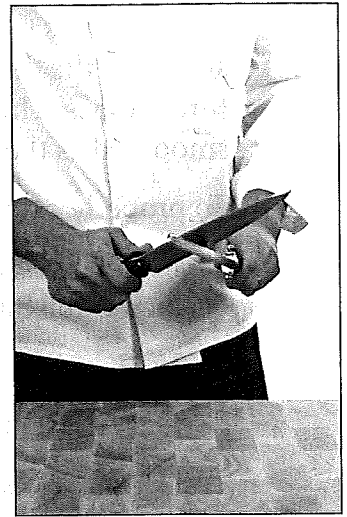


- 5 Move to a finer surface of the stone and repeat the process, making sure not to put too much pressure on the knife.
- 6 Carefully wash and dry your knife.
- 7 Hold the steel vertically, with fingers clear of the working surface to prevent injury.
- 8 Holding the knife at a 20-degree angle, carefully run the edge of the blade along the steel, making sure that the entire edge is honed. See Figure 5.6b.
- 9 Repeat as needed, with an equal number of strokes on each side of the blade and using light pressure.
- 10 Wipe away any metal fragments on the knife or on the steel.



**Figure 5.6b:** Step 8—Run the edge of the blade along the steel.

[nutrition]

### Loss of Moisture and Nutrients

When fruits and vegetables are sliced, they can lose moisture and nutrients, especially vitamin C, very quickly. In fact, any type of processing can cause nutrient deterioration. When more surface area is exposed to the air, the loss is quicker.

When preparing fruits and vegetables in advance, be sure to keep them refrigerated and carefully covered. Some vegetables, such as carrots and potatoes, should be stored in water. This prevents carrots from drying out and potatoes from discoloring.

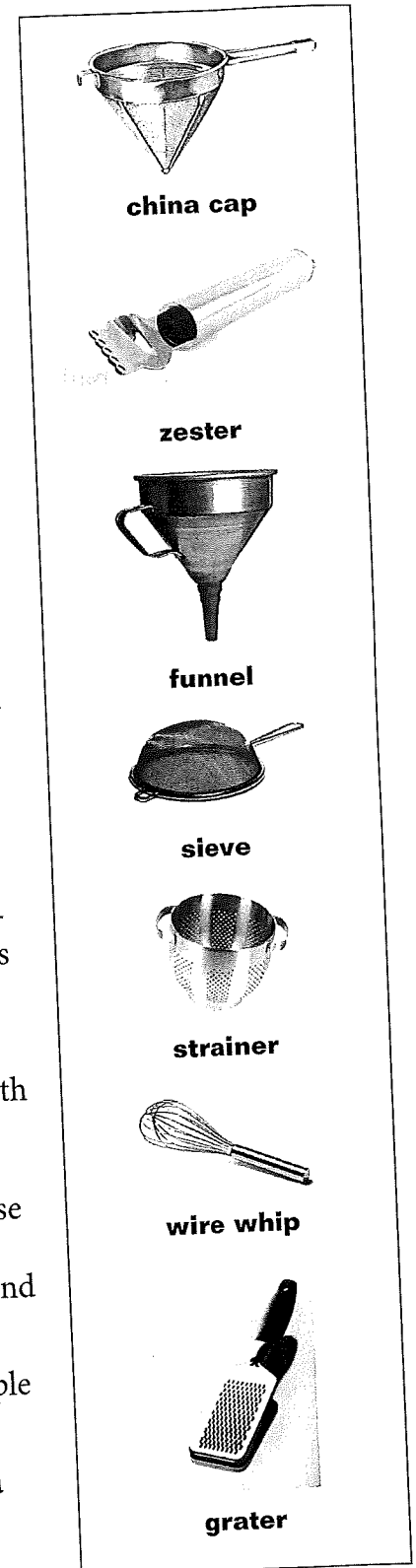
## Hand Tools and Small Equipment

Every restaurant and foodservice kitchen has small hand tools and small equipment called **smallware**. Hand tools are designed to aid in cutting, shaping, moving, or combining foods. Similar to knives, many hand tools are designed for specific tasks. Figure 5.7 shows a sample of small hand tools and small equipment used in restaurants and foodservice kitchens. Hand tools are easy to use and are an essential part of food pre-preparation:

- **Bench scraper:** A bench scraper is a rigid, small sheet of stainless steel with a metal blade. Use it to scrape material off a work surface or “bench” or to cut or portion soft, semifirm items (like bread dough or cookie dough).
- **Bowl scraper:** A bowl scraper is a flexible piece of rubber or plastic. Use it to combine ingredients in a bowl and then scrape them out again, to cut and

separate dough, and to scrape extra dough and flour from wooden work tables.

