KITCHEN EQUIPMENT FUNDAMENTALS

BY CHEF ERIC ARROUZÉ



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ALL ABOUT KNIVES

HOW TO CHOOSE A CHEF'S KNIFE?

Knives are probably the most important tool you can invest in. To choose a good chef knife, whether you are a professional chef or simply a cooking novice at home, you will need to select a knife that is most suited to your needs. When choosing a knife there are many aspects to think about such as suitability, handling, comfort, sharpness, durability and cost.

I strongly recommend an eight-inch chef knife. A person with small hands might be more comfortable with a six-inch knife while a nine or 10-inch knife will work better for someone with larger hands.

In terms of cost, there is huge variance in price between different brands. More expensive knives are made of harder steel which is sharper and maintains its sharpness longer than cheaper knives. These will cut far more easily and last a lifetime.

A sharp knife needs less effort to cut and makes the job easier and safer.



ESSENTIAL KNIFE KIT AND BASIC EQUIPMENT

This is where it all starts. You want to get into cooking and you are not sure what you will need. The minimum tools that you need for the cooking lessons are:

1. A good chef's knife
2. A peeler
3. A paring knife
4. A boning knife
5. A fillet knife
6. A serrated knife
7. A utility knife
8. A slicing knife

Other Equipment

- A steel
- A sharpening stone
- A meat fork or chef's fork. A strong 2-teeth fork is used to hold the meat while you are slicing, and lifts the meat while cooking, thus keeping the chef's hand away from the heat.
- A spatula: Large, wide metal spatulas used for flipping or turning large foods during cooking.
- A melon baller aka « Cuillère à pomme parisienne » or Parisian scoop. It comes in various sizes and shapes. It is made to cut balls out of fruits and veggies

You don't need to buy all the equipment at once The bare minimum to start with is: a chef's knife, a paring knife, a peeler and a cutting board.

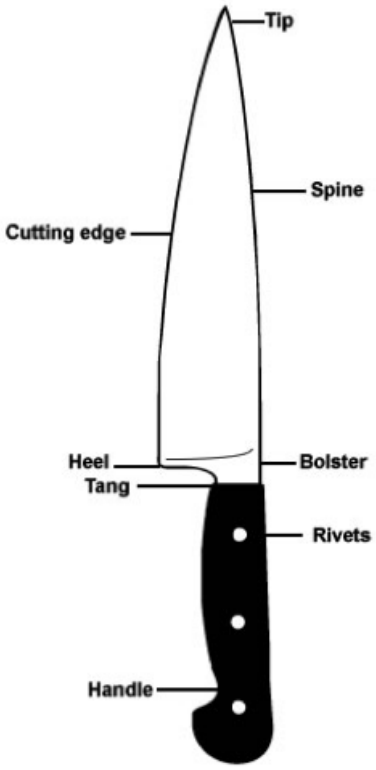
I strongly recommend an eight-inch chef knife. A person with small hands might be more comfortable with a six-inch knife while a nine or 10-inch knife will work better for someone with larger hands.

KNIFE CONSTRUCTION

How kitchen knives are assembled for maximum life, balance, cutting ability and durability over the years.

Tang

The tang is the part of the knife blade that extends into the handle. The length of the tang is thought to be significant in the ability to balance and control a knife. Various manufacturers believe that producing a knife with a tang that extends throughout the full length of the knife is most desirable. Other manufacturers argue that each piece of a knife benefits from using a different metal. Investing in a solid, heavy well-balanced knife that you feel comfortable with is the overall objective.



Parts of a knife

Metal Rivets

Metal rivets are used to secure the tang to the handle of the knife. To prevent irritation to the hand, the rivets should be completely smooth and lie flush with the surface of the handle. In addition, this will help prevent debris and microorganisms from collecting in the spaces between the handle and the rivets.

Bolster

A bolster is a thick piece of metal (collar or shank) that is placed between the handle and the blade. The purpose of a bolster is to provide safety from the blade and add balance to the knife.

BLADE MATERIALS

Carbon Steel

Carbon Steel has been used in the making of blades for many years. Carbon steel blades are tough and take a better edge with little effort. Carbon steel blades discolor when they come in contact with foods that are high in acid such as tomatoes and citrus fruits. The blades must be treated with care to avoid discoloration and rusting. Wash and dry thoroughly after each use. Tip: When storing knives with carbon steel blades, lightly coat the blades with flavor-free vegetable oil to help prevent discoloration and rust.

Stainless Steel

Unlike carbon steel, stainless steel blades do not discolor or rust; however, they are not hard enough to maintain the best edge.

High Carbon Stainless Steel

This type is a combination of the best attributes of carbon steel and stainless steel blades. They have the toughness and ability to hold an edge and do not discolor.

Titanium

Titanium blades are made from a mold of titanium and carbides. When compared to steel, titanium is lighter, more wear-resistant, and holds its edge longer. The titanium blade is more flexible than steel and works best for tasks such as boning and filleting.

Ceramic

Ceramic blades are made of zirconium oxide and aluminum oxide. Although they are much more delicate than steel knives, they tend to hold their edge up to 10 times longer. Once the blades have dulled, they must be sharpened by a professional.

Plastic

Plastic blades are used to prevent vegetables and such from discoloration from the knife blade. Plastic blades are not very sharp and require some force when cutting.

Hollow Ground

Hollow ground is a knife blade that is manufactured with a process that fuses two separate pieces of metal together. After the pieces are fused, a beveled blade edge is created. Although these blades often have very sharp edges, the blade lacks the balance and longevity of a taper-ground blade. This type of blade is most often found on knives that are used less frequently.

Taper Ground

This knife blade is manufactured with a single sheet of metal and has been ground so that it tapers smoothly from the spine to the cutting edge. This type of blade is desired on knives that are frequently used.

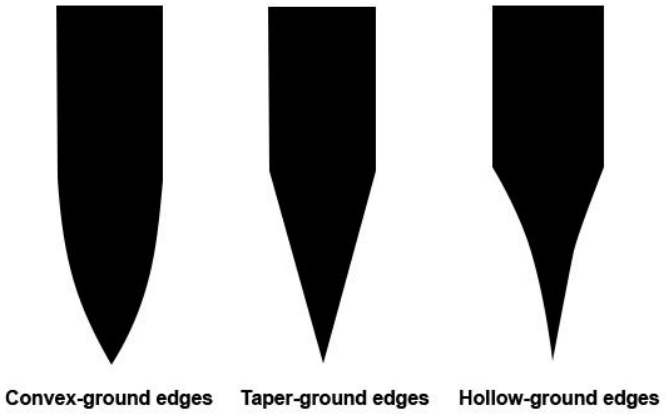
BLADE STYLES

There is a variety of blade styles, and they range depending on the shape, types of edge, and geometry. Below, you will find everything you need to know blades.

Edge Shapes

There are three possible edge shapes: taper-ground, convex-ground, and hollow ground. Each of them serves a different purpose and is found in different kinds of knives, as follows:

- **Taper-ground edges**: these are the most common ones. The distinctive V-shaped blade results from the fact that the blade tapers from the spine to the edge. They are sturdy edges and are commonly used in all-purpose knives, such as chef's knives, paring knives, and utility knives. Distal tapering is when the blades taper from the heel of the knife to the tip.
- **Convex-ground edges**: unlike the taper-ground edge, this one creates a broader area directly behind the edge because of the sides of the blade arc near the edge. Similarly to the taper-ground edge, these are sturdy too, and they are suitable for chopping through bone and similar heavy tasks.
- **Hollow-ground edges**: in this case, the grinding process begins at a lower point, usually a quarter to halfway down on the blade, resulting in a concave slope at the edge. This makes the edge very sharp in many cases. Such edges are found on slicing knives and on inexpensive ones.



Types of Edge

There is a variety of edge types out there, and each one serves a different purpose, as indicated below:

Fine edges: these are straight and uninterrupted from heel to point. They are easy to sharpen and make clean cuts.



Serrated and micro-serrated edges: these have saw-like teeth running along with them. They are mostly found on bread and tomato knives. The advantage they offer is that they need sharpening less often since they hardly ever come in contact with the board. When they do, however, they need to be sharpened using special tools, so taking them to a professional might be inevitable. Otherwise, you can replace the knife when it gets dull, generally after 10 or 15 years, depending on the frequency of usage.



Serrated edge

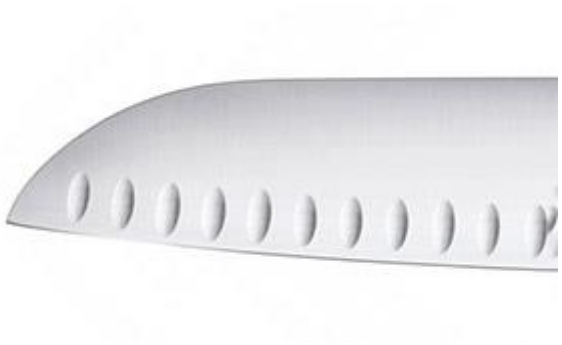


Micro-serrated edge

Scalloped edges: these are the exact opposite of serrated edges, in the sense that the arches bend outward from the blade. Properties and uses are similar to serrated-edged knives, but scalloped edges are less resilient to wear.



Granton edges: they feature hollows, called "grantons," ground on the side of the blade so that air pockets are created between the blade and the food and prevent it from sticking on the sides of the blade. They are most commonly found on knives used to slice meat or fish, while more recently, they have been added to chef's knives and Santokus.



Symmetric and Asymmetric Edges

At this point, special mention should be made of the distinction between Western and Japanese knives. Since in Japan, much of the food is consumed raw, Japanese knives are the sharpest ones on the market since this helps the structural integrity of the food remain as close to its original state as possible. The sharpness of the blade also helps cause less damage to the cells that hold the ingredients together and slows down the cell degradation that begins when the food is cut.

Having said that, it is important to explain that sharper edges are achieved by decreasing the angle of the edge. Western knives and Western-style Japanese knives are symmetrically double-beveled. In other words, the angle of slope is the same on both sides of the knife. This angle is typically between 20 and 30 degrees on each side in Western knives. In Western-style Japanese knives, however, this angle is reduced to 10 to 20 degrees per side.

On the other hand, Japanese knives are traditionally asymmetrically single-beveled, which means that one side is either flat or slightly concave, while the other has a beveled edge of between 10 and 20 degrees that slopes down from the side of the blade. Such knives are typically used for sashimi and similar preparations. There are also asymmetrically double-beveled knives, featuring different size bevels on either side of the blade, with the rations being 70:30 or 90:10.

Note: Although there are knives for both right-handed and left-handed people, the latter is more expensive, since they are used by only 10% of the population. Therefore, many apprentice chefs learn to use their right hand when cutting until they can afford left-handed knives.

KNIFE HANDLES

The handle has a lot to do with how the knife balances in your hand. You must feel comfortable, and there is also a variety there.

Wood

Wood handles provide an excellent grip but require more maintenance than a plastic or stainless steel handle. Critics argue that wood-handled knives absorb microorganisms.

Tip: Never submerge wood-handled knives in water and rub the wood occasionally with mineral oil.

Wood Handles Infused with Plastic

A combination of the best attributes is wood handles and molded plastic handles. They have an excellent grip but do not require the maintenance of all wood handles require. They are also not as porous as wood-handled knives preventing the absorption of microorganisms.

Molded Plastic or Composition

Molded plastic handles are much easier to care for than wooden handles. They will not absorb debris and microorganisms and can be easily cleaned. Critics argue that handles made with molded plastics become brittle over time and can become slippery in the hand.

Stainless Steel

Metal handled knives last longer and adds weight to the knife. Critics argue that they become slippery in the hand.

Other handles types



MULTI-PURPOSE KNIVES

The following descriptions and images of different varieties of knives are general examples only. Although the basics of each knife style are the same, manufacturers have many variations of how each type of knife should look and which are suited for each purpose.

Chef Knife



Also called a cook's knife, this all-purpose kitchen knife is used for most types of chopping, dicing, mincing and slicing.

Chef's knives come in various lengths of 6, 8, 10 and 12-inches. The length of the knife you purchase is significant. The longer the knife, the heavier and more difficult it will be to handle. Small-handed cooks should choose a shorter blade while large-handed cooks will prefer longer blades.

Carving Knife



A knife with an eight to 15-inch inch blade is used for carving large roasts poultry and filleting large fish. The blade edge of a carving knife is either smooth or beveled. The blade should be large enough to carve across the cut of meat, poultry or fish in one sweep. The blades vary in flexibility. A carving knife with a rigid blade is used for slicing roasted meats, more flexible blades are for poultry, and the most flexible blades are for slicing smoked pork and fish. Carving knives are often sold in sets with a carving fork. A carving fork is designed to hold the meat steady while slicing and keep the hand safe while cutting. These forks typically have two long, curved prongs. Some manufacturers refer to carving knives over nine inches as slicers.

Paring Knife



This type is a small knife with a sharp blade that is generally three to four inches long. It is easy to handle and works well for peeling and coring foods. The blade is typically thin and narrow and tapers to a point at the tip.

Serrated Knife



A serrated knife has a sharp edge and saw-like notches or teeth. The blade of a serrated knife is 5 to 10 inches long. Serrated knives are difficult to sharpen; therefore, many chefs spend less on serrated knives and buy new ones more often.

A serrated knife with a long blade is used to slice through food that is hard on the outside and soft on the inside, such as slicing through the hard crusts of bread. A serrated knife with a short thin blade is intended for slicing fruits and vegetables.

Utility Knife



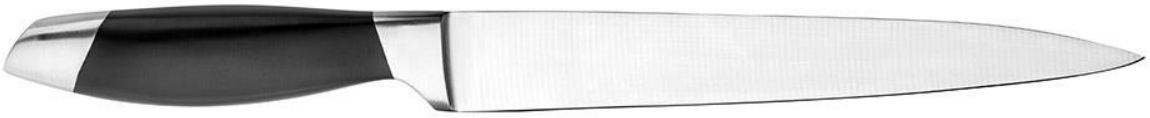
A small lightweight knife, which has a blade that is generally four to seven inches long, is used for miscellaneous light cutting such as fruits and vegetables.

Boning Knife



A knife with a thin short blade, typically five or six inches long, is used to remove the main bone within a cut of meat, such as a ham or a beef roast. A boning knife will typically have a long narrow blade for ease of manipulation around the bones. The blade is rigid and proportioned to the size of the bones being removed. Bigger cuts of meat require a larger, more rigid blade that will not be too flexible and cause injury if it bends too easily, while smaller meat cuts can be trimmed and boned using a smaller, less rigid blade.

Fillet Knife



A knife consisting of a thin flexible blade, typically six to eleven inches long is used for filleting fish. The narrow blade enables the knife to cleanly move along the backbones of the fish, in and around areas adjacent to bones and to evenly slice along the skin, removing it easily from the flesh.

