

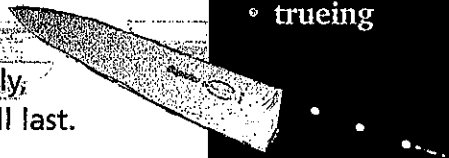
# Knives

## OBJECTIVES

After reading this section, you will be able to:

- Identify parts of a knife.
- Select appropriate knives for specific tasks.
- Perform basic cutting techniques.
- List important knife safety and sanitation guidelines.
- Explain proper knife storage guidelines.

KNIVES are the most commonly used kitchen tools, which is why they are such an important part of any chef's tool kit. A kitchen tool is an implement used in the kitchen. Accomplished chefs can perform countless valuable tasks with a sharp knife. To perform these tasks, however, chefs must be familiar with knife construction and type. They must also utilize proper cutting techniques and knife safety. Finally, chefs must know how to care for knives properly so they'll last.



## KEY TERMS

- tang
- rivets
- bolster
- serrated
- chiffonade
- rondelle
- oblique
- roll cut
- julienne
- batonnet
- brunoise
- whetstone
- trueing

## KNIFE CONSTRUCTION

In order to know which knife to use for a specific task, you must have a working knowledge of the different parts of a knife. See Figure 10-1.

### Blade

The blade of a high-quality, professional knife is made of a single piece of metal that has been cut, stamped, or forged into its desired shape. The metals most often used for the knife blade are stainless steel and high-carbon stainless steel.

Stainless steel is a hard, durable metal made of chromium and carbon steel. It doesn't rust or discolor. Stainless steel also won't transfer a metallic taste to foods. The main drawback is that it's hard to sharpen.

High-carbon stainless steel is a mix of iron, carbon, chromium, and other metals that combines the best features of stainless steel and carbon steel. This expensive, high-carbon stainless steel doesn't rust or discolor and can be sharpened easily. This is the most common metal used for knives in the professional kitchen.

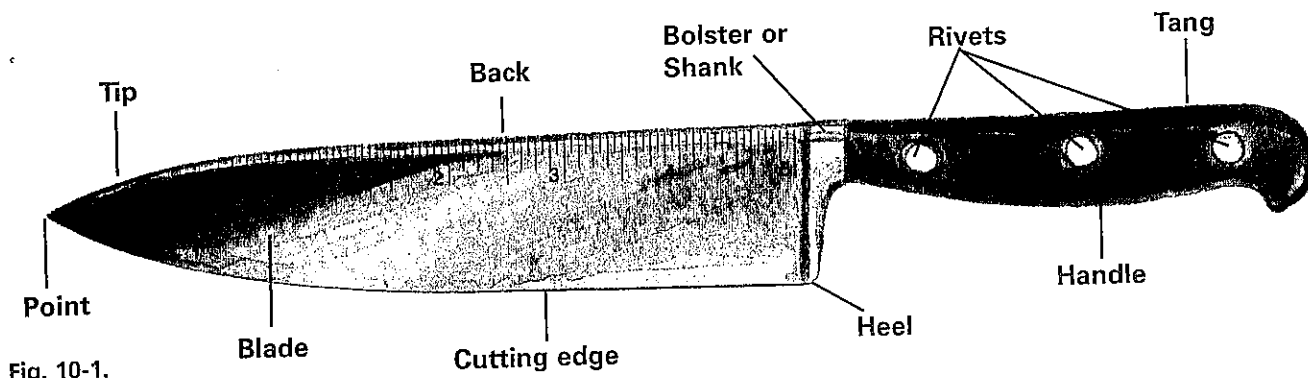


Fig. 10-1.

## Tang

The **tang** is the part of the blade that continues into the knife's handle. Some knives have full tangs while others have partial tangs. A full tang is as long as the whole knife handle. Knives that are used for heavy work, such as chef's knives and cleavers, should have a full tang. Knives used for lighter work, such as paring knives and utility knives, may have a partial tang that does not run the entire length of the blade.

## Handle

Knife handles can be made of several types of material, including hard woods such as rosewood and walnut. Other materials include plastic and vinyl. Because you'll be holding the knife for long periods of time, be sure that the handle feels comfortable in your hand. Your hand may cramp from using a handle that is either too small or too large. Manufacturers make various sizes of handles, so try different sizes to find one that fits your hand.

## Rivet

The tang is attached to the knife handle with **rivets**. Rivets are metal pieces that fasten the handle to the tang. For comfort and sanitation, the rivets should be smooth and lie flush with the handle's surface.