- **Can opener:** In restaurant and foodservice kitchens, can openers are mounted onto metal utility tables because they are used to open large cans. A small handheld can opener, like those for home use, may be used in a restaurant or foodservice kitchen to open small cans of food.
- **Channel knife:** Use a channel knife to cut grooves lengthwise in a vegetable such as a carrot.
- **Cheesecloth:** A cheesecloth is a light, fine mesh gauze for straining liquids such as stocks or custards, for bundling herbs, or for thickening yogurt.
- **China cap:** A China cap is a pierced, metal, cone-shaped strainer; use it to strain soups, stocks, and other liquids to remove all solid ingredients. A very fine China cap made of metal mesh strains out very small solid ingredients. This is called a *chinois* (chin-WAH).
- **Colander (CAH-len-der):** A colander drains liquid from cooked pasta and vegetables. Colanders stand on metal feet, while strainers are usually handheld.
- **Cook's fork (kitchen fork):** Use a cook's fork with two long, pointed tines to test the doneness of braised meats and vegetables, to lift items to the plate, and to steady an item being cut. Do not use a cook's fork to turn meats that are being dry-cooked because the tines may pierce the meat and release the juices.
- **Corer:** Use a corer to remove the core of an apple or pear in one long, round piece.
- **Fish scaler:** A fish scaler removes scales from a fish.
- **Food mill:** A food mill is a machine that comes with several detachable parts. Cooks use it to purée foods to different consistencies.



**Figure 5.7:** A sample of small hand tools and small equipment.

- **Funnel:** Use a funnel to pour liquid from a larger to a smaller container.
- **Grater:** A grater grates hard cheeses, vegetables, potatoes, and other foods.
- **Kitchen shears:** Shears are strong scissors; use them to cut string and butcher's twine and to cut grapes into small clusters.
- **Offset spatula (SPACH-e-la):** An offset spatula turns foods on a griddle or broiler. It has a wide, chisel-edged blade and a short handle.
- **Parisienne (pah-REE-see-en) scoop:** A parisienne scoop, or melon baller, cuts ball shapes out of soft fruits and vegetables.
- **Pastry bag:** A pastry bag is a bag made of canvas, plastic, or nylon; use it to pipe out frostings, creams, and puréed foods. Different pastry tips create a variety of decorations.
- **Pastry brush:** Use a pastry brush to brush egg wash, melted butter, glazes, and other liquids on items such as baked goods, raw pasta, or glazes on meats.
- **Peeler:** A peeler cuts a thick layer from vegetables and fruits more efficiently than a paring knife.
- **Pie server:** A pie server is a specially shaped spatula made for lifting out and serving pieces of pie.
- **Piping tools:** Piping tools include piping bags (canvas, plastic, disposable), decorative tips (metal, plastic, of varying shapes), and presses (cylinders with a handle on one end that force dough through a metal cutout).
- **Pizza cutter:** Use a pizza cutter to cut pizza and rolled-out dough.
- **Ricer:** Use a ricer to create rice-like pieces of cooked food by pressing the food through a pierced hopper (small basket-shaped container that holds the material) by means of a plate on the end of a lever.
- **Rolling pin:** A rolling pin is a cylinder that cooks use to roll over pastry to flatten or shape it.
- **Rubber spatula:** A rubber spatula is a spatula with a long handle, often called a scraper, used to fold ingredients together and scrape the sides of bowls.
- **Sandwich spreader:** A sandwich spreader is a short, stubby spatula that cooks use to spread sandwich fillings and condiments.
- **Skimmer:** A skimmer has a larger round, flat head with holes. Use it to remove foam from stock or soup and to remove solid ingredients from liquids. Mesh skimmers are also available.