Cleaver Knife



A cleaver is a knife with a wide rigid blade approximately six inches in length, which tapers to a sharp cutting edge. This tool is used to chop, shred, pound, or crush food ingredients and materials. The blade of the cleaver is thick, somewhat heavy and well-balanced with a beveled cutting edge which allows for ease of chopping through vegetables or materials as hard as bones. The flat blunt side of the blade can be used to pulverize meat. If the handle is flat on the end, it may be used to crush seeds, garlic, or other similar ingredients. A hole is typically provided on the top end of the blade to allow for ease of hanging this tool.

Santoku Knife



A type of knife commonly used to prepare ingredients for Asian food dishes, a Santoku knife is very similar to a chef's knife. The main difference is that the Santoku knife has a wider blade that is thinner in thickness, shorter in length and curves up very gradually at the end providing a straighter cutting edge.

Constructed of stainless steel, this knife will typically be expensive to purchase, since it is precision made to be well-balanced and well-formed for ease of handling and greater control. With a thinner

blade than a chef's knife, the Santoku can cut smoothly and more precisely through dense vegetables, which may have a tendency to provide more resistance when using thicker width blades. Versions of this knife are manufactured with either a standard-edged blade or a hollow, ground edge, also known as a Granton edge. The purpose of the Granton-style blade is to assist with keeping particles from sticking to the knife-edge as it chops small bits of food and is a friction reducer to provide less drag when chopping, which enables easier and faster motion. Santoku knives are used for chopping, dicing and slicing foods into narrow or fine pieces.

Steak Knife



A knife used for cutting main courses such as steak and chicken. The knife usually has a blade that is four to six inches long and varies in thickness. Depending on the manufacturer, the blade may or may not be serrated.

SLICING KNIVES

Slicing knives (aka carving knives) are meant for making clean slices with a single stroke. They are long and thin, usually between 8 to 12 inches (20 to 30 cm) in length. There are different shapes and edges to choose from based on intended usage, with the generic slicing knife, or Sujihiki for Japanese chefs, being the most utilitarian.



A meat fork goes along with the carving knife to anchor the meat while you slice. Its other uses include lifting meat while cooking and swirling pasta while plating in restaurants.

Roast beef carvers (aka hollow-edge slicers) are large, hollow-edged slicers with rounded tips that are commonly used to slice large rounds of beef at buffet carving stations. The rounded tip came about as a safety precaution since these knives are so often used in buffets.

The salmon slicer or ham slicer, depending on where you're from, is the thinnest, most flexible slicing knife. It's used for slicing smoked salmon and prosciutto very thinly.

Meaning "willow blade" in Japanese, the **Yanagiba** has a single-beveled blade that is used for slicing sashimi. Considered to be the most essential knife for a sushi chef, these are usually 10 to 12 inches (25 to 30 cm) long, though they can be much longer.



There are many specialized variations on the Yanagiba. The thinner **Fugubiki** knife is for making slices of fugu (blowfish) thin enough to be able to see the plate's pattern through, the square-tipped Takobiki is for octopus, and the regionally-used Sakimaru Takobiki's tip is angled forward.



Steak knives are used while dining to cut meat and other foods that require an edge sharper than a butter knife. They are small enough to blend in with the other flatware and can have a serrated edge or a fine edge, the latter of which is more easily sharpened and makes cleaner cuts.



Bread knives are great for slicing anything with a hard exterior and a soft interior, like bread. They are typically 8 to 10 inches (20 to 30 cm) long with a serrated blade, though longer knives can be used in commercial settings. You may see them with an L-shaped (offset) blade to protect the chef's knuckles.



The **scalloped edge knife** of scalloped slicers is excellent for slicing as it provides a more edge surface than a fine-edged knife of the same length would. Since they don't have pointed teeth like serrated knives, scalloped slicers fall between bread knives and slicing knives.



Tomato knives are small, about 5 inches (13 cm) long, serrated, and great for slicing tomatoes.

Because tomatoes have a tough skin yet are soft on the inside, many people like to use a serrated blade to cut them. However, a sharp fine-edged blade will leave you with neater slices.



BUTCHERING KNIVES

When it comes to knives for butchering meat, poultry, and fish, you'll notice a big difference between Western and Japanese knives. Western butchering knives tend to be thinner, narrower, and more flexible than their Japanese counterparts.



Boning knives are meant for cutting around bones and between joints. They are usually between 5 and 6 inches (13 and 15 cm), which is on the longer side, and somewhat flexible. This blade is narrow and thin for excellent tip control while doing delicate work under silver skin and between muscles.



I recommend boning knives for meat and poultry, but for fish, Western chefs usually use an even longer and more flexible knife, the fillet knife. This knife is designed to cut as close to the bone as possible.

When it comes to cutting large pieces of raw meat, you'll want to use a **scimitar knife**. It is curved like the Middle Eastern sword of the same name, and typically 12 inches (30 cm) or longer.



The **meat cleaver** is great for chopping through bones and tendons. It's large, heavy, and rectangular, and has a convex edge. The side of the meat cleaver can be used for crushing ingredients like garlic.



The Deba is an extremely sharp Japanese knife used for butchering boneless meat and filleting fish. Its thick, stiff, single-beveled blade lets you cut very close to the bone and to cleanly remove the fillet in fewer strokes.

Kodeba translates to "small Deba" and is used for smaller fish.



For bone-in meat, Japanese chefs use a **Hankotsu**, a short, stiff, and narrow knife.



A **Garasuki**, which was developed in Japanese restaurants specializing in poultry, is a wider knife used for separating poultry meat and cutting through bone. This knife does not have a Western equivalent.



The all-purpose knife **Honesuki** is narrower than the Garawuki and wider than the Hankotsu. It is used for boning meat and poultry.



The **Maguro** is the largest, most impressive-looking butchering knife that Japan has to offer. In fact, it looks more like a sword! You can see these in action at the Tsukiji Fish Market in Tokyo, where they are used for their intended purpose of cutting up large tuna.



SPECIALTY KNIVES

Tourné Knife



Tourné Knife, Peeling Knife, or Bird's Beak Knife … Considered a type of utility knife that is used for many of the same tasks as the traditional paring knife. The bird's beak knife, which is also known as a "Tourné" knife, has a shorter two to the three-inch blade than a paring knife and is designed to curve upward on both the cutting edge and the top edge. It is a knife that is commonly used to make a type of cut referred to as the Tournée cut in vegetables such as carrots, potatoes or squash that is accomplished for purposes of food presentation. This cut is also known as tourné cutting or tournée cut. Bird's beak knives may also be used to slice soft fruits such as nectarines, plums, or peaches and for peeling skins or blemishes from a variety of

fruits and vegetables. It is a knife that is also used for cutting decorative garnishes such as rosettes in radishes or fluted mushrooms.

Mincing Knife

A knife that can be used to mince or cut foods into smaller bits for seasoning sauces, soups, salads, and other dishes. Mincing knives can be either single or double-bladed to cut a variety of foods into very small pieces. A mincing knife is also referred to as a Mezzaluna, Mezzaluna chopper, or Mezzaluna knife.



Double-Bladed Mincing Knife

Another version of a mincing tool is the rolling mincer or rotary mincer. This utensil consists of numerous circular blades close together mounted on a handle, enabling the user to roll the tool back and forth over the herb as the blades do the mincing.



Oyster Knife

A kitchen utensil that is used to pry open the hard shell of an oyster or clam in order to remove the meat. Typically, the knife will have a sharp, beveled blade that can be inserted into the tightly closed shell to pry the shell apart. The blade is then used to cut through the muscle and oyster membrane. A round shield is built into the handle in order to keep the knife and hand from going into or through the sharp-edged shell.



Devein Knife

A kitchen utensil that is used to remove the large vein that runs down the length of a shrimp. A fork can be inserted in the back of the shrimp to pull out the vein or a deveining knife can be used to cut a slit down the length of the shrimp. This tool is inserted at one end of the shrimp and then pushed up through the entire body to remove the vein and the shell at the same time.



Clam Knife

A kitchen utensil that is used to pry open the hard shell of a clam or an oyster in order to remove the meat. Typically, the knife will have a beveled edged blade that can be inserted into the tightly closed shell, twisting the blade to pry the shell apart. A round shield is built into the handle in order to keep the knife and hand from going into or through the sharp-edged shell.



Grapefruit Knife

A kitchen utensil that is made for ease of cutting the meat of the fruit away from the grapefruit skin when preparing a half grapefruit for serving. There are several varieties of this tool available, either single or double-bladed, each containing at least one serrated blade. The dual-bladed knives have serrated blades on each end of a handle placed in the center. The curved blade on one end is used for cutting the meat away from the outer skin. The second blade may consist of two closely aligned parallel blades or one blade with a slit in the center, each used to cut between the linings that separate the inner meat into sections. The grapefruit knife effectively serves a good purpose of separating the meat sections of grapefruits better than the average kitchen knife.



Cheese Knife

A kitchen utensil that is thinly shaped to cut easily through soft or hard-textured cheese. This knife may have a forked tip that is used as a lifter for pieces of cheese as they are cut. This knife may also be referred to as a forked-tip utility knife, which is used as a bar knife for cutting through citrus fruits or spearing garnishes for drinks as may be required for pickles, onions or maraschino cherries.



Chestnut Knife



A kitchen utensil that is used to score the chestnut prior to roasting. By carving a line, across or an X into the shell of the unroasted nut, it allows it to breathe during roasting and to resist exploding as the steam builds up. The chestnut knife is shortly shafted in order to keep the cut confined to the shell without going too deeply to pierce the inner skin. When preparing, place the nuts in a shallow pan and roast at 425 degrees for 30 minutes or slightly less. Following roasting, the knife can then be used to open the shell to remove the meat. To remove the nut, make a single score cut fully around the middle of the shell. The nut may stick to the skin but should be adequately separated to remove the nut easily.

Ceramic Knife



A knife with a blade made from zirconium oxide also referred to as ceramic zirconia, a very durable and hard substance that is only slightly softer than the hardness of diamonds. With a blade harder than steel, knives made from industrial ceramic do not easily dull and will maintain an exceptionally sharp edge before being required to be sharpened. Industrial ceramic, which is made by heating the base materials to exceptionally high temperatures, results in a substance that has a high degree of purity removing most of the impurities that make ceramic materials brittle.

Ceramic knives are excellent for slicing through a variety of foods, making thin slices an easy task. However, use on harder materials, such as bones and hard textured foods may result in chipped or broken blades, due to the hard and rigid blade materials that are not as flexible as more common metals. Also, if the blade hits or is dropped accidentally on a hard tile floor, part of the blade may chip, but it will not shatter. Factory repair of the blade is an option if the blade becomes damaged. Ceramic knives will not need sharpening as often as other metal knives but will require that the person doing the sharpening be qualified to sharpen ceramic materials.

Slicer Knife

A knife used to slice cooked meat. The blade is long, typically eight to 12 inches, with a round or pointed tip. Depending on the manufacturer, the blade may be flexible or rigid. Some manufacturers refer to slicers fewer than nine inches as carvers.



CARING FOR YOUR KNIVES

WHY MAINTAINING YOUR KNIVES?

There will come a time when your knives will not cut anymore. They will become dull, and therefore dangerous to use. Indeed, a well-sharpened knife will give you control. It will properly respond to the pressure you decide to apply. If you use a dull knife to cut through an apple, for example, you will use more pressure to go through the skin, and when the blade reaches the tender flesh, it will suddenly go through, and that is a situation where you might cut and hurt yourself. Therefore, it is very important to maintain your knives.

What is the difference between honing and sharpening?

- Honing is maintaining the edge.
- Sharpening is repairing the edge.

The edge of a knife is made of thousands of small teeth called burs. Those teeth evenly get bent. Honing the blade realign the burs. After a certain number of usages, honing won't be sufficient anymore. You will then need to sharpen your knife. Sharpening is a more radical process, as you are removing metal from your blade by grinding it away.

SHARPENING TOOLS

To sharpen your knives, you have a couple of options:

- You can take it to a store that will do it for you such as a gardening center or a knife store.
- You can do it yourself using a sharpening tool.

There are different types of tools that you can use.

Pull-through Sharpeners



This type of sharpener is for many a welcome substitute for a whetstone or sharpening steel because it holds the blade in place and ensures an optimal sharpening angle. To use, rest the sharpener on a flat surface, and pull the blade through in one smooth motion until it reaches desired sharpness.

When it has one pair of wheels, it is either coarse or fine.

When it has two pairs of wheels, one pair is coarse and the other one is fine.

To sharpen your knives, simply place your knife in the sharpener without applying pressure and pull the knife through to the tip. The weight of the knife will do the work.

If your knife is very dull, start with the coarse wheels and finish up with the fine wheels.

Electric Sharpeners



Look for a model that allows you to adjust the angle or that offers a choice of angles. Some models allow you to do two sides at a time. You use an electric sharpener in a similar manner to the pull-through sharpener. Be very careful in your choice of combination of coarse grinding wheels and high speed as you can damage knives beyond repair.

Sharpening stone

A finishing tool used to sharpen steel blades of knives and cutting utensils. Most often rectangular in shape, the sharpening stone may be one-half to several inches in thickness. Some common varieties include the whetstone or the carborundum stone.



Whetstones

Whetstones are sharpening stones used to grind the edges of steel implements, such as scissors, knives, and chisels.

There are 4 different categories of whetstones: oil stones, diamond stones, ceramic stones, and water stones. Mine is a water stone. It is called that way as it needs to be soaked in water for at least 10 minutes before use.



- A sharpening stone has two sides: One rough, one fine. The stone needs to first be soaked in water.
- Place the stone on a wet cloth to stabilize it. Then, holding your knife at a 20-degree angle to the stone, draw the entire length of the knife blade over the stone. Use your free hand to exert pressure on the blade firmly and evenly from tip to hilt.
- Turn the blade over and repeat the process, over and over at a 20-degree angle until the blade is very sharp. Always allow an equal number of passes for each side.
- After wiping the sharpened knife clean of any metal, use the steel to finish the edge. Holding the steel with your fingers safely behind the guard, repeatedly slide the knife from hilt to tip down one side, then the other, over the steel.

Carborundum Stone

A carborundum stone is an abrasive material made of silicon carbide that sharpens blades. Rectangular in shape, this stone often has a smooth and coarse side, referred to as a double-grit stone. The coarse side is used first and then the knife is finished by using the smooth side.



To sharpen the blade, one side of the blade is drawn straight across the flat surface of the stone. The knife is then turned over to the other side of the blade and the process is repeated. The coarse side enables the blade to be ground into shape fairly quickly while the smooth side adds a smoother finish and a sharper edge, eliminating minute rough edges.

