



Chapter - VI

Cutting of Vegetables and Fruits

Cutting of vegetables and fruits into even, neat and uniform size & shape plays very important role in the preparation of food. Vegetable cut into different shapes and sizes gives variety to the food. But before cutting the vegetable one should follow the following steps:

Washing: All the vegetables should properly be washed before processing because of the following reasons:

- Dirt
- Mud and sand particles
- Insecticides and pesticides

Peeling: Outer skin of thin skinned vegetable and fruits is removed by longitudinal actions with the help of peeler. E.g, Carrot, Cucumber etc.

Paring: Removal of outer skin of thick skin vegetables and fruits with a paring knife in circular motion. E.g, Apple, Sweet lime, etc.

Different cuts of vegetables are as under:

Cuts of Vegetables

Basic Cuts	Slicing
	Chopping
	Mincing
	Roundels
Longish Cuts	Julienne
	Batonnet
	Frit
	Shredding & chiffonade



Dicing	Brunnoise
	Parmentier
	Macedoine
Fancy Cuts	Losange
	Paysanne
	Tourne
	Parisienne

Cutting Slices and Roundels:



Start the knife at a sharp angle, with the tip of the knife on the cutting board. Move the knife forward and down to slice through the carrot. Finish the cut with the knife against the board. For the second slice, raise the heel of the knife and pull it backward, but be sure the tip always stays on the board.

Slicing Technique



Start the blade at a 45-degree angle, with the tip on the cucumber against the fingers of the guiding hand. Slice downward and forward through the item.



Cutting Julienne and Shredding:



Julienne: Cut the carrot into thin slices, pile up all slices and cut into thin strips of match stick size (1mm x 1mm x 3cm).

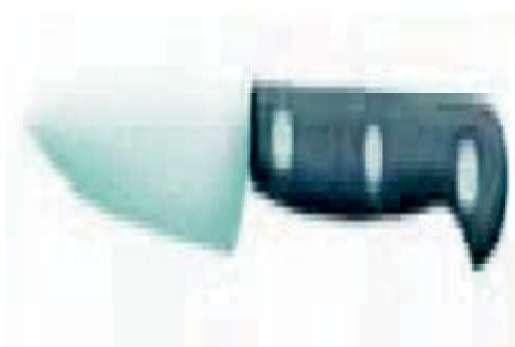
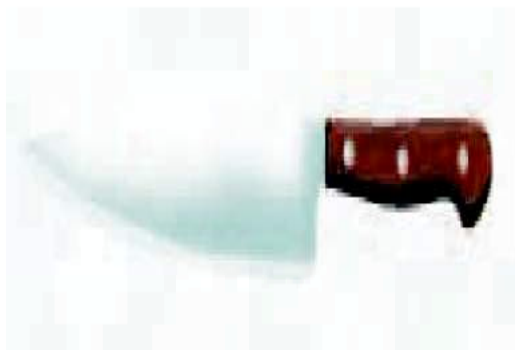
Shredding: Pile up the leaves of cabbage or cut the cabbage into 4 quarters, cut into thin long strips.

Chiffonade:

This term refers to cutting leaves into fine shreds. To cut chiffonade, remove the heavy leaf ribs, roll the leaves into a tight cylinder, and then slice the cylinder crosswise into thin shreds.

Cutting Batonnet, Frit, Allumette, Brunnoise, Parmentier and Macedoine:

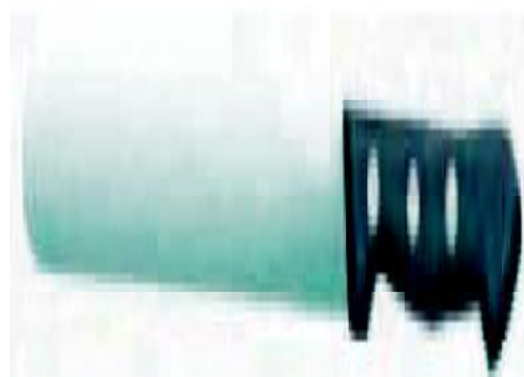




- Square off the peeled potato by cutting a slice from all sides.
- Cut the potato into even slices of the desired thickness.
- Stack the slices and again slice across the stack in even 1/4-in. slices. These are batonnet potatoes, slightly smaller than regular French fries (Frit). Slices 1/8 in. thick are allumette potatoes.
- Pile the batonnets together and cut across in slices 1/4 in. apart. These are perfect 1/4- in. dice.