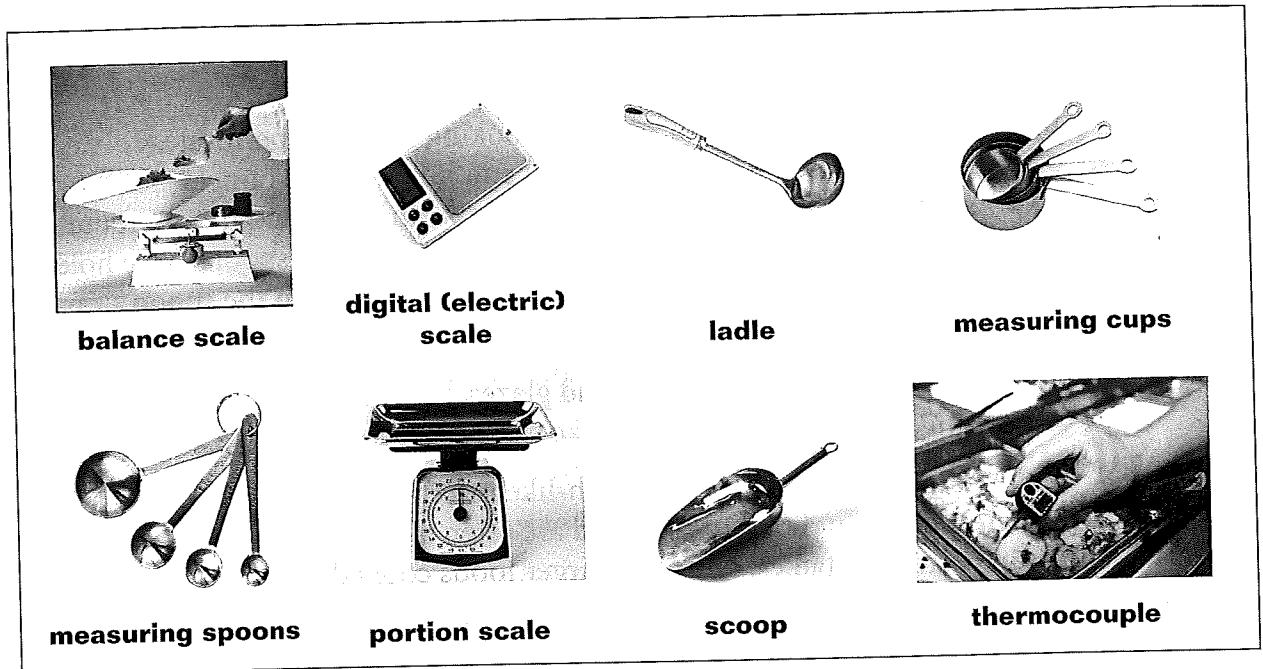
- **Sieve (SIV):** A sieve has a mesh screen to sift flour and other dry baking ingredients and to remove any large impurities.
- **Spoons:** Cooking spoons for quantity cooking are solid, perforated, or slotted. They are made of stainless steel and hold about 3 ounces. Solid spoons are serving spoons without holes in them. Use them to spoon out both liquid and solid ingredients. Perforated and slotted spoons have holes that allow liquid to drain while holding the solid items on the spoon.
- **Straight spatula:** A straight spatula is a flexible, round-tipped tool used for icing cakes, spreading fillings and glazes, leveling dry ingredients when measuring, and even turning pancakes and other foods.
- **Strainer:** A strainer is made of mesh-like material or metal with holes in it. Strainers come in different sizes and are often shaped like a bowl. Strainers strain pasta, vegetables, and other larger foods cooked in liquid.
- **Tamis (TA mee)/drum sieve:** A tamis is a screen that stretches across a metal or wood base that is shaped like a drum, and food is forced through it. It's used to purée very soft foods and to remove solids from purées.
- **Tongs:** Tongs are a scissor-like utensil that foodhandlers use to pick up and handle all kinds of solid food. To keep food safe, foodhandlers should never use their hands to pick up food.
- **Wire whip (whisk):** Wire whips of different sizes and heaviness are used to mix, beat, and stir foods.
- **Zester:** A zester shreds small pieces of the outer peel of citrus fruits such as oranges, lemons, and limes.

## Measuring Utensils

Measuring utensils come in all shapes and sizes. They are widely used in restaurant and foodservice kitchens to measure everything from spices to liquids to dry goods like oats, grains, sugar, and flour. They can also measure temperature.

Figure 5.8 shows common measuring utensils used in restaurant and foodservice kitchens. Following are just some of the types of measuring utensils found in the restaurant and foodservice kitchen:

- **Balance scale/baker's scale:** A balance scale weighs dry ingredients in the bakeshop.
- **Bimetallic stemmed thermometer:** These thermometers are useful for checking large or thick food.