Note: What is Carborundum: Carborundum is a trademark name of silicon carbide, an inorganic compound discovered in the 1880s by E.G. Acheson. Carborundum has a crystal structure like that of diamond and is almost as hard. It is used as an abrasive for cutting, grinding and polishing, as an anti-slip additive and as a refractory.

Sharpening steel

A tool generally made of steel that is used to hone knife blades and keep their edges straight in between sharpening. The tool can also be glass, ceramic, or diamond-impregnated metal.



HONING VS. SHARPENING

There will come a time when your knives do not cut anymore. They will become dull and if they are dull, they are dangerous to use. Indeed, a well-sharpened knife will give you control. It will properly respond to the pressure you decide to use. If you use a dull knife to cut through an apple, for example, you will use more pressure to go through the skin, and when the knife reaches the tender flesh, it will suddenly go through and that is a situation where you might cut and hurt yourself.



Therefore, it is very important to properly maintain your knives.

A sharp knife is a chef's best friend, and therefore it is helpful if you know how to sharpen kitchen knives. To keep them really sharp, you will need to care for them on a regular basis.

Difference Between Honing and Sharpening

In general, one will use the term "sharpening" when talking about knife maintenance, but there are actually two different terms that you should be aware of. Although used interchangeably, the action on your knife will be different if you decide to hone or to sharpen it:

- Honing is maintaining the edge.
- Sharpening is repairing the edge.

The edge of a knife is made up of thousands of small teeth, called burrs. These teeth eventually get bent. Honing the knife realigns the burrs. After a certain number of usages, honing will not be sufficient anymore; you will then need to sharpen your knives.

Sharpening is a more radical process, as you are removing metal from your knife by grinding it away.

STEELING IS NOT ENOUGH TO SHARPEN A KNIFE. ACTUALLY IT ONLY REALIGNS THE MOLECULES ON THE SHARPENED EDGE. AFTER SHARPENING WITH THE STONE, USE THE STEEL FREQUENTLY TO KEEP THE BLADE IN GOOD CONDITION.

SHARPEN A KNIFE WITH A STEEL

Honing Technique

Honing steel is also called sharpening steel. The naming is often a misnomer, because steel that hones may be called a “sharpening steel” in common parlance and vice versa.

This useful object, also known as a sharpening rod or butcher’s steel, is a special rod used to sharpen blade edges. Made of ceramic, steel or diamond-coated steel, a honing steel is held stationary at an angle while the desired blade is drawn diagonally across it five or ten times to enhance sharpness.

Depending on the material being used, steel can be either honing steel or sharpening steel. Read the label carefully to know more about the use of the specific steel that you possess.



Hold the honing steel tip up at a 45-degree angle.

Line up the spine of the knife with the handle of the steel.

The cutting edge of the knife should rest on the steel at the desired angle.



Pull the knife 2 to 5 times across and up the steel moving from heel to point.



Repeat the operation with the other side of the blade.

Wipe the blade of your knife with a clean rag before using it to remove any small metal parts that might result from the honing.

SHARPEN A KNIFE WITH A STONE

To keep your knives really sharp, you will need to care for them on a regular basis. The techniques of sharpening and steeling your knife are quite simple.

- A sharpening stone has two sides: One rough, one fine. The stone needs to first be **soaked in water**
- Place the stone on a wet cloth to stabilize it. Then, holding your knife at a 20-degree angle to the stone, draw the entire length of the knife blade over the stone. Use your free hand to exert pressure on the blade firmly and evenly from tip to hilt
- Turn the blade over and repeat the process, over and over at a 20-degree angle, until the blade is very sharp. Always allow an equal number of passes for each side
- After wiping the sharpened knife clean of any metal, use the steel to finish the edge Holding the steel with your fingers safely behind the guard, repeatedly slide the knife from hilt to tip down one side, then the other, over the steel

Steeling is not enough to sharpen a knife. Actually, it only realigns the molecules on the sharpened edge. After sharpening with the stone, use the steel frequently to keep the blade in good condition.

WASHING AND STORING KNIVES



To extend the lifetime of your knives, wash them by hand. Knives that are washed in the dishwasher are exposed to harsh detergents and scalding temperatures. Damage is likely to occur to the sharp edge of a knife if allowed to be thrashed around in a dishwasher.

Wipe knives clean immediately after use to prevent the discoloration of the blade. This practice will also help to prevent foods from hardening onto the blade, allowing for ease of cleaning.

Tip: Safely clean knives by laying the blade on a flat surface. Wipe one side with a wet cloth, turn and wipe the other side. Always use hot, soapy water to clean a knife that has been used to cut poultry, meat, and/or fish. If available, store knives in a wooden or polyethylene knife block. If one is not available, store knives in a sheath or at a minimum, keep them away from other utensils to prevent damage to the sharp edges.

Use a wood or polyethylene cutting board. Wood and polyethylene cutting boards create less resistance to the knife-edge than ceramic, metal or plastic cutting boards.

Tip: To prevent contamination, wash cutting boards with hot, soapy water immediately after use. Cutting boards should be sanitized by spraying the surface with a solution of bleach and water, letting it stand for a short time, then wiping it with a clean cloth.

ALL ABOUT CUTTING BOARDS

SETTING UP A CUTTING BOARD

There is nothing more dangerous than a cutting board that is not stable or is sliding around while you are chopping. Before using sharp knives on your cutting board, you have to make sure that that the board is safely in place.

Lightly dampen a kitchen towel and spread it out on the countertop where you will place your cutting board.

Position your cutting board on top of the damp towel. This will prevent the board from sliding."

CHOOSING A CUTTING BOARD

Corian® Boards

Made by the DuPont Company, these lovely boards are very easy to clean and are available in various sizes and in a myriad of colors. They are non-porous, which makes them more resistant to bacterial growth, and they will not easily stain.

Over time, these boards will suffer marks or cuts, but these can be repaired. Some colors can fade in direct sunlight, and they cannot be used as a trivet as heat can damage the surface. Their surfaces are hard against a knife's edge, and they do not make the chopping experience pleasant. Also, they tend to retain food stains easily.



Tempered Glass Boards

Glass boards are beautiful and patterned to suit every decor. They are very durable, resistant to heat, and are the most sanitary and easy to clean.



However, glass boards are the hardest on knife edges, and the sound produced by slicing on these boards can be aggravating. They are my least favorite cutting board, and I have tossed them away! They are usually heavier than other boards but are good for protecting your counter.

Plastic Cutting Boards

Plastic boards are generally considered the “safest” because they are the easiest to clean and sanitize, and the small ones can be placed in the dishwasher. Their surfaces are softer against the knife edge and make the chopping experience pleasant. While they retain food stains easily, such marks can be removed with a bleach solution.



Generally, plastic boards are the most affordable and can be found in various colors, hard or flexible, thick or thin. The flexible ones are terrific for food transfer and are easy to store. They will not last as long as thicker boards, as sharp knives will eventually cut through the thin material. Hard plastic boards are extremely durable and can also double as trivets.

Wooden Boards

Wooden boards are generally harder to clean and are not dishwasher friendly. They can suffer cuts and cracks which can harbor bacteria. Thus, they must be cleaned thoroughly.



Wooden boards are very affordable but large, thick maple boards can be expensive. Bamboo cutting boards are more expensive but have a longer lifespan.

Wooden boards used to be made of maple hardwoods which is why they are my favorite cutting board. Today, other woods and patterns are used. Bamboo, which is actually a grass, has become very popular due to its hardness and resistance to bacteria. The best feature of wooden boards is that they are the easiest on knife edges, and many people prefer the sound of chopping on wood as opposed to other types of materials. It makes the chopping experience pleasant and comfortable.

CARING FOR YOUR CUTTING BOARDS

Used Cutting Board



The old saying “when in doubt, throw it out” certainly applies for cutting boards. If you suspect that your board has too many deep cracks and cuts and sanitizing is not assured, it is definitely time to replace it.

- Regardless of the type of material, cutting boards should be washed in hot, soapy water immediately after use, and occasionally sanitized by adding chlorine to the water.
- Discard boards once they sustain cracks and cuts that can form a hiding place for raw food and bacteria, making them harder to clean completely.
- Avoid slicing foods with the same board and knife that was used earlier for raw food preparation. Change boards and knives to prevent contamination of other foods.
- After a good cleaning, ensure your boards are dried completely before storing.
- Use of the dishwasher is recommended for plastic boards only as wooden boards will tend to dry out and crack, reducing their lifespan.
- Always cut raw meats, fish and poultry on a board that is very easy to sanitize.
- Thick wooden boards could be resurfaced by sanding or thickness planning; however, ensure that any finish applied is deemed “food safe.” The same holds true for homemade wooden boards.

STOVETOP COOKING

SELECTING COOKWARE

Choosing the right cookware to fit your kitchen's needs is vital to the day-to-day operations of your restaurant. There are many different types of cookware to help you sauté vegetables, create a great soup, or roast the perfect main entree.

When selecting the cookware for your professional kitchen, you should take the following points into consideration:

- **Budget:** How much can you afford to spend on the pots and pans that you need? You should purchase the best quality that you can afford. It will be well worth it in the long run. Otherwise, you will find yourself replacing them in a short time.
- **Cuisine:** Will you be making a lot of pasta, soups, or stir fry? There are special pots and pans that assist in preparing these types of food.
- **Quantity:** How many guests do you expect to serve in your restaurant? Do you need to prep a large quantity of food in advance or do you prepare everything on-order?
- **Compatibility with induction:** It is essential that the cookware, or the new pans and pots that you buy, are compatible with the induction. It is also important that you check that the diameter matches the size of the cooking zone.
- **Weight:** Try all the pans and pans before buying them to check your weight. The weight will depend of course on the size of the item and the material it is made of. A heavier pan might be more durable, but will you be able to work properly with it (although you would probably get stronger and it will easier and easier as you get used to it).
- **Cleaning:** Easy-To-Clean cookware will help you easily remove food debris, without having to leave the dishes to soak. If it is also dishwasher safe, you will save this step.

The question is always price vs. durability. I know a Chef who, when he started, purchased a just few but high-quality pans. As soon as he made more and more money he invested in some more pans of the best quality. 15 years later, the restaurant is still running and he is still using the same pans.

It can be difficult to guess what makes a saucepan better than others, what you should look for and the difference in price. Never fear though, as help is at hand. We have put together a guide to explain the key things you need to know when looking for a new saucepan range, something which can be both a product which will last for years and a long-term investment.

COOKWARE MATERIAL

Cookware is made from many different materials. Understanding the differences will assist you in making the best choice for your needs. Some of the most common cookware materials are shown below with a description and pan care instructions for each.

Aluminum



Inside Coated with Stainless Steel Aluminum cookware is fairly inexpensive in comparison to cookware made from other materials. Aluminum is lightweight but fairly strong. It is a good conductor of heat and does not easily distort when exposed to high temperatures.

Aluminum works well for sautéing and frying foods because of its heat responsiveness. The drawback of aluminum is that it reacts to acidic and alkaline foods, causing it to corrode and affect the taste of the food being cooked. Aluminum is generally used as a core heat conductor, or coated with stainless steel or an anodized coating to protect the food.

Pan Care: To care for aluminum cookware, wash the pans with hot soapy water. Avoid washing the cookware in hard water because it tends to darken the aluminum. To remove stains, use a paste made of cream of tartar and water.

Anodized Aluminum



This is aluminum that has been given a special finish to protect it from corrosion. It is a good conductor of heat and the special finish makes it stick-resistant. It is a good choice of material to look for in pots and pans for most any type of cooking. Pots and pans made from anodized aluminum are not dishwasher safe and can be dark in color, making it hard to see slight color changes in the food being cooked.

Pan Care: To care for anodized aluminum pans, do not cook foods that are highly acidic or alkaline in them because they have a tendency to cause pitting in the coating. They should be washed by hand in hot soapy water rather than in a dishwasher where the strong detergent would damage the surface of the cookware. To avoid scratching the finish, do not use abrasive materials on the surface of anodized aluminum cookware.

Cast Iron

Cast iron cookware is inexpensive to moderately priced products. It is fairly heavy and conducts heat evenly. It heats slowly but once it is hot, it holds the heat well. This makes it good for deep frying and slow cooking. It can be used on top of the stove and in the oven. Drawbacks to cast iron are that it rusts, stains and becomes pitted when exposed to air, moisture and certain foods.



Pan Care: To care for cast iron cookware, do not wash in soapy water but try wiping clean with a paper towel. Run hot water over food that is stuck to help loosen and remove it. After your cast iron pot has been washed, it should be dried thoroughly. To prevent the pan from rusting, rid it of any excess moisture by setting it on the stove over high heat until all moisture has evaporated and coat with oil before storing.

Lined Copper



Copper is one of the more expensive materials used to make pots and pans. It conducts heat evenly and is very responsive to heat. It heats up quickly and will also cool down quickly when removed from the heat, preventing sautés and delicate foods from burning and becoming overdone. Because copper distributes heat so evenly and efficiently, it is the best choice for frying and sautéing, but it is also a good choice for many other cooking methods. One problem with copper is that it interacts with everything it comes in contact with. Moisture in the air causes it to form a film on it that is poisonous and salty food causes a chemical reaction that can make food acquire a metallic taste. To make the copper pots and pans safe to use, they are lined with tin, silver or stainless steel to protect any surface that would come in contact with any food. Because copper reacts to everything it touches, it needs to be polished regularly to keep its bright copper shine.

Pan Care: To care for copper cookware, hand wash with hot soapy water and avoid using abrasive materials to clean. Use copper polish to keep copper from tarnishing and free from white spots. The interior should be re-tinned every couple of years, depending on usage.

Non-Stick

These pots and pans have had a coating applied to them that prevents food from sticking and makes cleaning up easier. The non-stick surface is really an advantage when cooking some foods, such as omelets, and when reheating sticky foods such as rice. It also reduces the amount of fat that is normally required when cooking. The non-stick surface is less efficient when using certain cooking methods, such as sautéing, because the coating interferes with the transfer of heat from the underlying pan.



Pan Care: To care for non-stick cookware, use hot soapy water and avoid using abrasive pads or powders. If food does stick to the pan, soak in hot water to loosen food that is stuck. A nylon scouring pad, nylon scraper, or nonabrasive cleaner can also be used to help remove food that is stuck. Do not wash in a dishwasher. Also protect the non-stick surface by only using wooden, plastic, or coated or wooden spoons, spatulas, and ladles when cooking.

Porcelain Enamel

Porcelain enamel is applied as a coating only on pots and pans made of other materials, such as cast iron or aluminum. It prevents them from corroding or reacting with the food being cooked. A pan coated with porcelain on the inside cannot be used for sautéing or frying but will work as a saucepan and can be used in the oven.