Cutting lozenges:

This is a diamond-shape cut, as illustrated in Figure. To cut lozenges, first cut the vegetable into thin slices, then cut these slices lengthwise into strips about 1/8 inch (1 cm) wide. Cut the strips at an angle to form diamond shapes.





Cutting paysanne:

Paysanne are thin square, or roughly square, cuts. Cut the vegetable into sticks 1/2 inch (12 mm) square. To cut the sticks into paysanne, cut them crosswise into thin slices.



Cutting parisienne:

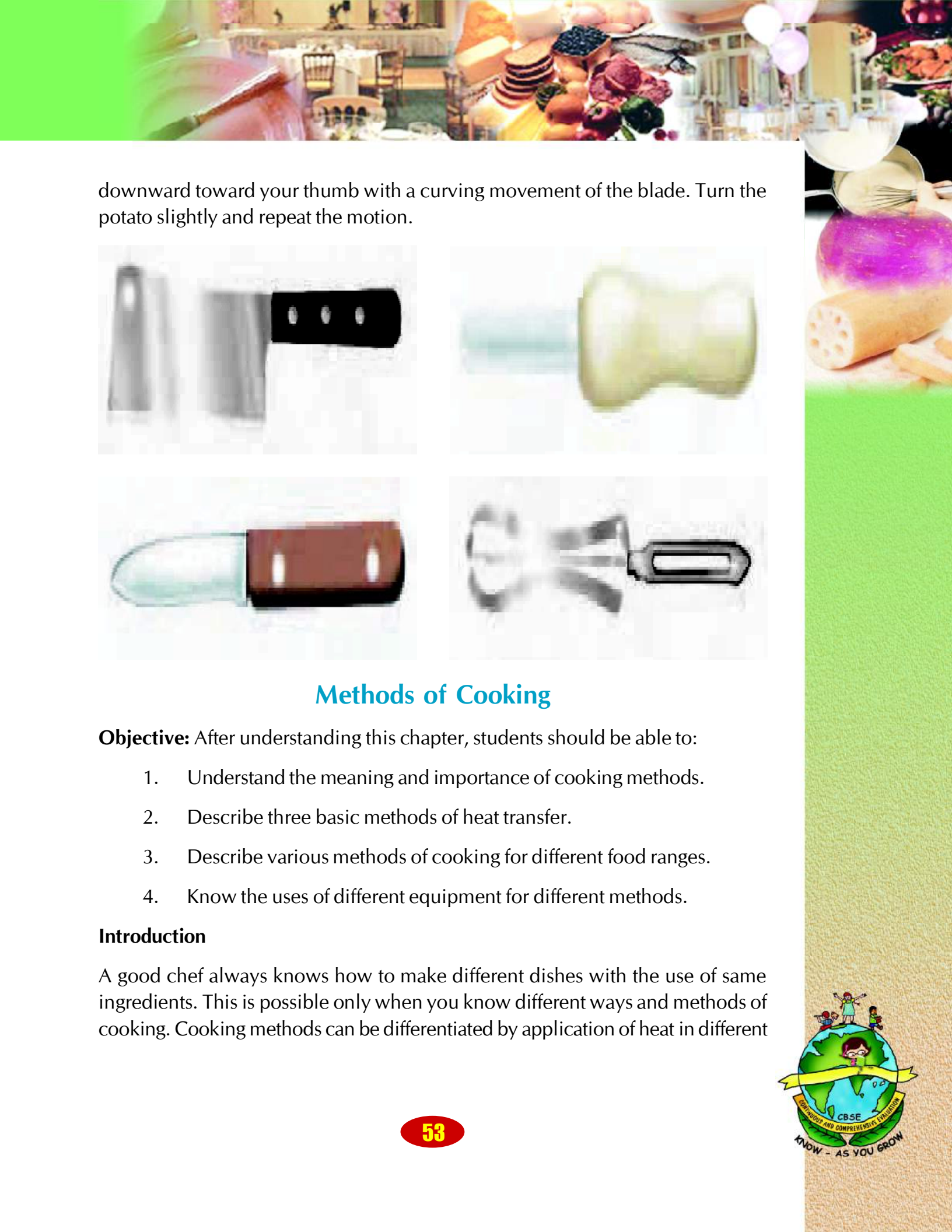
Potatoes cut into large balls (about 1 1/3 inch or 3 cm) with a ball cutter, are called parisienne. When cut into smaller balls (about 7/8 inch or 2.5 cm), they are called noisette. Solid vegetables, such as turnips, as well as many fruits, can be cut the same way. Place the ball cutter against the potato as shown. With the thumb, press the cutter firmly into the potato as far as it will go. Lift the handle of the cutter outward, twist the cutter around, and remove the ball.