**Figure 5.8:** Common measuring items used in professional kitchens.

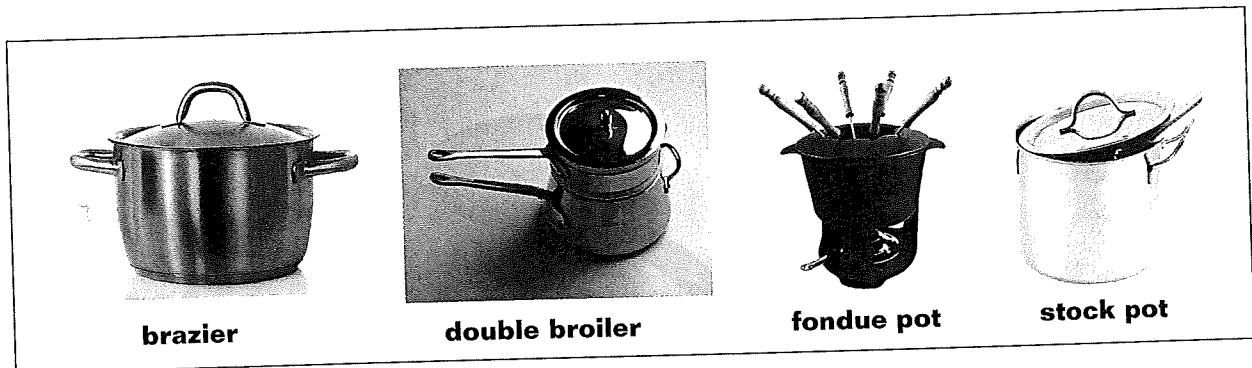
- **Digital (electric) scale:** This is a precise scale used to measure weight. It provides a digital readout in both U.S. and metric systems.
- **Ladle:** Ladles come in various sizes, measured in fluid ounces and milliliters so they can be used to portion out liquids.
- **Measuring cup:** Measuring cups measure varying quantities of both dry goods and liquids. Measuring cups with spouts measure liquids, and those without spouts measure dry ingredients.
- **Measuring spoon:** Cooks use measuring spoons to measure small quantities of spices or liquids. The spoons measure in the amounts of  $\frac{1}{8}$  teaspoon (not all sets include this smallest size),  $\frac{1}{4}$  teaspoon,  $\frac{1}{2}$  teaspoon, 1 teaspoon, and 1 tablespoon.
- **Portion scale:** Use this scale to measure recipe ingredients, from  $\frac{1}{4}$  ounce to 1 pound to 2 pounds.
- **Scoop:** This short-handled measuring utensil scoops out soft foods, such as ice cream, butter, and sour cream. Portion scoops come in various sizes.
- **Thermocouple:** This thermometer measures temperature in thick or thin foods almost instantly. Do not leave this kind of thermometer in foods as they cook.
- **Volume measures:** Volume measures are similar to liquid measuring cups but bigger, usually available in sizes of 1 pint, 1 quart,  $\frac{1}{2}$  gallon, and 1 gallon.

## Pots and Pans

Pots and pans are essential tools in the professional kitchen. Pots and pans are often called **cookware**. They are available in many shapes and sizes and are made of a variety of materials, such as copper, cast iron, chrome, stainless steel, and aluminum, with or without nonstick coating. In general, pots are larger vessels with straight sides and two loop handles. Pans, on the other hand, tend to be shallower, with one long handle and either straight or sloped sides.

### Pots

**Pots** are available in a range of sizes based on volume. Use them on the stove top for making stocks or soups, or for boiling or simmering food. Figure 5.9 shows commonly used pots in the professional kitchen.