Pan Care: To care for porcelain enamel cookware, wash with hot soapy water. For food that is stuck, soak in hot water to loosen. A nylon scouring pad, nylon scraper, or nonabrasive cleaner can also be used to help remove food that is stuck. Porcelain enamel can be cleaned occasionally in the dishwasher unless it has a non-stick interior surface. Limit the use of a dishwasher to avoid the strong detergent dulling the enamel surface.

Stainless Steel



Stainless steel cookware is moderately priced. It is the most versatile material to use because it keeps its bright shine and has good tensile strength, preventing it from denting easily. Stainless steel is a good material for any type of pan because it does not corrode and does not react with alkaline or acidic materials. The one problem with stainless steel is that it does not conduct heat well. To combat this problem, pots and pans made from stainless steel should have a thick aluminum or copper core in the bottom of the pan to help conduct heat more evenly and make the pan more responsive to heat. In the better quality pans, the aluminum or copper core also runs up the sides. You may find a stainless steel pan with an aluminum or copper plate on the bottom but if the plate is not thick enough, it will not do an efficient job of conducting heat evenly.

Pan Care: To care for stainless steel cookware, wash with hot soapy water. A nylon scouring pad or nylon scraper can be used to remove food that is stuck. There are stainless steel cleaners that can also be used to remove stains and bring a shine back to the cookware. Stainless steel cookware can be washed in the dishwasher but the high temperatures in the drying process can cause water spots. To avoid water spots, remove the pan from the dishwasher before it is dry and wipe with a soft cloth.

Tempered Glass

Available as flameproof and ovenproof glassware. Both types of glassware hold heat well but are not heat-responsive. The flameproof glassware, which is fairly expensive, can be used in the microwave, on the stovetop, and in the oven. It heats unevenly, resulting in hot spots that cause food to stick. Ovenproof glassware can be used in the microwave and in the oven, but if used on the stovetop, it must be used with a diffuser.



Pan Care: To care for tempered glass, wash in hot soapy water and soak to loosen food that is stuck. Do not use metal scrapers or abrasive powders to remove food that is stuck. Tempered glass cookware is dishwasher safe.

TYPES OF COOKWARE

There are many types of pots and pans available for different cooking methods. Many of these types can be used for more than one method. Shown below are some of the different types of pots and pans and a brief description of each:

Braiser Pan

This is a round or oval-shaped pan with two stay-cool handles and heavy domed cover. This is a heavyweight pan made of anodized aluminum or stainless steel. Both types of material contain an aluminum or copper core layer in the middle that runs all across the bottom and up the sides, which spreads heat evenly through the pan. Braising pans can be used on the stovetop and in the oven. It is important that the cooking vessel has a tight-fitting lid so that the liquid does not evaporate. They are available in depths ranging from 2 to 3 inches and in various sizes ranging from 10 to 13 inches in diameter or 2 ½ quarts to 6 quarts. This pan could also be used as a casserole pan.



Broiler Pan

Cookware is used to broil foods in the oven such as steaks, roasts, or various cuts of meat, poultry, and vegetables. It is typically constructed of stainless steel or heavy gauge steel with black porcelain enamel. Broiler Pans consist of two sections, a low-walled pan section and an upper cooking surface that is the broiler plate lid. The cooking surface or lid, which contains open slits and small holes, holds the food as it broils while the pan below catches the drippings. Since the lid has only minimal openings, it keeps the hot grease and drippings contained within the pan so they do not flare up and burn the bottom of the food as it broils. This pan is also known as a broiler roaster, oven roaster or oven broiling pan.



Casserole

This is a round or oval pan with steep sides, which ranges in size from 2 quarts to 12 quarts. The casserole pan can be made from many different materials. It is available in the same high-quality materials as a saucepan or you may find it made in glass, ceramic or earthenware. It may have a cover but the cover is not used when cooking the food in a casserole very often. Depending on the material it is made from, it may be used on the stovetop but is generally used in the oven. It is used for cooking one-dish meals and the meal is served at the table in the casserole pan.



Chef's Pan

A medium depth pan that generally has flared or rounded sides but is sometimes found with straight sides. It has a flat bottom and wide mouth, which accelerates the evaporation of liquids. A chef's pan most often will have a long handle and a tight-fitting cover. It is made of metal with a thick ground base that allows temperature changes to occur rapidly as the level of the heat applied to it changes, either increasing or decreasing for the best heat conduction. Chef's pans are available in a variety of sizes such as 2, 3, 4, 5, or 6-quart pans. The height of the sides makes it easier for sautéing, frying or steaming greater amounts of foods, allowing sufficient space



for turning and stirring of the contents. Chef's pans are very similar to saucier pans and either pan can be used interchangeably.

Chestnut Pan



Made in the shape of a wide-walled pan or a skillet, this roasting utensil is designed specifically for heating the large, brown-shelled variety of chestnuts over a stove or heat source such as fire, gas or hot coals. Roasting chestnuts over an open fire is best accomplished with a long-handled roasting pan or basket made from steel wires like a steel cooking basket, while the deep-walled or skillet-like pan is best for coal, gas or electric heat. Formed with large-sized holes in the bottom, the Chestnut Pan allows the heat to have greater exposure to directly heating the chestnuts in its shell allowing it to be cooked evenly.

Double Boiler



A double boiler consists of two pans where one sits inside of the other. The bottom pan is slightly larger so the top pan can fit inside. The bottom pan contains hot water and the top pan holds the ingredients that are being cooked. This type of pan is used when making delicate sauces that have a tendency to separate if cooked on direct heat. Double boilers are often made from stainless steel, but can also be found to be made from other materials, such as enameled steel, aluminum, and glass.

Dutch Oven



This is a round or oval, heavyweight pot with a domed cover. A Dutch oven has steep sides that range in depth from 2 to 4 and 3/4 inches and range in size from 2 quarts to 6 quarts. You will find them made from stainless steel, anodized aluminum, and cast iron. They are used for pot-roasting, stewing, braising, boiling pasta and making soup. They can be used on the stovetop and in the oven. Dutch ovens are a popular cookware item used when camping. Some cast-iron models have legs, making it easy to set the pot over coals or a campfire.

Fondue Pot

A type of cookware that consists of a pot with a heat source such as a portable cooking fuel or an electrical heating element placed directly below the pot that is used for a food preparation process known as fondues. The pot may be filled with cooking oil, wine, cheese, chocolate, or other ingredients depending on the food to be prepared. The heat source melts or fully warms the contents so that food can be dipped into the pot and either cooked or coated with its contents. Typical foods that are dipped in fondue pots are small pieces of toast, bread, meat, fruits, or vegetables. They are dipped into the contents of the fondue pot and eaten as an appetizer or as part of a meal. The word fondue is a French term meaning “to melt.”



Frying Pan / Skillet

A frying pan has a flat bottom with short sides that are flared or sloped, which makes it easier to toss and turn food with a spatula. The pan should be made of a heavyweight material that is responsive to heat, such as lined copper, stainless steel with a copper or aluminum core, anodized aluminum or cast iron. There are also frying pans available with non-stick surfaces. It is used for frying foods but can also be used for sautéing. Frying pans are available in several sizes, such as 6 ½”, 7″, 8″, 9″ 10″, 11″, 12″ and 14″. They are available in depths of 1 ½” to 3″ and generally come with a cover.



Glass Baking Pan

A baking pan made from tempered glass. The glass may be flameproof or ovenproof and is available in square and rectangular shapes of various sizes. The flameproof glassware, which is fairly expensive, can be used in the microwave, on the stovetop, and in the oven. Ovenproof glassware can be used in the microwave and in the oven, but if used on the stovetop, it needs a diffuser. The glass baking dish is used to bake fish, meats, casseroles, vegetable dishes, bread, cakes, and other desserts.



Gratiné Pan

This is a type of bakeware that is used to make traditional French food that has a brown crispy top crust. The dish is most often a shallow-sided container that is oval in shape, however, it can also be round with sides that are deeper than the oval-shaped pan. Made from aluminum, steel cast iron or stoneware, the Gratiné Pan allows the food to cook evenly and in the same amount of time as it takes the crust to brown. Often made as a casserole, a potato dish or a vegetable dish, a Gratiné is browned under a broiler oven to produce the golden tan crust that represents the key element of this food. Gratiné is also known as au gratin.



Flat Iron Grill Pan & Skillet Grill Pan

This is a heavy metal pan that consists of ridges spaced evenly across the bottom that closely simulate the grilling process when cooking various meats and foods. They are available with shallow sides and with deeper sides similar to a frying pan. The ridges raise the food of the bottom surface of the pan, which helps prevent the food from steaming as it cooks. The ridges also serve as a method for allowing the fat contained in some foods to drain away from the food and collect in the spaces between the raised ridges. Many grill pans are made from cast iron. Cast iron needs to be seasoned, but there are manufacturers who produce enamel surfaced and factory seasoned cast iron grill pans.



Cast iron pans are also heavy and the handles get extremely hot, making them hard to handle. Even though cast iron is bulky, it is still the best material for a grill pan because of its ability to retain heat and to heat evenly. They are available in round, square and rectangular shapes and range in size from 9 to 12 inches. There are also double burner sizes available.



Meatloaf Pan

Constructed like a traditional loaf pan, this type of pan is made to allow fat and drippings to be removed as the loaf bakes. They are made as two separate pans, one fitting within and above the bottom or base pan. As the food bakes in the upper pan which contains numerous holes, the grease and fat drop to the bottom pan positioned beneath the upper pan. The removal of the drippings may produce a slightly drier result as the meat cooks, but it does eliminate meat sitting or soaking in grease and fat as it bakes. This pan is also referred to as Lo-Fat Loaf Pans.



Omelet Pan

An omelet pan is basically the same as a frying pan. It is available made from the same type of material as frying pans and generally has the same shape. An omelet pan with a non-stick surface is beneficial when making omelets because it allows the eggs to be released from the pan, making it easier to turn or flip. The omelet pan is also available as an oval-shaped pan that is generally 10 to 12 inches long. The oval pan works well for cooking foods such as omelets, fish filets, and shell steaks. The most common sizes for round pans are 8, 10 and 12 inches.



Paella Pan

This is a cooking vessel that is used to prepare the famous Spanish rice dish, Paella. The pan is a large diameter, a shallow skillet-like pan that may be made from cast iron, enameled metal, or brushed aluminum. Some pans may have higher sides resulting in a deeper pan, but the traditional pans are approximately 14 to 16 inches in diameter and have the appearance of a medium to a large skillet with a shallow depth. Most Paella pans have handles on either side.



Roasting Pan

This is a rectangular-shaped pan with low sides, which allows the heat from the oven to expose the entire surface of the meat to create a browned exterior. The pan is generally used with a rack to prevent the meat from sitting in its own juices and stewing instead of browning. There are several sizes available. Select a size that allows approximately 2 inches between the side of the pan and the meat. Also, be sure that there are at least 2 inches of space between the outside of the pan and the sides of the oven so that there will be proper air circulation. The roasting pans are available made from several different materials, such as stainless steel, stainless steel with an aluminum or copper core, aluminum with non-stick surfaces, anodized aluminum, lined copper and granite.



Roasting Pans with High Cover

This is an oval-shaped pan with deep sides and a large domed cover. It generally has a flat rack included on the bottom of the pan. They are available in several sizes and materials, such as granite, anodized aluminum, and stainless steel. The meat is cooked with the cover on, which acts as an oven in an oven, resulting in the meat cooking more quickly and in a moister environment. This results in moist, tender meat. The deep-sided roasting pan, generally without the cover, is also used for casseroles.



Saucepan



This is a round pot with high straight sides and a flat bottom that is used for several purposes, such as cooking vegetables, heating soup, and making sauces. The standard saucepan has straight sides but there are other styles available that are used for special purposes. A saucepan known as a Windsor, has sides that flare out and another known as a saucier has sides that are rounded. They are used to provide more exposed surfaces to speed up reducing a sauce by allowing more evaporation and they make it easier to stir and whisk food out of the corners. Saucepans are made of a sturdy material that is heat responsive, such as lined copper or stainless steel with an aluminum or copper core or bottom plate. They are available in several sizes. A small saucepan holds 1 to 1 ½ quarts, a medium holds 2 quarts, and a large saucepan holds 3 or more quarts. Most saucepans come with a snug-fitting cover.

Sautéing Pan



This is a pan very similar to the frying pan, only it has short, straight sides. It has a heavy gauge bottom and is made from a material that is heat responsive, such as lined copper, stainless steel with a copper or aluminum core, or anodized aluminum. It is used for sautéing foods but can also be used for frying foods. The pan should have a long handle and it generally comes with a cover. Some of the larger models have a loop handle opposite the long handle that is used to assist in lifting the pan. The sauté pan is available in various sizes, ranging from 6″ to 16″ in diameter and 2 ½” to 3 ½” in depth.

Sauteuse Pan



This is a round, lidded pan with small handles that is often used to sauté or braise a variety of foods. With short to medium height outward sloping sides, a sauteuse pan is a utensil for cooking casseroles, stews, and pasta dishes as well as meat and poultry dishes. Common in European households, this pan has a small curved handle on each side instead of a single straight handle and is typically available in sizes ranging from 2.5 quarts to 7 quarts.

Stir-Fry Pan



A round, deep-pan that may have straight sides with a slightly rounded base or more commonly a round base that slopes out and upward. Stir fry pans are available with several different-sized handle lengths that can be selected to match the cooking process. The pan allows heat to be well distributed across the base while the sloping sides make it easier to stir and turn ingredients as they cook. The Asian pan referred to as a “wok” is one traditional type of stir-fry pan while other versions are often available with bases and sides that are thicker in substance, not as curved, nor as deep as the wok pan. Stir-fry pans are often used to prepare and quickly sear multiple ingredients that go well together including various meats and vegetables mixed with sauces. The stir-fry pan is good for cooking food in a small quantity of oil and for retaining the colors and textures of the various ingredients.

Stock Pot



This is a deep, straight-sided pot that is taller than it is wide. It has two, securely attached, loop handles that are big enough to easily allow the use of potholders or oven mitts. It is used for simmering large amounts of liquid, such as stock, soups, and stews, but also works well for thick soups, chili and for boiling pasta. The pot does not need to be made of anodized aluminum or copper to promote a responsive heat reaction but should have a heavy bottom to protect against burning and scorching. Stockpots are available in sizes ranging from 6 quarts to 20 quarts and generally include a cover. Pots that are 10, 12 and 14 quarts are standard sizes that will satisfy many uses. You will find stock pots made of several different materials, such as stainless steel, aluminum, anodized aluminum, copper, and non-stick materials.

Pasta Insert

A perforated insert that fits inside a stockpot. The insert acts as a colander for draining pasta and is generally made of stainless steel.