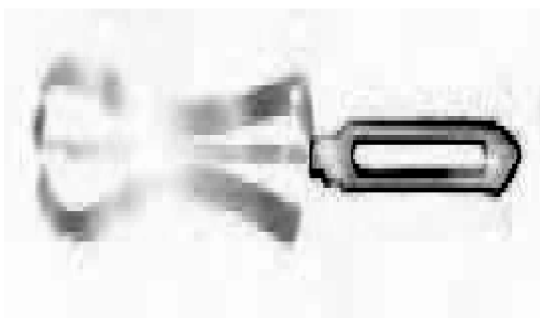
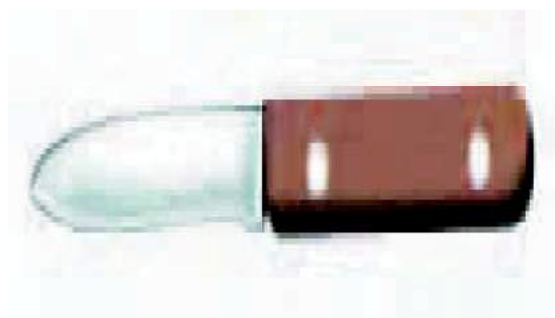
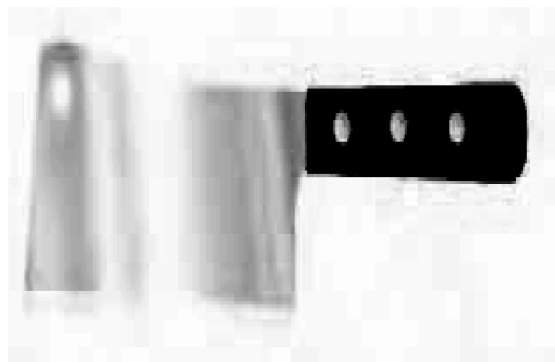
Cutting tournéed vegetables:

To tourné a vegetable is to cut it into a neat seven-sided oval shape. Many root vegetables, such as carrots and turnips, are cut this way. When potatoes are tournéed, they are named according to their size. **Cocotte potatoes** are about 1.5 inches (4 cm) long. **Château potatoes** are about 2 inches (5 cm) long.

Cut the potatoes roughly into pieces slightly larger than the final size desired. Cut off the top and bottom of each piece so they are flat and parallel. Hold the potato between the thumb and forefinger and place the paring knife against the top edge as shown and the thumb of the cutting hand firmly against the potato. Cut



downward toward your thumb with a curving movement of the blade. Turn the potato slightly and repeat the motion.



Methods of Cooking

Objective: After understanding this chapter, students should be able to:

1. Understand the meaning and importance of cooking methods.
2. Describe three basic methods of heat transfer.
3. Describe various methods of cooking for different food ranges.
4. Know the uses of different equipment for different methods.