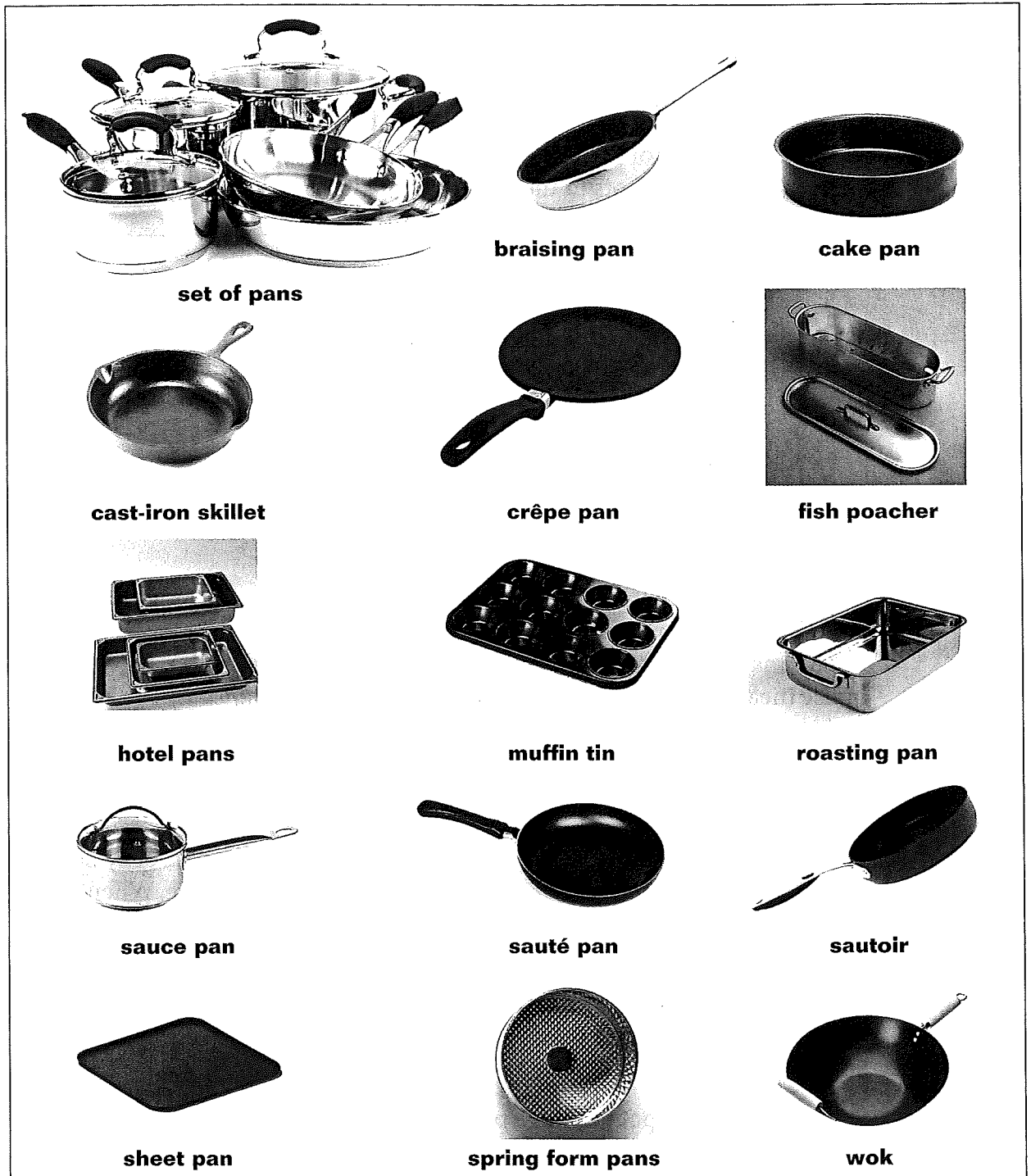


**Figure 5.9:** Commonly used pots in the professional kitchen.

- **Brazier:** This medium to large pot, more shallow than sauce pots, has straight sides and two handles for lifting. This is typically made of heavy-weight material with a thick bottom for good heat distribution. Use it to braise meat and vegetables. (This pan is also called a *rondeau*.)
- **Double boiler:** A pot that has an upper pot and a lower pot. The lower pot holds boiling or simmering water that gently cooks the food in the upper pot. Use it for melting chocolate or heating milk, cream, or butter.
- **Fondue pot:** A fondue pot is a pot with a heat source placed directly below the pot. Use it for a food-preparation process known as fondue. When eating fondue, guests use forks to dip bits of food or bread into the warm semi-liquid sauce (such as a cheese mix or chocolate).
- **Sauce pot:** Use to prepare sauces, soups, and other liquids. Sauce pots are more shallow than stock pots, with straight sides and two loop handles for lifting.
- **Stock pot:** A stock pot is a large pot for preparing stocks. Stock pots with spigots allow the liquid to be poured out easily without losing any of the solid ingredients.

## Pans

**Pans** are usually smaller and shallower than pots. Pans are used for general stove-top cooking, especially sautéing, frying, or reducing liquids rapidly, for baking, and for holding food. Figure 5.10 shows pans commonly used in the professional kitchen.