Wok



A bowl-shaped pan that is used to quickly cook food over high heat. It is available with a rounded or flat bottom. The traditional type wok has a rounded bottom and is used over a flame heat source, such as a gas burner. The flat bottom wok was designed to be used on an electric burner or a ceramic stovetop but can also be used on a gas stove. The rounded woks come with a ring that should be placed over the flames to hold the wok steady. Woks are available made from various materials, such as carbon steel, cast iron, stainless steel with aluminum inner layers, and metal with a non-stick coating applied. Cast steel and cast iron woks must be seasoned before they are used for the first time. Some varieties of woks have one long handle, some have two short handles and others have a long handle on one side and a short one on the opposite side. The wok is approximately 4 inches deep and can be 12 to 16 inches in diameter. The wok is most often used for stir-frying but can also be used for sautéing, steaming, deep-frying.

MICROWAVE COOKWARE

Cookware for the microwave is different than other cookware. Most cookware that is used on the stovetop or in the oven cannot be used in a microwave oven. Microwave cookware is generally made from glass, ceramic or plastic and not all glass, ceramic and plastic containers are microwave oven safe. If a container is not microwave safe, it can heat up in the microwave and become a safety hazard.

Most plastics work well in the microwave oven, but not all. If their label indicates that they are able to withstand boiling water and if it states that they are dishwasher safe, they should be able to withstand the heat from the microwave. Glassware for the microwave should be heat-resistant. Non-heat-resistant glass cannot withstand the high and uneven heat from the microwave.

Ceramic cookware should be unglazed. Glazed ceramic absorbs the microwave energy too quickly, which can cause it to break or become heated to a high temperature. The best style of microwave cookware to use is a dish that has shallow sides and is round or oval in shape. There are microwave cookware sets available that contain different size and shape containers that are suitable for the microwave.

Note: To test a dish or container to see if it is microwave safe, fill a 1-cup glass measuring cup with water and place it next to the dish or container in the microwave. Start the microwave on high power and run for 1 minute. After a minute, check the water and the container you are testing. The water should be hot but if the container is also hot, it is not microwave safe!

Can you microwave Styrofoam?

In the case of plastics, it's said that some types can be manufactured in a way that allows for usage in a microwave oven. Styrofoam is a type of plastic which is argued to be among those **that are not normally microwave-safe**, but that can be manufactured for microwave use as well, so check the label on the packaging and look for a microwave-safe symbol. If any doubt, don't use it in a microwave oven.

COOKWARE ESSENTIAL SET

Cookware Set

You can purchase prepackage sets of cookware where the different pieces have been selected for you. You can generally gain some cost savings when buying the pieces in a set over buying them separately but be careful that all the pieces are pots and pans that you will use.

It should include a saucepan and lid, a frying pan and a stockpot. A roasting pan would be another worthwhile piece in the set. Sets are available in different size groupings. If purchasing a set, select the best one possible for the amount you have allocated by paying close attention to the quality of the pieces and to what kind of pieces you are getting in the set. If the set has several pieces that you will hardly ever use, it may make more sense to purchase one of higher quality that has fewer pieces that are all commonly used.

You will also want to select a set that is made from a material that is versatile enough to use for different cooking methods. Stainless steel with a copper or aluminum core or bottom plate would be a good choice. Anodized aluminum cookware would also be a versatile choice.

If a cookware set will not give you the essential pieces for most of your cooking needs, consider buying separate pieces of basic pans that you might need. There are four basic pans shown below that will satisfy the majority of your cooking needs.

Saucepan

Purchase a 2-quart (1 quart = 946 mn) saucepan, which can be used for making sauces, reheating soups, pasta, and rice. A stainless steel pan with an aluminum base, which would be moderately priced, is a good choice.



Frying Pan / Skillet

A 12-inch pan would be a good size to be used for several purposes, such as frying meats, potatoes, pancakes and eggs and can also be used for stir-frying, sautéing and making one-dish meals on the stovetop. It should be purchased with a cover and be made of stainless steel with a copper or aluminum core, or a non-stick aluminum pan with a non-stick coating that would provide a pan with an easy facility of cleaning up and one that requires the use of less fat.





Roasting Pan

A roasting pan, which should be purchased with a rack, can be used for roasting meat and poultry. It can also be used to make one-dish meals that bake in the oven, such as Lasagna. An aluminum pan with a non-stick coating would provide a pan that is lightweight, heats evenly and is easy to clean.



Stock Pot

This is an 8 to 12-quart size pot that would be a good standard range of size for a pot that can be used for many purposes, such as making stock or soup, boiling long strands of pasta, cooking sweet corn and boiling seafood. For a moderately priced pot, select a stainless steel pot with an aluminum base, which will provide you with a pot that will conduct heat evenly.



OVEN COOKING

TYPES OF ROASTING RACKS

There are various types of racks available and they are generally made from stainless steel or a non-stick coated metal, which makes cleaning up a lot easier. You may want to have a couple of different types because some racks work better for different uses. Be sure it is big enough and sturdy enough to hold the piece of meat you will be cooking and that it fits into your roasting pan. When placed in the oven, there should be at least a 2-inch space between the meat and the top of the oven. A brief description of the most common type of racks is shown below:

Flat Roasting Racks

This is a simple rack that lays flat in the bottom of the roasting pan. It is available in a rectangular or oval shape and is made of thin wires running parallel to each other through the length of the rack. It will have a couple of wires running at a right angle to help support the parallel wires. It does not work well for poultry because the legs and wings have a tendency to fall through the wires.



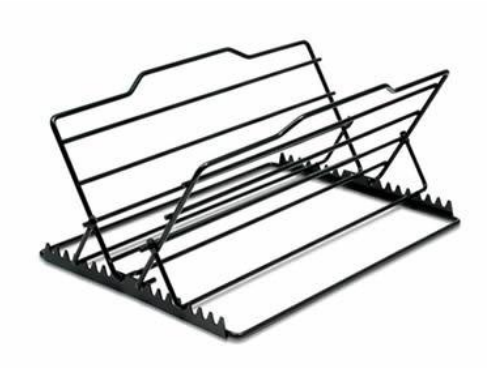
Non Adjustable V-Roasting Racks

Made of v-shaped pieces of metal that are attached to a frame that has handles on it. This rack works well to cradle the roast or bird and hold it in place, but because the metal bars are generally so far apart, the wings and legs of a bird fall through. This makes it difficult to turn the bird if necessary or to remove it from the rack without tearing the wings and legs.



Adjustable V-Roasting Racks

This V-rack has two sides made of thin wires attached to a base. The sides can be adjusted to change the width of the V shape that they form. This allows you to better fit the rack to the meat you are placing on it. A problem may occur if you have to turn the roast or bird on the rack because the rack has a tendency to collapse.



Vertical Roasting Racks

This type of rack has vertical prongs that are attached to a round base. The prongs are inserted in the cavity of the bird and it is cooked looking as if it is standing up. The wire prongs inserted into the bird help to speed up the cooking time by conducting heat into the bird. Roasting the bird in this manner also provides a crispier skin but it also makes more of a mess in the oven because you have fat splattering in all directions. The other problem with this rack is that it can only be used for chickens or other birds of that size.



Basket Roasting Racks

A U-shaped piece of perforated metal that has a handle on each end. The rack resembles a basket. The U-shaped rack cradles the meat and when used for a chicken, it holds the wings and legs next to the body. It produces the crispiest skin on a chicken due to its ability to conduct heat. It is sometimes referred to as a cradle roasting rack. This rack only works for small birds and roasts that are 5 pounds or smaller.



BAKEWARE PAN SIZES

When you are preparing to create a recipe that requires the use of bakeware, you should first determine whether you have the proper sized pan. There are many different types of bakeware, such as round pans, square pans, rectangle pans, tube pans, bundt pans, jelly roll pans, loaf pans, springform pans, roasting pans, and casseroles. Your recipe will suggest that you use a certain size and type of pan. If you do not have the pan that is requested, you can generally substitute a similar size pan without any problem.

The information below will help you make the appropriate substitution:

Select a pan that is as close to the same size as the pan indicated in the recipe. The pan should have approximately the same volume capacity and when filled, the ingredients should be close to the same depth as they would be in the original sized pan. To find the surface of a pan uses the equations below:

	
SQUARE OR RECTANGULAR PANS _____ Multiply the width by the length. You will obtain the total square inches.	ROUND PANS _____ To calculate the Total Square Inches of your pans; calculate the radius and multiply it by π (Pi).
Formula Width x Length = Total Square Inches Ex: 9″ x 13″ = 117 Square Inches	**Formula** • **Step 1.** Diameter ÷ 2 = Radius Ex: 9″ ÷ 2 = 4.5″ • **Step 2.** Radius x Radius x (3.14) Ex: 4.5″ x 4.5″ x 3.14 = 64 Square Inches

- If the pan is close in size and volume to the original, the cooking temperatures and times should not have to be adjusted
- When measuring a pan, measure from the inside edge to inside edge so that you are not including the thickness of the sides in your measurement. Measure the depth by placing the ruler inside the pan and measuring from the bottom up to within a ¼ inch of the top edge. If

the pan has slanted sides, be sure to keep the ruler straight and do not slant when measuring

- Measure volume by filling the pan with water and then pouring the water into a measuring cup to measure how much water is in the pan or you can also measure the water as you pour it into the pan
- Be careful substituting a pan when the recipe indicates that a tube pan should be used, such as an angel food cake pan or a bundt pan. Generally, the recipe requires this type of pan so the heat is distributed properly. This is necessary for the food to get to its proper doneness
- If you select a glass bakeware dish or a dark, non-stick pan, reduce the oven temperature by 25°F
- If selecting a pan that results in the depth of the ingredients to be thinner, reduce the cooking time by 10 to 15 minutes. If the depth of the ingredients is thicker, increase the cooking time by 10 to 15 minutes. Be sure to use the visual indicators to test for the proper doneness
- If a casserole dish has to be substituted for a different size when making a savory dish, use the same guidelines as baked goods. Use a dish that holds close to the same volume and if you substitute one that will affect the depth of the ingredients, adjust the cooking times to use less time for thinner depths and more time for thicker depths

The chart below shows the sizes and volume of some of the common bakeware pans. The chart will help to assist you in selecting a successful substitution.

Keep in mind, when selecting a substitution according to the pan's volume, that you need to allow room for expansion of certain foods as they cook. Certain types of food need more room for expansion than others. Fill the pan as directed by the instructions on the recipe. If you select a pan that has a comparable volume to the original size suggested by the recipe, it should allow the necessary room for expansion.

BAKEWARE MATERIALS

Bakeware can be made from several different materials. Each can have a different effect on the outcome of your baked goods. A dark-colored surface on the bakeware will cause the food to brown more easily because it absorbs the heat of the oven. An aluminum pan conducts heat evenly but its shiny surface reflects the heat, resulting in food that does not brown well. Some of the common materials are shown below.

Aluminum



Aluminum is a good material for bakeware because it is a good conductor of heat, which results in even baking, but the shiny surface of the aluminum may prevent proper browning. Aluminum bakeware is durable and will not rust. For best results, look for bakeware made of a heavy-gauge aluminum rather than thinner, flimsy aluminum. The thinner bakeware may be less expensive but may warp when exposed to high temperatures, causing uneven baking. Aluminum bakeware should not be used for preparing acidic foods, such as tomato-based dishes, because of the acid in them and the aluminum may cause a reaction and result in food that has an off-taste. It may also cause the aluminum pans to have to be replaced more often.

Bakeware Care: Aluminum bakeware can be cleaned with hot soapy water and if extra cleaning is required, a nylon scouring pad or a special powder cleanser made for aluminum and stainless steel can be used.

Aluminum Foil



Constructed of a heavy gauge aluminum foil, this type of pan is used for a variety of foods and food chores such as pizza baking, bread baking, meat roasting, and numerous other cooking activities. They are generally considered to be a disposable pan, but they can be reused often if they are thoroughly cleaned after use. However, this type of pan is typically a good way to prepare baked goods and deliver them still in the pan to friends and family without worrying about the bakeware being returned. It is also a good alternative to regular bakeware or cookware when you need several pans for serving large groups of people. They work well for preparing egg, potato and casserole dishes.

Bakeware Care: Aluminum foil bakeware can be cleaned with hot soapy water and if extra cleaning is required, a nylon scouring pad can be used. The foil pans require careful handling to prevent them from being dented or bent out of shape. They can be cleaned in a dishwasher but to prevent denting or bending, care should be taken not to stack heavier dishes on top of them.

Anodized Aluminum

There are two types of anodized bakeware available, silver anodized and hard anodized bakeware. The difference between the two is explained below:



Silver Anodized: Silver anodized bakeware is made of aluminum that has gone through an electrochemical process that hardens its outer layer. This process gives the aluminum a scratch-resistant surface that is also stick resistant and it will not rust, peel or blister. The aluminum maintains its ability to conduct heat quickly and evenly and becomes more durable. Cooking times may need to be reduced when using anodized bakeware. It is recommended to check for doneness about two-thirds through the suggested baking time. Anodized aluminum is scratch resistant but you should be careful not to use sharp knives to cut food that is baked in these pans to prevent damage to the surface.

Bakeware Care: Silver anodized and hard anodized bakeware should be cared for in the same manner. They are easy to clean and do not rust. The bakeware should be washed by hand in hot soapy water and any food that is stuck should be soaked in water to loosen. Do not wash in the dishwasher.

Hard Anodized Aluminum

Hard Anodized: Hard anodized bakeware is very similar to silver anodized only the aluminum is processed for a much longer period of time. This produces a hardened surface finish that is about 10 times thicker than the silver anodized. Metal utensils, other than knives, can be used on hard anodized bakeware without causing any damage to the surface. Sharp knives may cause some scoring. The hard anodized bakeware has a darkened surface, which may affect the baking time required when using this type of bakeware. Check for doneness about two-thirds through the suggested baking time. Hard anodized bakeware can be cared for in the same manner as the silver anodized.



Bakeware Care: Silver anodized and hard anodized bakeware should be cared for in the same manner. They are easy to clean and do not rust. The bakeware should be washed by hand in hot soapy water and any food that is stuck should be soaked in water to loosen. Do not wash in the dishwasher.

Glass



Glass ovenproof bakeware is made from tempered glass and conducts heat well. The food browns well in the glass ovenware. It is fairly easy to clean, does not stain, and does not react to acidic foods. Ovenproof glass can be taken from the refrigerator or freezer and placed in a hot oven, but when it is removed from a hot oven, it should be allowed to cool to room temperature before being placed in a refrigerator or freezer and before being exposed to water. Because glass bakeware heats up faster and holds the heat longer than metal bakeware, you may want to reduce the baking temperature by approximately 25° F from what is suggested on the baking instructions for the item you are baking. Experimenting with reducing the temperature will be the best way to decide if it gives you the results you desire.

Bakeware Care: To care for glass bakeware, wash with hot soapy water. Food that is stuck may be loosened by soaking in warm water or a nylon scouring pad can be used. Avoid using metal scrapers or abrasive cleaners.