Introduction

A good chef always knows how to make different dishes with the use of same ingredients. This is possible only when you know different ways and methods of cooking. Cooking methods can be differentiated by application of heat in different



mediums. In this chapter we will discuss all the ways and methods by which one can create variety of dishes on the menu.

METHODS OF HEAT TRANSFER

During the cooking process of food, heat must be transferred from a heat source to and through the food. The chef should understand the ways in which heat is transferred and the speed at which it is transferred then only one can have a total control over the cooking process.

Heat is transferred in three ways: conduction, convection, and radiation. It can be a combination of these three ways to perform a cooking process.

CONDUCTION

Conduction means transferring of heat within a solid material. The heat travels from heat source to the material it is touching with for example, from the top of the gas range to a tea pot placed on it and from the pot to the tea inside.

Different materials conduct heat at different speeds. Heat moves very fast through copper and aluminum, more slowly in stainless steel, more slowly in glass and porcelain.

CONVECTION

Convection is the process that transfers the heat from the heat source to the food. Once the carrier of the heat (air or liquid) comes in contact with the food, the heat is transferred conduction.

Convection occurs when heat is spread by the movement of air, steam, or liquid. Hot liquids and gases rise while cooler ones move down. Thus, in any oven, pot of liquid or deep-fat fryer a constant circulation of heat waves distributes heat. In convection ovens, fan speed up the circulation of heat. Thus, heat is transferred more quickly to the food, and the food cooks faster.

RADIATION

It occurs when energy is transferred by waves from a source to the food. The waves themselves are not actually heat energy but are changed into heat energy when they strike the food being cooked.





For example in a broiler, an electric element heated by a gas flame becomes so hot that it gives off infrared radiation, which cooks the food.

But in case of microwave cooking, the radiation generated by the oven penetrates partway into the food, where it agitates the molecules of water. The heat is produced by the friction of agitated molecules, which cooks the food.

Methods of Heat Transfer		
01.	Conduction	Transfer of heat through a solid object by contact. E.g. pot on a hot plate
02.	Convection	Transfer of heat through movement of heated particles of gas or liquids. E.g. heating a gas oven, heating of liquids
03.	Radiation	Passage of heat in straight rays from a hot object. E.g. gas, electric grills

MOIST-HEAT METHODS

Boiling

To boil means to cook in a liquid that is bubbling. Water boils at 100°C (212°F) at sea level. During boiling, the temperature remains constant at around 100°C . Boiling is generally applied for vegetables and pulses. The high temperature toughens the proteins of meats, fish, and eggs, and the boiling breaks the delicate foods.

Note: The boiling point of water decreases as altitude above sea level is increased. At 5,000 feet (1,500 meters) above sea level, water boils at about 203°F (95°C). Thus, it takes longer to boil foods to doneness at high altitudes because the temperature is lower.

Simmering

To simmer means to cook in a liquid that is bubbling gently at a temperature between 85°C to 96°C (185°F to 205°F). Most foods cooked in a liquid are simmered. Simmering is a very gentle method cooking by which very tough kind





of food can also be cooked without losing their shape. During simmering the liquid is brought to a full boil at first. This compensates for the lowering of the temperature when the food items are added. The heat is then adjusted to maintain a steady temperature.

Poaching

To poach means to cook in a hot liquid, that is not actually bubbling. Temperature is about 71°C to 82°C (160°F to 180°F). Poaching is used to cook delicate foods such as fish and eggs out of the shell. It is also used to partially cook the foods.

Blanching

To blanch means to cook an item partially and for a very short time. Blanching is usually done in water but sometimes in some other liquids also. There are two ways of blanching in water:

- Place the food in cold water, bring to a boil, and simmer for few seconds. Cool the food by putting it into cold water. Purpose: to dissolve out blood, salt, or impurities from meats and bones.
- Place the item in boiling water for few seconds. Remove the item and immediately cool in cold water.

Purpose: to set the color and destroy harmful enzymes in vegetables, or to loosen the skins of tomatoes, peaches, etc., for easier peeling.

