get hotter by increasing or supplying the same amount of heat. By decreasing the heat to low, boiling will still continue.

That food may be cooked with the current turned off. On elements, boiling is carried on for 3 to 5 minutes after current is turned off, simmering 10 to 15 minutes. The oven remains warm enough for cooking 30 to 45 minutes.

To place pans of water on elements after cooking has been completed to utilize stored heat.

**Use of Oven**

To use oven thermostat.

To bake preceding oven meals so as to utilize all the heat.

To use the oven to capacity - planning not only meals, but foods which need cooking for other meals.

To open the door only when placing food in the oven or removing food.

To use the top element of the oven only for searing, broiling, browning and preheating.

To place roasts in a cold oven (unless the oven has been previously used), and then bring to desired temperature

The upper element sears as well as heats the oven.

Roasts are equally brown and fuel consumption is less.

Place soaked dried fruits in the oven after heat has been turned off.

They require only small amounts of heat for cooking.

**Miscellaneous**

To turn off safety switch so that if by accident an element is turned on later or left on, current will not pass thru and heat the element.

**Proper Care of the Range****Remember:**

To clean the elements by allowing food to char, or brush with a soft brush, but not a hard or wire brush.

To avoid scratching the elements with a knife or fork.

To avoid overheating the oven - over heating destroys the elements and lining and wastes heat.