Insulated

Insulated bakeware is made of two layers of metal that are cushioned by a layer of air. The layer of air provides for even baking and browning without burning. Look for insulated bakeware with a good non-stick coating otherwise food has a tendency to stick to the bakeware. The layers of the insulated bakeware provide more protection from the heat source than other bakeware so it heats up slower and the food does not brown as nicely. This may cause additional baking time for properly baked food.



Bakeware Care: To care for insulated bakeware, use care methods according to the type of material it is made from and if it has a non-stick coating, care for it in the same manner as other non-stick bakeware.

Non-stick Bakeware

Non-stick bakeware consists of steel or aluminum that has had a non-stick coating applied to it. The coating allows the food to be easily released from the surface of the bakeware and makes for easy cleaning. Non-stick bakeware works well when you are baking items that need to be removed from the bakeware once they are done, such as muffins, cupcakes and layered cakes. The non-stick coating gives the bakeware a darker surface, which absorbs heat more quickly than bright or lighter colored bakeware. This can cause a problem with food becoming overly browned or dried out. Baking times and temperatures may have to be adjusted to compensate for this.



Bakeware Care: To care for the non-stick bakeware, wash in hot soapy water and for food that is stuck, soak in warm water to loosen. To prevent the coating from becoming scratched, do not use metal utensils or knives on the non-stick surface. Scratches in the coating may cause the coating to peel.

Silicone Bakeware



Silicone bakeware is a fairly new product that is used for baking molds. It is made of a flexible and bendable silicone material that can be used in the oven, microwave and freezer. The silicone bakeware does not absorb the heat like other bakeware but allows the heat to transfer evenly to the food. The cooking process stops immediately when food is removed from the oven, preventing additional browning of the bottom and edges of the food. It can withstand temperatures ranging from minus 40 to 580 degrees F. The bakeware can be folded for convenience in storing without damaging the material.

Bakeware Care: The silicone bakeware is also dishwasher safe.

Stainless Steel Bakeware

Stainless Steel Bakeware is available in stainless steel but is not recommended because it is not a good conductor of heat. It distributes heat unevenly and causes inconsistency in baked goods.



Bakeware Care: To care of stainless-steel bakeware, wash with hot soapy water. A nylon scouring pad or nylon scraper can be used to remove food that is stuck. There are stainless steel cleaners that can also be used to remove stains and bring a shine back to the stainless steel.

Stone Bakeware

Stone bakeware is made from stone fired at a very high temperature. The firing of the stone produces a nonporous surface on the bakeware, which does not need glazing. The stone bakeware absorbs the heat from the oven and distributes it evenly. It retains the heat well and keeps food warm long after it is removed from the oven. Because the stone bakeware distributes heat so evenly there is less chance of burning and overcooking the food. It does take a little longer to heat up initially, so if you are baking something that only requires a short baking time, you may have to extend the time by a couple of minutes. Most stone bakeware must be seasoned before using for the first time. To season, rub or spray the surface with oil.



Bakeware Care: To care for stone bakeware, do not use soap to clean. Scrape off excess food and wash with warm water.

Tinned Steel Bakeware

Tinned steel bakeware is made from sheets of steel that have been covered with a thin coat of tin, making it a good conductor of heat. The tin coating allows the bakeware to heat slowly and evenly. Tinned steel bakeware will darken after extended use, which may have an effect on baking times.



Bakeware Care: Special care must be taken to prevent tinned steel bakeware from rusting. It should be washed in hot soapy water and then dried thoroughly. It should then be placed in a warm oven and allowed to dry completely. Do not use metal scouring pads or abrasive materials to clean tinned steel.

TYPES OF BAKEWARE

There are many different types of bakeware available for baking a variety of baked goods. Some types are essential in producing the desired end product and some bakeware can be used for several purposes. Bakeware can be found made of many types of material, such as tinned steel, stainless steel, glass, silicone, and stone. The type of material the pan is made from can have an effect on the cooking times or temperatures, requiring that they are adjusted. See bakeware materials above to find out which materials may affect the cooking times or temperatures.

Shown below are several types of bakeware with a description and common use for each:

Baking Dish



A baking dish is a flat pan with straight sides that are ¾ inches or taller, which is used for baking food in the oven. There are many sizes and depths available, but the most common size is 9 x 13 x 2 inches.

Other common sizes include: Square pans 8 x 8 inches in size or rectangular pans that are 7 x 11 inches, 10 x 15 inches and 12 x 18 inches by 1 or 2 inches in depth. Baking pans are used to hold runny batters, such as cake batter and thick solid masses of food, such as savory hot dish recipes. The foods are placed in the pan and then baked in the oven.



Baking pans are available in a variety of sizes, materials, surface textures and colors. Typical foods that are prepared in baking pans include cakes, brownies, bars, cornbreads, lasagna, egg dishes, cobblers, potato dishes, meats, poultry, and fish.

Baking Sheet



A baking sheet is a flat pan or sheet of metal that is used to bake products that are thick or stiff enough to stand on their own, such as cookies, freestanding loaves of bread, biscuits, pastries, and meringues.

Baking sheets, which are also referred to as cookie sheets, consist of a metal sheet that is flat with one or both of the short ends containing a slightly turned up lip that is used to aid in handling the sheets.

Baking pans with ¾-inch sides all around are often referred to as baking sheets or cookie sheets also. They can be used in the same manner as a flat baking sheet but they can also be used for baking runny batters.

Bread or Loaf Pan

A bread pan or a loaf pan is a baking pan, rectangular in shape and deep walled, that is used to bake a single loaf of bread. Bread pans are typically made from aluminum, steel, glass, pottery, or stoneware. They are produced to make a semi-crisp crust with an evenly textured crumb, however, not all pans are effective in doing so. Bread pans range in size from 5 to 14 inches in length and 3 to 5 inches in width, with a 2 1/2 to 4-inch sidewall. A standard one-pound loaf pan is 8 1/2 x 4 1/2 x 2 3/4 inches in size. Smaller sized pans work well for making gift or dessert loaves that can be cooked in less time.



The larger loaf pans are also often used to make meatloaf. Bread pans are also referred to as loaf pans. Lo-Fat Loaf Pan: A loaf pan made as two separate pans, one fitting within and above the bottom or base pan. The insert piece allows grease to drip to the lower pan and away from the food. This pan is typically used for a dish such as a meatloaf but the bottom pan can be used on its own for baking bread.



Brioche Pan

A Brioche pan is a type of pan or mold with fluted sides that is used to form the base of the traditional French bread known as Brioche. When making Brioche, a French dough is prepared with a light yeast and proportionally larger amounts of butter and eggs. It is baked using a Brioche pan or mold to form the alternating columns on the base of the bread.



Bundt Pan

A Bundt pan is a heavy-walled baking pan formed with a decorative indented curvature and a hollow tube in the center. The heavier walled construction and hollow center tube allow cake batters to rise and bake more uniformly, creating a golden crust on the outside of the cake. After the ingredients are baked, the pan is turned over so the firm cake falls out onto a plate or counter, producing a decoratively shaped cake. This pan is generally used for baking coffee cakes and sweet cakes referred to as Bundt cakes.



Cake Pans





A cake pan is a baking pan commonly found in every kitchen. Cake pans can be round, square or rectangular and are available in several sizes. Probably the most popular is the 9 x 13 x 2- inch rectangular cake pan that is used to bake cakes, bars and savory dishes, such as Lasagna. Standard square cake pans are 8 or 9 inches wide and 1 ½ inches in depth. Round cake pans are used to make layer cakes and are generally found in 8 or 9-inch diameters and are 1 ½ inches in depth.

Doughnut Pan

A doughnut pan is a pan that is constructed similar to a muffin tin except that the cups have a rounded bottom and a stem that comes up in the center of each cup to create the hole in the doughnut. The pan helps produce a lower calorie doughnut because they are baked rather than fried in oil. The doughnuts can be eaten plain or glazed, frosted, or rolled in powdered sugar. The pan is typically constructed of metal or silicone non-stick materials and is available in 6 or 12-cup sizes. It is also spelled as Donut Pan.



Flan Pan

A flan pan is a shallow pan that has shallow sides that are generally fluted to provide a decorative edge to the item being baked. They are available in different materials, such as tinned steel, steel with non-stick coating and ceramic. The fluted sides of the flan pans are slightly slanted and some varieties have a loose bottom.



They are available in a range of sizes between 6 and 12 inches in diameter, and they are also available in a single serving size, which ranges in size from 3 3/4 to 4 3/4 inches in diameter. The flan pans are used to make flans and other dishes, such as tarts, cobblers, and quiches. The small individual flan pans are used to make single serving cakes, cobblers, loaves of bread, and tarts. The flan pan is also referred to as a Maryann Pan.

French Bread Pan

A French bread pan is a type of metal or aluminum pan that is 16 to 20 inches in length and formed with a curved base so that long lengths of dough can be laid horizontally in them to be baked into baguettes. Some pans are double or triple-formed for several loaves to be baked at once.



If made of metal, the pan may have numerous small holes that are perforated throughout the metal to allow steam to escape while the bread is baking in order to assist in making the crust a deeper brown in color and crispier in texture that is familiar to the traditional French crust. The pan is available constructed with non-sticking metal surfaces as well as porous clay stoneware.

Jelly Roll Pan

A jelly roll pan is a large rectangular-shaped baking pan with shallow sides, which generally have a rolled rim. The most common size is 10 x 15 inches but larger sizes are available, such as 12 x 17 inches and 13 x 18 inches. They have shallow sides that are 3/4 to 1 inch deep. They are made from a variety of materials, such as aluminum, stainless steel, or steel. Many have a non-stick surface. It is designed to bake a thin cake that is coated with a layer of jelly and then rolled up into what is known as a jelly roll. It is commonly used for baking sheet cakes, cookies and pastries.



Muffin Tin

A muffin tin is a type of pan used for baking muffins. The pan typically will have 6 or 12 individual round pockets or holders connected to the tin and formed in the shape of a muffin. The muffin batter is poured into the individual pockets and as the muffin bakes, a top form over the pocket while the base of the muffin is baked in the shape of the cup.



Muffin tins are also often used to bake cupcakes. The tins are commonly available in 3 sizes ranging from those that bake a small or miniature muffin that is 1 to 2 inches in diameter, standard muffins that are 2 3/4 inches and large muffins approximately 4 inches in diameter. Individual muffin cups made from silicone are also available for baking individual cupcakes and muffins. Muffin tins may also be referred to as muffin pans.

Muffin Top Pan

A muffin top pan is a muffin tin that has shallow cups that are approximately 1/2″ deep. If you prefer the crusty top of the muffin, this pan will produce basically just the top of the muffin. Its shallow cups allow the top to bake up brown and crusty while eliminating the finer crumb bottom. It is available in 6 cup or 12-cup pans. This pan can also be used to bake single serving toaster cakes and individual buns. It is sometimes referred to as a bun pan.



Pie Plate

A pie plate is a round baking dish with shallow slanted sides that are 1 to 1 1/2 inches deep. The pie plate is available in several sizes. The most common sizes being 8, 9 and 10-inch diameters. They can be found to be made from many different materials, such as aluminum, glass, stoneware, ceramic and tinned steel.





Pie plates are used to bake the single crust and double crust pies. They are also available in a deep dish variety that has slanted sides that are 2 to 2 1/2 inches deep and range from 9 to 11 inches in diameter. The deep dish pie plate is most often used to bake a savory dish. A pie plate is also referred to as a pie tin.

Popover Pan

A baking pan or baking utensil as it may also be referred, specifically designed to hold popover batter so the popover, as it bakes, can rise up into a large, airy pastry-like shape. Larger than traditional muffin tins, the popover pan will typically be made with individual cups joined by wire racks that are constructed to hold the batter and keep the baked contents away from touching the adjacent popovers as they enlarge when baked.



The cup expands outward from the base as it moves up to the top of each cup where a lip is formed. The lip separates the base and the head of the baked popover so the base is uniform in shape and the head is allowed to bake into an irregular, puffy shaped popover, as the baked batter “pops” up and over the cup. Popover pans generally are available in several sizes, both giant and small. The number of cups included in each pan maybe 4 or 6. Smaller pans may hold as many as 8 or 10 cups for individual popovers.

Shortbread Pan

Constructed of heavy cast iron or a coated aluminum surface, this type of pan is made for baking shortbread cookies. Typically made with a non-stick surface, the Shortbread pan is filled with the rich, buttery flavored dough that is baked into a tender but crumbly texture for cookies and dessert crusts. Made to produce the traditional shape that is pressed into decorative molds and baked until solid, a Shortbread Pan is contoured with square or round pattern designs that include ridges so the biscuit-like cookies can be broken apart or scooped out evenly after cooking. This type of pan can bake not only shortbread cookies and biscuits but also cakes, dessert bars and various pan bread such as cornbread.



Springform Pan

A round pan, with tall, straight sides that are removable. They can be found made of a variety of materials, such as tinned steel, steel, stainless steel, and carbon steel. Many have non-stick surfaces. They range in size from 8 to 12 inches in diameter with high sides of 2 1/2 to 3 inches. The most common size is a 9 or 9 1/2-inch diameter. The removable sides aid in removing cakes that would otherwise be difficult to remove, such as cheesecakes and tortes. When purchasing a Springform Pan, be sure the sides and base fit accurately together for a tight fit.



Tart Pan

A tart pan is a round or oblong shallow pan with smooth or fluted sides and a removable bottom. The pan is constructed with a removable bottom so the baked tart can be pushed up out of the pan, allowing the contents to be removed easily and cleanly while retaining the shape created by the fluted sides.





Tart pans, which are manufactured with non-stick surfaces, are available in various sizes so tarts can be served as individual round servings or as pie-shaped servings. The small pans for individual round servings range in size from 3 to 5 inches in diameter while the larger pans for pie-shaped servings commonly range in size from 9 and 11 inches in diameter.

Tube Pan

A deep baking pan that has a hollow tube in the center, which allows for more uniform baking. A tube pan is used for baking cakes such as angel food and sponge cake. The pan holds the ingredients and after being baked, the pan is turned over so the firm cake that has been formed into the decorative shape of the pan falls out onto a plate or counter to be prepared for serving. Tube pans can be made as a single piece of metal or as two pieces of metal consisting of a side and a flat round bottom that is removable. Also referred to as an Angel Food Cake pan.



LARGE EQUIPMENT

KETTLES AND STEAMERS

Commercial Restaurant Kettles

High-volume kitchens can definitely benefit from having a commercial kettle. If your kitchen makes a “soup of the day,” you probably don’t need one. However, large production kitchens should have a commercial kettle to quickly cook soups, stocks, stews, broths, sauces, pastas, and more.