Steaming

In this method of cooking, the food is directly exposed to the steam. Steaming can also be done on a rack above boiling water.

The term steaming also refers to cooking food item tightly wrapped or in a covered pan so that it cooks in the steam formed by its own moisture. This method is known as en papillote, meaning wrapped in parchment paper (or foil). "Baked" potatoes wrapped in foil are actually steamed.

Steam at normal pressure is 100°C (212°F), the same as boiling water. However, It carries much more heat than boiling water and cooks foods very rapidly.





Steaming is more commonly used for cooking of vegetables. It cooks them rapidly and saves the nutrients inside.

Braising

To braise means to cook covered in a small amount of liquid, after little browning. The liquid is served with the product as a sauce. Braising is referred to as a combination cooking method because the product is first browned, before it is cooked with a liquid. Braised meats are usually browned first using a dry-heat method. This gives a desirable appearance and flavor to the product and sauce.

Braising also refers to cooking vegetables at low temperature in a small amount of liquid without browning in fat, or with only a light sautéing.

Stewing

The term stewing is used for simmering the food in a small amount of liquid without initial browning.

DRY-HEAT METHODS

Baking

To bake means to cook foods by surrounding them with hot, dry air, usually in an oven. The term baking usually applies to breads, pastries, and vegetables. Heat is transferred by convection to the food surface and then goes inside the food by conduction.

Rules for Baking:

- While baking one should be very careful about the oven temperature. The oven should always be preheated to get the desired temperature.
- Accurate timings should be followed while baking.
- Oven should not be opened more frequently to avoid temperature variation.

BROIL

To broil means to cook with radiant heat. Broiling is a rapid, high-heat cooking method used mainly for tender meats, poultry, fish, and a few vegetable items. The temperature at the heat source can be of 1000°C . The food to be broil is placed on a preheated metal disk and the radiant heat from overhead cooks the food.





Rules of broiling:

- Turn heat on full. Cooking temperature is regulated by moving the rack nearer to or farther from the heat source.
- Use lower heat for larger, thicker items and for items to be cooked well done. Use higher heat for thinner pieces and for items to be cooked rare. This is done so the inside and outside are cooked to the desired degree at the same time.
- Preheat the broiler. This helps sear the product quickly, and the hot broiler will make the desired grill marks on the food.
- Turn foods over only once, to cook from both sides and to avoid unnecessary handling.

MEDIUM OF FAT

Roasting

The term roasting usually applies to meats and poultry. It means to cook foods by surrounding them with hot, dry air, in an oven. The food should not be covered for roasting. Covering holds in steam, changing the process from dry-heat to moist-heat cooking. Roasting can be of three different types: Oven, Pot and Spit.

- Oven roasting is done to those items or dishes where the controlled conditions are required, for example temperature or moisture control.
- Pot roasting is suitable for the food where there is a need for browning. A nice colour can be given to the food items by this method. More over all the juices of food can be retained in the pot for further use as sauce that accompanies the food.
- Spit roasting is a method where additional flavor can be imparted to the food. Spit roasting is done in an open bar-be-que sigri. The fuel used in this is wood charcoal that gives a distinct flavor to the food.

Grilling

Grilling is done on an open grid over a heat source, which may be charcoal, an electric element, or a gas-heated element. Cooking temperature is regulated by





moving the items to hotter or cooler places on the grill. Grilling can be done in ways: By using Salamander and by using Griller.

- Salamander: Here the heat source is above the food. The temperature is controlled either by moving the food or by lowering the temperature.
- Griller: The heat source is below the food. Usually griddle is used to heat the food. One can give different texture to the food by correctly using the grooves on the griddle. Sufficient amount of fat should be used from time to time to avoid sticking the food to the surface.