**Figure 5.10:** Pans commonly used in the professional kitchen.

- **Braising pan:** A high-sided, flat-bottomed cooking pan, this is used to braise, stew, and brown meat. The pan is also called a *brazier* or a *rondeau*.
- **Cake pan:** These baking pans have straight sides. They are available in a variety of sizes and shapes, including round, rectangular, square, and specialty (such as heart-shaped).
- **Cast-iron skillet:** This is a heavy, thick pan made of cast iron. Use it to pan grill, pan-fry, and braise foods like meat or vegetables.
- **Crêpe pan (KRAYP):** This is a shallow skillet with very short, slightly sloping sides. It is used to create crêpes, a specialty pancake.
- **Fish poacher:** This is a long, narrow, metal pan with a perforated rack that cooks use to raise or lower the fish so it doesn't break apart.
- **Hotel pan:** Use this pan to hold prepared food in a steam table, hot-holding cabinet, or refrigerator. These are sometimes used for baking, roasting, or poaching meats and vegetables, but the pan is really too thin and does not distribute heat well.
- **Muffin tin:** Small, round cups or molds are used to make muffins, cupcakes, or other small baked goods.
- **Roasting pan:** A shallow, rectangular pan with medium-high sides and two handles, cooks use it to roast and bake foods, such as meat and poultry.
- **Saucepan:** This is a pan with medium height, straight sides, and a single long handle. Use it for general cooking, in particular liquid or liquid-based mixtures, on ranges.
- **Sauté (saw-TAY) pan:** The original French sauté pan is slope-sided and made of thin metal for quick heating. It is used strictly to sauté items. In the United States, the “fry pan” is generally referred to as a sauté pan. A fry pan has curved sides and a long handle and is generally made of slightly thicker metal. It is used both to sauté and to pan fry.
- **Sautoir (saw-TWAHR):** The classic sautoir shape is called a sauté pan in the United States. It has a wide bottom and straight sides. Some typical tasks include pan-frying, stir-frying, and shallow poaching.
- **Sheet pan:** Cooks use this very shallow pan, about 1-inch deep, for just about anything, from baking cookies to roasting vegetables.
- **Spring form pan:** This is a two-part, spring-loaded baking pan. The bottom piece and ring secure with a spring to hold the bottom in place. Once an item is baked, the pastry chef can release the spring to make it easy to remove the cake from the pan.



- **Wok:** This is a metal pan with a rounded bottom and curved sides. The curved sides make it easy to toss or stir food. Cooks use woks especially for frying and steaming in Asian cooking.

### Care of Pots and Pans

Pots and pans are available in a variety of materials, each with specific instructions for care and cleaning. Always wait for pots and pans to cool before washing or rinsing to avoid warping. Follow these guidelines:

- **Aluminum:** Hand wash in soapy water. Use a nonabrasive cleaner to remove stains.
- **Cast iron:** Wash in warm, sudsy water. Keep properly conditioned and dry to prevent rust and pitting.
- **Chrome:** Wash in warm water with soap or detergent. Do not use abrasive cleaners.
- **Copper:** Use commercial cleaners to remove discoloration before regular washing.
- **Stainless steel:** Wash in hot, soapy water or warm ammonia and water solution. Rinse thoroughly and dry immediately to avoid water spots.
- **Nonstick coating:** Use a plastic mesh scrubber to scrub inside of the nonstick pan to avoid scratches. Remove all residue from the bottom of the pan or food may burn.

## *Food-Preparation Equipment*

In addition to knives, hand tools, and pots and pans, other items are necessary to prepare food for cooking:

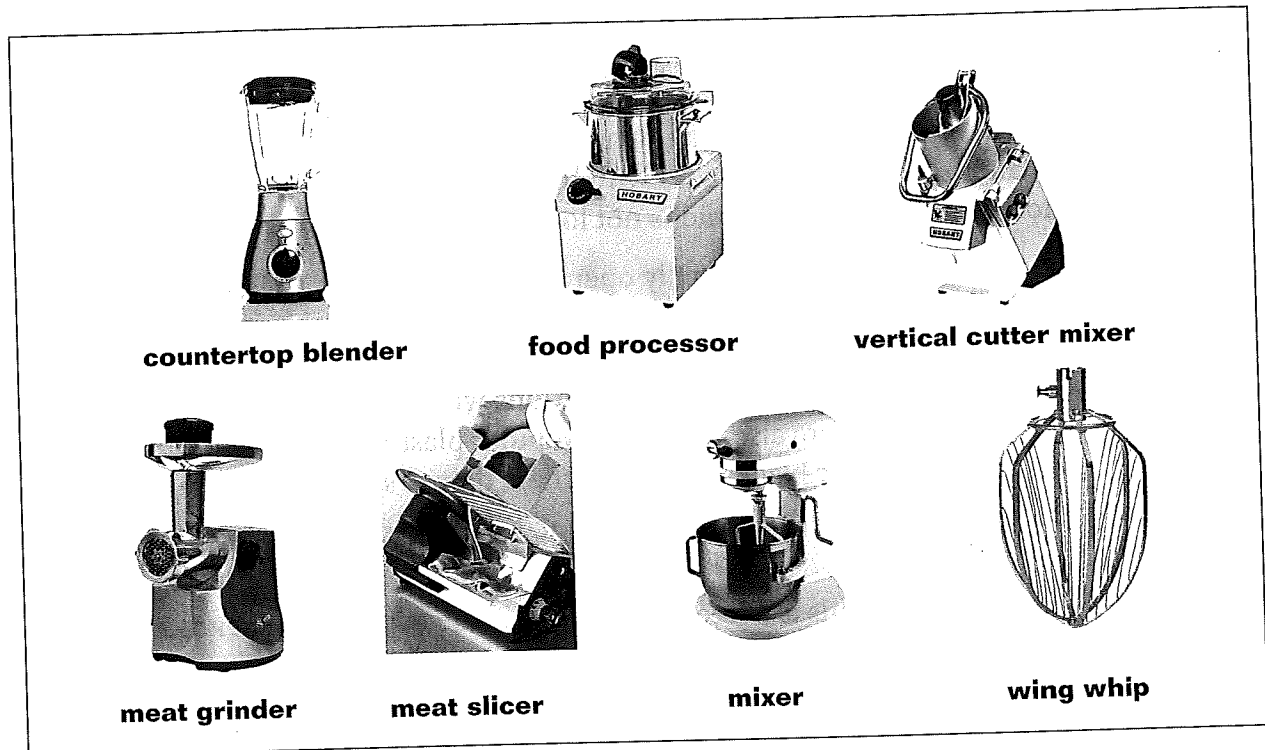
- Cutters and mixers
- Steamers
- Broilers
- Ranges, griddles, and fryers
- Ovens

### Processing Equipment: Cutters and Mixers

Always use safety guards when using cutting machines. Make sure that employees are properly trained and informed of all precautionary measures that should be taken when operating the equipment. If they are not sure how to use the

machine, offer them assistance. Remember, it is illegal for minors to use, clean, or maintain cutters or mixers.

In the professional restaurant or foodservice kitchen, cutters and mixers are used to cut meats and vegetables and to mix sauces and batters. Figure 5.11 shows commonly used cutters and mixers in the professional kitchen.



**Figure 5.11:** Commonly used cutters and mixers in professional kitchens.

- **Countertop blender:** Blenders purée, liquefy, and blend foods. The blender consists of a base that houses the motor and a removable, lidded jar with a propeller-like blade in the bottom. Speed settings for the motor are in the base. Jars for the blender are made of stainless steel, plastic, or glass.
- **Immersion blender:** An immersion blender is also known as a hand blender, stick blender, or burr mixer. It is a long, stick-like machine that houses a motor on one end of the machine with a blade on the other end. This operates in the same manner as a countertop blender to purée and blend foods except that a cook holds it manually in a container of food, whereas a countertop blender contains the food itself.
- **Food chopper:** A food chopper chops vegetables, meats, and other foods using a vertical rotating blade and a bowl that rotates the food under the blade. This unit is often called a buffalo chopper. Never push food under the cover of the bowl, because your fingers could be caught by the moving blades. To clean the food chopper, first unplug the unit. Remove the blades carefully, and handle with the same care given a knife.