When looking for a kettle, you need to consider the needs of your kitchen. Since they come in various volumes and sizes, including floor and countertop models, the size that you choose will depend on how much food you need to cook and how often you will be using it.

When looking for a kettle, you need to consider the needs of your kitchen. Since they come in various volumes and sizes, including floor and countertop models, the size that you choose will depend on how much food you need to cook and how often you will be using it.

You will also need to choose between a gas kettle or an electric kettle. Gas steam kettles tend to be larger and higher volume, but they aren’t very mobile. Also, it would help if you considered how your choice would affect the energy costs in your kitchen.



When picking out your kettle, you must know what controls you want. Most kettles come with a timer, thermostat, safety valve, and pressure limit switch. Some manufacturers are coming out with electronic controls, which let you program options for cooking, chilling, and pressure and temperature limits. Some kettles also have extra water connections, so cold water can chill the food as soon as it’s done.

Another crucial thing to know is what kind of steam kettle is right for your kitchen. The different types are:

Direct Steam Kettles

With direct steam kettles, steam enters the jacket and condenses on the inside walls of the kettle. This transfers heat throughout the kettle before condensing back into the water.

An outside boiler is the source of steam for this kind of kettle, and it requires regular maintenance. Also, the condensation needs to be blown out a couple of times per day to prevent buildup on the main steam supply line.

Self-Contained Kettles

Self-contained kettles have a closed steam system. The source of steam is an electric or gas boiler that sits on the kettle's stand, and the jacket is filled up with water.

Since this model is more complicated than direct steam kettles, they tend to be more expensive. However, they are more versatile because they can work with both electrical and gas plumbing, and maintenance is easier as well. They just need to be vented and refilled.

Tilting Steam Kettles

Tilting steam kettles are easier to pour from, since they are designed to tilt easily and safely, usually with a wheel. They come in various shapes, sizes, and mounting styles, though all have a lip for mess-free pouring. Some models even tilt using an electric motor; it makes it easier for you to pour food out of them.



Stationary Steam Kettles

Stationary steam kettles don't tilt and use a tangent valve located at the bottom of the kettle instead.

These are generally larger than tilting steam kettles, which make them a good option for kitchens that cook more than 750 L / 200 gallons of food at once.

Commercial Restaurant Steamers

As with kettles, you should choose the model and size of your commercial steamer based on how much food you will use it for cooking at once. Additionally, you'll need to take into consideration the amount of space you have allotted for your steamer since both floor and countertop models are available.

Here are some of the steamer models to consider:

“The Mini” Combi Steamer

Technically a countertop model, these small steamers can hold three 12″ x 20″ x 2 1/2″ full-size steam table pans or six 12″ x 18″ half size baking sheet pans. Best used for small volume outputs (like side dishes), reconstituting foods, and sandwiches.



Countertop Steamer

Countertop steamer models don’t take up valuable floor space and generally hold 3-6 pans. They can also be stacked if your kitchen uses more than one. Best for small kitchens, small volume outputs, and front of the house.



Floor Model Steamer



Floor models can hold 6-16 full-size pans, but they do consume floor space in your kitchen.

Some floor steamer models come with over-powered boilers that can be used to power other kitchen equipment, like a kettle.

Best for large kitchens, large volume outputs, and larger food items.

Gas vs. Electric Power Source

It's important to know whether a gas or electric steamer will work best in your kitchen. Gas steamers heat items faster, but they require room for the LP tanks and a natural gas hookup.

Electric steamers can be installed anywhere with an electricity and water hookup, and depending on local laws may not require a hood vent. However, they are not as fast as gas steamers.

Steam Generation

All steamers cook food using steam, but the source of steam can vary. Here are the most common types of steam generation.

Steam Generator

These are purchased separately from your steamer, and create steam that is sent into the steamer.

Best for restaurants without a boiler or potable water, and large kitchens with more than one steamer.

Boilerless Steamer

These steamers generate their own steam, so you don't need to purchase an additional steam generator. Boilerless steamers use an open water reservoir at the bottom of the unit or a spritzer that splashes cold water inside, making steam.

This model produces wetter steam that cooks food more slowly and makes it less crispy. However, maintenance and cleanup are easier.

Best for kitchens without an external steam generator.

Boiler-Based Pressure Steamer

These units have an inside boiler that creates steam and funnels it into the cavity. It's important to use pure water to avoid limescale buildup. Boiler-based pressure steamers typically cook faster than equivalent convection steamers.

Best for large volume outputs, starchy, or tough foods (like potatoes and meat).

Convection vs. Pressure

The two types of steamer cooking methods are convection and pressure.

Convection Steamer



Convection steamers use a fan to circulate heat throughout the cavity. Since there is no extra pressure creating heat, cooking temperatures tend to be lower.

Pros:

- Does delicate foods well
- You can open them to check on food during the cooking process
- Don't have to worry about taste-transfer issues
- Great for steaming, poaching, thawing, stewing, reheating, and par-cooking

Cons:

- Cooking times are longer than with pressure steamers (but still shorter than with convection ovens)

Pressure Steamer



Pressure steamers cook using a combination of high heat and steam. Their tight seal raises the temperature in the cavity to between 230 and 240 degrees Fahrenheit (110 to 116 Celcius).

Pros:

- Takes less time to cook
- Works well for large batches of food
- Great for dense food items

Cons:

- Must stay closed during the steaming process
- May have taste-transfer issues
- Not ideal for delicate items

More Steamer Information

Steamers aren't just for vegetables—they are great for seafood and tougher food items as well. They cook quickly and preserve nutrients and moisture, making it a valuable piece of equipment for many commercial kitchens.

One thing that must be paid attention to is the water quality of the incoming steam, as the water affects the flavor of the food. This, as well as wanting to avoid costly maintenance caused by limescale buildup, means that investing in a decent water filter is essential.

RANGES AND OVENS

Ovens and ranges are some of the most important appliances in a commercial kitchen. They come in varieties for cooking or retherming food, baking, roasting, broiling, and more. Commercial ranges and ovens are built with heavy-duty material designed to last in a high-demand restaurant environment. With the many types of commercial ovens and ranges available, the ones you choose will depend on your restaurant's menu.

Flattop Range

A flattop range is a thick plate of cast iron or steel on top of a heat source. While this range type provides relatively even and consistent heat, it does not adjust the temperature quickly.

Ring-Top Range

A variation on the flattop, this range has plates designed to be removed to allow more heat out from the opening.

Induction Cooktop

Induction cooktops generate heat using magnetic attraction between the cooktop and the pan, but the cooktop surface itself stays cool. These cooktops are faster than traditional ranges, but you will need to make sure that your pans do not contain copper or aluminum.

Convection Oven

This is the most common type of oven in a commercial kitchen. By using a fan to force hot air to circulate around the food, convection ovens provide even heating and consistent results. They also have a shorter cooking time than other types of ovens, which is a plus for busy restaurants.

Conventional/Deck Oven

In conventional ovens, the heat source is located underneath the floor of the oven, called the deck. Heat is conducted into the oven cavity through the deck.

This type of oven can be under a range top or have shelves stacked on top of one another, which is known as a deck oven. This is a good option for making the most of limited floor space. While single and double deck ovens are the most common, there are models that have more levels to be able to do even more.

Combi Ovens

A combi oven can be powered by either electricity or gas, and it pairs convection cooking with steam to deliver the benefits of both in one piece of equipment. It does steam or convection cooking, or a combination of the two in combi mode. Precise controls make them flexible and allow for a lot of control while cooking.

This versatile equipment can be used for roasting, steaming, oven frying, smoking, braising, baking, rethermalizing, and sous vide.

Cook-and-Hold Oven

These ovens are used to keep food warm after it is cooked. They save time by eliminating the need to reheat food.

Impinger Oven

An impinger oven uses concentrated jets of hot air to break the “halo” of cold air surrounding food, which shortens cooking time. These often have a conveyor belt, making them great for foods like sandwiches and pizzas.

GRIDDLE AND GRILLS

Part of the traditional foodservice set up, griddles and grills are a mainstay of the commercial kitchen.

Griddles



Like a flattop range, a griddle is a broad, thick plate of metal with a heat source located underneath. Food is cooked directly on the surface of the griddle.

There are a few common types of griddles in a commercial setup. **Countertop griddles** are free-standing equipment that rests on a stand or base and can be moved around or carried offsite for events.

A **drop-in griddle** is built into the kitchen seamlessly, usually as part of a larger piece of equipment like a range.

A third kind of griddle called a **Teppanyaki griddle** is often found in Japanese kitchens, but is useful for many types of commercial kitchens. In this griddle, the heat source is in the center, so food items can be cooked in the middle of the griddle and warmed on the edges.

The performance of a griddle, including its consistency/evenness, depends on its material, heat source, and temperature control. The vast majority of griddles are made from cast iron or steel, though there are composite plates available that improve the distribution of heat.

For commercial settings, gas is preferred over electricity because of its faster heating time and because it is more responsive to temperature adjustments.

You will also need to choose between manual or thermostatic temperature controls. Manual controls usually only have the options of low, medium, and high, while thermostatic controls allow you to set the heat the desired specific temperature.

Grills

Grills cook by the application of intense dry heat and are often used for cooking meat or vegetables quickly. They consist of a rack above a heat source, with the food placed on the rack.



Grills traditionally burn wood or charcoal as a heat source, which gives food a unique, smoky, grilled flavor. However, restaurants usually use either gas or electricity instead, producing the charcoal grill effect with a bed of coals made from ceramic rocks.

A **broiler** is similar to a grill, however, the heat source is located above the rack rather than below. A **salamander** is a small broiler that is usually used to finish or glaze foods.

While the direction the heat comes from is the main difference between broiling and grilling, there are also differences in taste and cooking time that will affect which method is chosen for a particular dish. While grilling gives foods a smoky flavor, broiling caramelizes any sugar in the food, giving it a different, but also delicious taste. Grills also tend to take less time to cook than broilers.

REFRIGERATION EQUIPMENT

Refrigeration equipment is some of the most essential and heavily-used equipment in any restaurant. One size does not fit all—a commercial kitchen requires different types of refrigerators for the various stages and kinds of storage.

Walk-In Refrigerators



Walk-in refrigerators and freezers are usually located outside the food prep area, in the receiving area. They are used for the storage of bulk ingredients like meat and produce. Ideally, a walk-in refrigerator is set up so that ingredients can be delivered directly into it, which reduces traffic in the kitchen.

Walk-ins can be prefabricated or built-in. Prefabricated units are basically huge refrigerators—they are pre-built and installed into the space you have available. Benefits of prefabricated walk-ins include easier relocation.

Built-in units are also very popular. They are built into the space, so they fit the exact specifications. However, they can't be easily moved or altered.

Reach-In Refrigerators



Reach-in refrigerators and freezers improve the quality and speed of service by keeping ingredients and prepared items close at hand, reducing the amount of time that staff spends making trips to the walk-in. They can also help you save money by reducing the number of times the walk-in refrigerator is opened each day, which conserves energy.

2 or 3 Door Reach-In Refrigerators are located in the prep area. They store bulk prepared items like pans of seasoned meat or vegetables and containers of sauces to be used for the week. These refrigerators are usually restocked from the walk-in refrigerator or freezer each week.

Single Door Reach-In Refrigerators are found in the cooking area, close to the final production line. They store food for the day, such as portioned-out prepared meats and vegetables, as well as garnishes. Single door refrigerators are restocked from the walk-in as well as the 2 or 3 door refrigerators.

Roll-In Refrigerators are located in the prep area. Intended for prepping food in advance, they have space inside to accommodate roll-in racks holding food that's ready to go.

Pass-Thru Refrigerators are found between prep areas and service stations. They have both front and rear doors to give both kitchen and wait staff easy access. The kitchen staff prepares and plates a cold food item like a dessert, and wait staff then pulls and serves as needed.

Undercounter Refrigerators

Undercounter refrigerators fit under the counter, which is useful for kitchens that don't have a lot of space for traditional reach-in refrigerators, or if extra storage is needed to keep ingredients close at hand.



This type of refrigeration equipment can have either doors or drawers. While a model with drawers does not have as much storage space as one with a door, they can be more convenient for easy grabbing and loading pans.

Worktop refrigerators are a type of under-counter refrigerator that has an attached backsplash to protect the wall from food splashes. On top, there is a convenient space for prep work.

Chef bases are growing in popularity. They replace equipment stands with space for equipment on top, but also hold fresh ingredients that will be used right away. Not meant for long-term storage, they're often used to house meats right before they're cooked.

SMOKERS

Smokers add a delicious, smoky flavor to foods by treating them with smoke. Smoking can be done at both cool and hot temperatures, and most smokers have racks or hooks so that the food is treated evenly.

Commercial smokers come in a range depending on the space available, budget, and needs of the kitchen.



Here smoking some ribs using a combi oven

Offset

Offset smokers are a popular smoker model, and what most people picture when they think of a barbecue smoker. They can often be found in high-capacity commercial environments.

This type of smoker has a cylindrical cooking chamber with a smaller, cylindrical firebox attached to the bottom of one end. A small fire is lit in the firebox, and the heat and smoke come through a connecting pipe or opening into the cooking chamber, which has a grill inside. This cooks and flavors the food before the smoke escapes through a vent at the other end of the cooking chamber.

The firebox is offset from the grill so that you can control the smoke flavor and the cooking temperature separately. This is done by adjusting the flow of air between the two chambers.

Cabinet



These are also known as box smokers or vault smokers. They have a very simple design that is essentially a tall box with a door that opens in the front. Unlike offset smokers, the source of heat and smoke is in the same chamber as the food. Above the burner is a shelf for a pan of wood, and the next level is a shelf for a water pan. Then come four or more racks for food, and at the very top, a chimney or vent for the smoke.

The water pan is there to help to maintain optimal smoking temperatures and evaporate slowly to add humidity to the smoke chamber. The water vapor and smoke combine to

penetrate deeper into the food, which enhances the flavor as well.

Cabinet smokers are often found in high-capacity kitchens using propane as the fuel source. High-end cabinet smokers will have excellent insulation, as well as digital temperature controls.

Smoker Oven

This type of smoker can also be referred to as an electric smoker. They have a similar overall design to cabinet smokers but instead have an electric burner that heats the wood, and a metal funnel that the smoke passes through to prevent direct heat application.

Smoker ovens have a very stable temperature and precise controls, and thus require little-to-no intervention from the user.

The primary differences between propane and electric smokers are that while electric smokers are more convenient, they do not produce the same quality of flavor as propane smokers.

Upright Drum

Also known as ugly drum smokers, this kind of smoker is shaped like a vertical barrel with racks or hooks inside. It is the simplest smoker model commonly available, with the heat directly applied to the food. The source of heat and smoke is at the bottom of the barrel, so it rises to flavor and cooks the food.

A downside to this type of smoker is that it can be difficult to control the temperature.