Frying

Deep - Fry

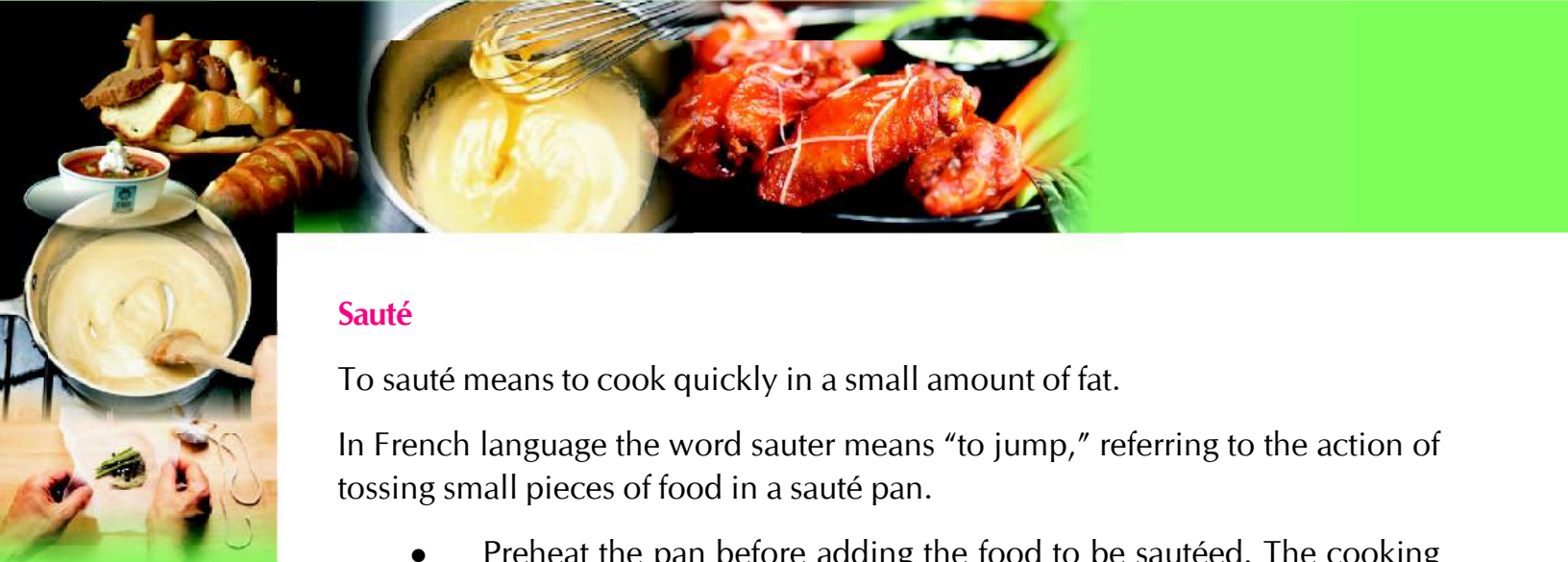
To deep-fry means to cook a food submerged in hot fat. Deep frying is important because:

- Minimum fat absorption and Minimum moisture loss.
- Attractive golden color and crisp surface or coating.
- No off flavors imparted by the frying fat.
- For some products coating is also used. This forms a protective coating between food and fat and helps give the product crispness, color, and flavor.

Shallow Frying

To shallow-fry means to cook in a moderate amount of fat in a pan.

- The method is used for larger pieces of food, such as chops and chicken pieces. The delicate food pieces are also cooked by this method like Fish meuniere.
- Shallow-frying is usually done over lower heat than sautéing because of the larger size of the pieces being cooked.
- The amount of fat depends on the food being cooked.
- Most foods must be turned at least once for even cooking.



Sauté

To sauté means to cook quickly in a small amount of fat.

In French language the word sauter means “to jump,” referring to the action of tossing small pieces of food in a sauté pan.

- Preheat the pan before adding the food to be sautéed. The cooking should be at high heat, or it will begin to simmer in its own juices.
- A few items at a time should be sautéed. Do not overcrowd the pan. Doing so lowers the temperature.
- Food to be sautéed is often dusted with flour to prevent sticking and to help achieve uniform browning.
- After a food is sautéed, a liquid such as wine or stock should be added to dissolve browned pieces of food sticking to the bottom. This is called deglazing. The liquid can be served with the sautéed items.