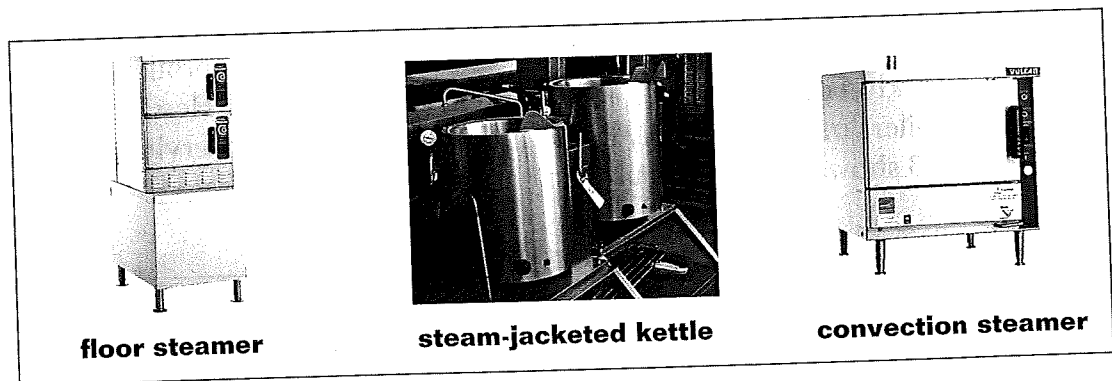
- **Food processors:** This is a processing machine that houses the motor separately from the bowl, blades, and lid. Food processors grind, purée, blend, crush, and knead foods.
- **Horizontal cutter mixer (HCM):** The horizontal cutter mixer (HCM) cuts, mixes, and blends foods quickly with a high-speed, horizontal, rotating blade that is housed in a large bowl with a tight cover. To vary from coarse to fine or actual purée, control the length of time the blade runs through the product. Always count to ten before opening the lid after stopping the blade. The force created in the bowl moves the food rapidly. Allow time for food to stop moving, or it may fly out when the lid is opened. Unplug the unit before cleaning it. Handle the blades with the same care as a knife. The mixer will not operate if the hinged lid is not locked.
- **Mandoline:** This is a manually operated slicer made of stainless steel with adjustable slicing blades to slice and julienne. Its narrow, rectangular body sits on the work counter at a 45-degree angle. It is useful for slicing small quantities of fruit or vegetables, situations where a large electric slicer isn't necessary. There are also extremely popular plastic models, which may have fixed or adjustable blades. Typically, these do not stand on counters but are held over a bowl or work surface. Always use a hand guard or steel gloves to avoid injury.
- **Meat grinder:** This is a free-standing machine or an attachment for a standing mixer. Drop foods in through a feed tube, where they are pulled along by a metal worm, and then cut by blades as the food is forced out through the grinder plate. To avoid cross-contamination, clean all areas of a meat grinder thoroughly after use.
- **Meat slicer:** Most meat slicers have a slanted, circular blade. Food either passes through the machine automatically or a cook pushes a hopper that holds the product along a carriage into the blade. The thickness of the slicer is set by increasing and decreasing the distance between the guide plate and the blade. The guard on the hopper must always be used to move the hopper. This protects the hands. During cleaning, the machine must be unplugged and the blade set at 0 (no distance between the guide plate and blade). Remember that the blade is a knife and can cut even when it is not turning. Because slicer blades are very sharp, it is important to pay close attention when using them.
- **Mixer:** Mixers come in 5-quart, 20-quart, 60-quart, and 80-quart sizes. Cooks use them to mix and process large amounts of food with any number of specialized attachments, including paddles, wire whips, dough hooks, meat grinders, shredders, slicers, and juicers.

- **Flat beater paddle:** Use to mix, mash, and cream soft foods.
- **Wire whip:** Use to beat and add air to light foods, such as egg whites and cake frosting.
- **Wing whip:** A heavier version of the wire whip, use it to whip, cream, and mash heavier foods.
- **Pastry knife (paddle):** Use to mix shortening into dough.
- **Dough arm (hook):** Use to mix heavy, thick dough.

Always start the mixer on slow speed and then move to higher speeds as required to prevent splash over. Always scrape the bowl to ensure that even mixing takes place. Never place a scraper or any other object in the mixing bowl while the machine is running.

## Steamers

Steamers are used in restaurants and foodservice operations to cook vegetables and grains. A steamer allows the food to come into direct contact with the steam, heating the food very quickly. Cooking with steam is a very efficient method of cooking. There are different types of steamers in use at restaurants and foodservice operations. Figure 5.12 shows the types of steamers used in professional kitchens.



**Figure 5.12:** Steamers used in the professional kitchen.

- **Steamer:** Use a steamer to steam foods such as vegetables and grains. It uses low or high steam pressure. A steamer often consists of a set of stacked pots. The lower pot holds boiling water. The upper pot has a perforated bottom that allows the steam to enter through and cook the food in the pot above. All types of steamers cook foods quickly in very hot (212°F) water vapor.
- **Convection steamers:** In a convection steamer, the steam is generated in a boiler and then piped to the cooking chamber, where it is vented over the food. Pressure does not build up in the unit. Rather, it is continually