Vertical Water

Vertical water smokers (or bullet smokers) are a variation on the upright drum smoker. They are one of the less expensive, smaller models of smokers.

While they can use electricity, gas, or charcoal, all vertical water smokers work by having a pan of liquid between the food and the heat source. Vertical water smokers have a very stable temperature, so they require very little adjustment.

Pellet

Pellet smokers can be pricey due to their technology but are gaining popularity. They burn sawdust pellets that are fed automatically from a hopper into the fire, which is underneath the smoking racks. The smoker digitally monitors the temperature and adjusts the number of pellets it feeds based on the settings that you choose.

SMALL EQUIPMENT

HAND TOOLS

Hand Tools include several small tools other than knives that can make a world of difference in any kitchen and are essential in daily tasks. They include:

Straight or swivel-bladed peeler



Straight peeler has the blade parallel to the handle, resembling a knife. The blade may be fixed or pivoting. For a fixed blade peeler, you have to adjust the angle of the blade that touches the skin. Swivel-bladed peeler is used to peel the skin from various vegetables and fruits. The swivel action accommodates the contour of multiple products. Because the blade is sharpened on both sides, it will peel upward and downward motion.

Whisks



Whisks are used to beat, blend, or whip foods. Balloon whips are sphere-shaped and have thin wires to incorporate air for making foams. Sauce whips are narrower and frequently have thicker wires. Great for whisking in bowls or sauciers; keeping custards in motion; combining dry ingredients; smoothing batters. French whisks are longer and thinner. They are suitable for making a bechamel sauce, aerating eggs or cream, reaching into tight corners, working in small pots, and emulsifying sauces.

Parisienne scoop and melon baller:



Parisienne scoop and melon baller are specifically designed for scooping out balls or ovals from vegetables and fruits. Noisette, Parisienne scoop, and melon baller are the same tools but different sizes.

Kitchen fork:



Kitchen fork has two long stiff tines are used to test the doneness of braised meats and vegetables. It should be strong enough to lift and carry finished roast from the roasting pan to the carving board or plate, and to hold the item being carved in place.

Palette knife (metal spatula)



Palette knife has a flexible round-tipped tool used in the kitchen and bakeshop for turning pancakes, flipping fish in the pan or while grilling food, spreading fillings and glazes and a variety of other functions.

Offset spatula:

An offset spatula is used to turn or lift on grills, broilers, and griddles. It has a wide chisel-edged blade set in a short handle.

Long, narrow tools that have a thin, flat metal blade or paddle at one end. The edge is blunt, not sharp, and is used for spreading frosting onto a cake or pushing batter into an even layer in a cake pan.

Rolling pins



Rolling pins are made from hard, tight-grained woods, which prevent fats and flavoring used in rolled dough from penetrating the pin. The two basic types of rolling pins are French-style and the rod-and-bearing pin.

Rolling pins should never be washed with water. Doing this could ruin the integrity of the pin by warping or distorting the grain of the wood. Always use a dry cloth to wipe clean the pin right after use. Damage to the surface of the pin will relay or “print” imperfection to the dough been rolled. The French pin is a long cylinder of wood used to roll over the dough with the palm of the hands. The second type is heavier and wider. It has a lengthwise shaft at the center of the wooden cylinder through which runs a metal rod with two wooden handles at either end.

MEASURING EQUIPMENT

Measurements are determined in many different ways in a professional kitchen. It's imperative to have the right equipment to measure liquid and dry volume for both U.S. and metric systems, as well as a variety of scales for adequate measurement by weight.

From school cafeterias to fine dining restaurants, maintaining consistent food portions is extremely important. Recipes relied on exact measurements, especially pastry and bread, for example. Food cost depends on portion controls that require the right measuring tools and portion control tools.



The most common and useful measuring equipment are as follows:

- Measuring pitchers to measure liquids
- Spring, balance beam or electronic scales to weigh ingredients for preparation and portion control
- Food thermometers use to measure the internal temperature
- Measuring spoons to measure an amount of an ingredient, either liquid or dry, when cooking
- Measuring cups to bring speed and precision to measuring ingredients for baking and cooking

The most common and useful portion control tools are as follows:

- Various size ladles for portioning and serving liquid foods
- Portion control plain and slotted spoons for portioning and serving solid foods
- Various size spoodles which combine the functionality of a scoop, a spoon, and a ladle.

- Food dishers include big or small scoop to serve ice cream, portion cookie dough, or mashed potatoes. Dishers are commonly categorized by their size, which is based on the approximate amount of servings it takes per quart or the number of ounces it holds.



All those portion control tools are essential kitchen tools to help with portion control to reduce food waste while also providing an easy way to serve food without sacrificing presentation.

SIEVES AND STRAINERS

Sieves, strainers, and colanders are used to sieve, strain, aerate, collect, and help remove any small or large impurities from the ingredients. From straining pasta from water, filtering seeds, washing and blanching vegetables, sifting flour, or powdered sugar. The delicate mesh of some strainers could be fragile and be pierced easily.

The most common and useful sieves and strainers are as follows:



- Food mills could come with different size disks for fine, medium and coarse textures. It's the perfect tool for preparing fresh purees, sauces, soups, and more. Stainless steel grinding discs for fine, medium and coarse textures. It could also be used to pass through fish soup, for example.
- Food ricer is usually used to mash potatoes or other food by forcing it through a sheet of small holes, which are typically about the diameter of a grain of rice. Usually used to mashed smaller quantities, are food mill is faster and can process more at once.
- Drum sieve features a fine nylon or stainless steel mesh perfect for sifting flour and pureed ingredients for creating smooth mixtures, especially for fish mousse or quenelles.
- Conical sieve, aka "chinois étamine" is a conical sieve with a very fine mesh. It is used to strain custards, cooked vegetables, soups, and sauces, producing a very smooth texture. It can also be used to dust food with a fine layer of powdered ingredients.
- Conical strainer aka chinois is a conical strainer that ensures fast draining of vegetables or pasta, as water is drawn down towards the base of the cone.
- Colander comes in different sizes. It used to strain foods such as pasta or rice or to rinse vegetables. The perforated nature of a colander allows the liquid to drain quickly through while retaining the solids inside. It makes food preparation safe and easy.
- Cheesecloth is a loose-woven gauze cloth used primarily in cheese making and cooking. Perfect for straining stocks, broths, Jams, jellies, sauces, and juices. The fine weave is allowing only the liquid to go through, keeping any solid within the cloth.

FOOD PROCESSORS AND CHOPPERS

Grinders, slicers, mixers, blender, and pureeing equipment all have the potential to be very dangerous. As these tools are essential to perform daily tasks in several operations, all chefs should be able to use them with confidence and handle them safely.

Meat Grinders

Meat grinders come as a standalone machine or as an accessory to mount on a standing mixer. Meat grinders should have various disk sizes, a feed tray, and a pusher.

Some brands and models of electric grinders have a reversing feature, which is not the best if you use a sharp knife, right disk and have your meat is kept just above freezing you should need to reverse. Most standalone models can make sausage using stuffing tube attachments, which could be a great feature.



Electric meat grinder



Aluminum manual meat grinder disassemble



Manual meat grinder

Blenders

A blender consists of a base, which houses the motor, speed settings, and a removable lidded jar with a prop blade in its bottom. The jars are usually made of plastic, glass, or stainless steel and come in various sizes. Blenders are excellent for pureeing, liquefying, and emulsifying foods. There are three types of commercial blenders, some for food, some for drinks, and some for both.



Immersion Blenders

Immersion blenders are a long and slender one-piece machine. It's also known as a stick blender, wand blender, hand blender, or burr mixer. It's like an inverted blender, where the top part hosts the motor. https://youtu.be/_a57Sa3sYrEinverted A handle with an on/off button extend from the top of the engine. A stainless steel drive shaft extends from the motor and ends with the blade. The blade is immersed in the food to be blend in the container in which they are being prepared.



Food Processors

A food processor is a kitchen appliance used to facilitate repetitive tasks in the preparation of food. It's a machine that houses the motor separately from the bowl, blade, and lid. Thanks to various attachments and individual disks, food processors can quickly and easily julienne, slice, dice, chop, grind, puree, blend, emulsify, crush, knead, and shred food.



Vertical Chopping Machine (VCM)

A motor at the base is permanently attached to a large bowl with integral blades. As a safety measure, the hinged lid must be closed and locked for the blades to operate. The VCM is used to grind, puree, whip, emulsify, blend, or crush a large quantity of foods. VCM is ideal for a high-volume food production facility. Many models come with digital timers and control panels to efficiently operate.



Food Chopper

In a food chopper, also called Buffalo chopper, the food is placed in a rotating bowl that passes under a hood, where blades chop the food. Some units have hoppers or feed tubes and interchangeable disks for heavy-duty chopping, shredding and mixing large quantities. Food choppers are available on floor or tabletop models. Some models have the option to add various attachments, such as meat slicers and sausage stuffers.



Food / Meat Slicer

This tabletop machine is used to slice food in even thicknesses. From manual or automatic meat slicers are available with small or large blade sizes ranging from 9 inches to 14 inches to get the exact cut you want. A carrier moves the food back and forth against a circular blade, which is generally made of carbon steel. Ideal for cutting deli-style meats, cheeses, and vegetables for any commercial operations.



Mandoline Slicer

This manual slicing device has blades of high carbon steel. Levers adjust the blades to achieve the cut and desired thickness. As we food slicer, make sure to use the guard. Mandoline can be used to make slices, julienne, gaufrettes, and batonnets. Mandolin is excellent to cut up large quantities of ingredients when you need a smooth and efficient slicing method.



Standing Mixer

This electric floor or tabletop mixing machine has a large bowl of various capacity from 5 liters to 40 liters and up. The bowl is locked in place and beater, whip, paddle, or dough hook is hang-locked on the center and rotates through the batter or dough. A commercial standing mixer is a necessary piece of equipment in any bakery, restaurant, pizzeria, or other establishments that makes dough and batter in-house. This machine makes food preparation tasks, like mixing batters, whipping eggs, kneading dough, and making icing, much easier and much quicker than by hand. Some offer a variety of attachments from pasta roller to slicer, grinder or shredder.



VACUUM PACK MACHINES

If you want to extend the life of ingredients like meat and vegetables or do some sous vide cooking, your kitchen needs a commercial vacuum sealer. Vacuum pack sealers work by vacuuming the air out of the bag containing the food, which prevents air from spoiling ingredients.

Vacuum-sealing food is a hygienic way to maintain or even improve the quality of your ingredients by retaining their taste, colour, and freshness. It can extend shelf life by three to five times, which cuts back on waste from food spoiling. In fact, the costs of a vacuum pack machine can quickly be offset by the decrease in waste and ingredient purchasing.

Having a commercial vacuum pack sealer in your kitchen can also help maximize efficiency with pre-portioned vacuum-sealed packages of ingredients. This makes batch cooking easier, which cuts down on prep time. This equipment also further reduces food waste by letting you pull and open only the ingredients that you will be using right away.

Most vacuum pack machines are free-standing and take up countertop rather than floor space. There are a few different kinds of vacuum pack machines to choose from, with lots of different features.

Automatic machines are the simplest option. They vacuum air from the bag and seal it automatically.

Manual machines are more flexible, allowing you to adjust the vacuum cycles so that you can choose the right settings for the food that you are packaging.

Single Chamber Vacuum Pack Machine

Single chamber vacuum packaging machines have a chamber inside where the product is placed inside the vacuum bag, and the lid is closed. A powerful vacuum pump sucks the air out, and once finished, a seal bar tightly seals the product. Chamber machines have the unique ability to seal liquids since all the air is removed from the inner chambers at once.

Single Chamber Vacuum Pack Machine



Double chamber models tend to be larger and more expensive, but can handle multiple bags at the same time or large items, making them great for high-volume commercial operations.

External strip vacuum packaging machines are simple yet efficient, and good for those without a huge budget. They keep the bag outside of the machine and vacuum the air from the inside. Sealing liquids is more difficult with this type of vacuum pack machine.

Gas flush machines not only remove the oxygen from the vacuum seal bags, but they also replace it with gases that prolong the shelf life of your ingredients. Since there is more technology involved with these models, they tend to be more expensive.

Vacuum pack machines with the liquid control sensor feature are great for vacuum sealing both solids and liquids, including soups and stews.

Some machines come with a feature called the pulse option, which is designed for delicate foods. It works by vacuuming the oxygen out a bit at a time so that the food is not damaged by sudden pressure.

The vacuum pack machine that you choose depends on your budget, what foods you'll be sealing, the size of your kitchen, and how much it will be used.

WATER OVENS AND CIRCULATORS

Water ovens and immersion circulators are both used for a cooking technique called sous vide. The sous vide method is done by placing food in a sealed container, usually a vacuum-sealed plastic bag, into a heated water bath at a precise temperature. This simmers the food at a steady temperature, which results in evenly-cooked food at the desired doneness.

Sous vide technology cooks foods in their own juices without losing any flavor, moisture, or volume, giving you results that cannot be replicated by any other cooking technique. It is great for eggs at any level of doneness, perfectly-cooked vegetables, and meat, thawing frozen food quickly, poaching fruit, and pasteurizing egg yolks, among other uses.

The most important thing to make sure of when choosing a water oven or circulator is that it holds a constant temperature while cooking, or the whole point of the sous vide technique is lost. However,

most water ovens and circulators do this well. Other considerations include how much space you have in your kitchen and your budget.

Let's take a closer look at water ovens and circulators.

Water Ovens

A water oven is a self-contained countertop unit with a computer-controlled temperature sensor and an insulated cavity for cooking. Water ovens generally use convection to keep the temperature steady and even, with complex circuitry and heating elements to precisely control convection currents within the oven.



Since the water doesn't circulate within them, water ovens are more prone to hot or cool spots than circulators. However, they are still considered to be accurate and effective sous vide cookers.

Water ovens take up more space in a kitchen and are also generally more expensive than circulators. Their maintenance, however, is easier since they are essentially a big tub. It's important to wipe it out regularly and not to let water sit in the water oven since that leads to bacteria growth.

Circulators



A circulator, also called an immersion circulator, is a pump that can be attached to almost any cooking vessel. Like a water oven, it uses a computer-controlled temperature sensor to make sure that the water is always at a constant temperature while cooking. Circulators heat the water in the container and circulate it to ensure an even temperature and avoid any hot or cool spots.

Circulators can attach to the vessel with a clamp, clip, or magnet depending on the type of vessel that you will be using. A clamp is the most versatile, since it can fit over the lips of a wide variety of containers. Magnetic circulators are designed to attach to the bottom of the container but usually come with a clamp or clip as well for non-magnetic vessels.

A major advantage of circulators, as opposed to water ovens, is that they are very small and compact. They won't take up any counter space in your kitchen and can be stored out of sight when not in use. They also tend to be cheaper than water ovens.