## Bolster

Some knives have a shank or **bolster** in the spot where the blade and handle come together. Knives with a bolster are very strong and durable. The bolster helps prevent food particles from entering the space between the tang and the handle.

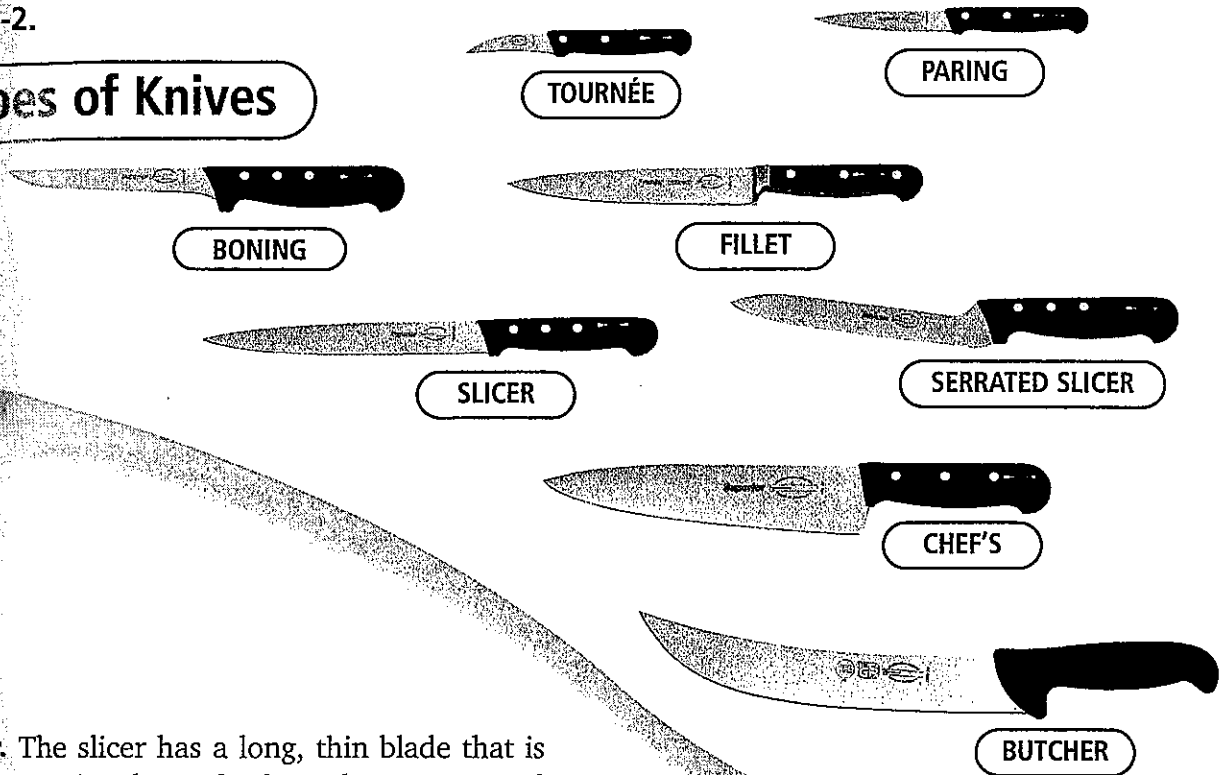
## ✕ TYPES OF KNIVES

Chefs use a variety of knives to perform specific tasks. The chef chooses knives according to the type of food that she or he is preparing. For example, chopping onions requires a different knife than slicing bread. The following list describes the basic types of knives and their uses. See Fig. 10-2.

- **Chef's knife.** The chef's knife, also called a French knife, is the most important knife in the chef's tool kit. This all-purpose knife with an 8–14 in. triangular blade can be used for peeling, trimming, chopping, slicing, and dicing. The 10-in. chef's knife is used for general work in a commercial kitchen. A skilled chef can also use this knife to cut large foods, such as meat, poultry, and fish, into smaller pieces.
- **Utility knife.** Smaller but similar in shape to a chef's knife, the utility knife is an all-purpose knife with a 5–7 in. blade. It's mainly used for peeling and slicing fruits and vegetables.

Fig. 10-2.

## Types of Knives



**Slicer.** The slicer has a long, thin blade that is ideal for cutting large foods such as meat and poultry. The tip of this knife may be pointed or rounded. The blade may be rigid or flexible. The slicer's blade may also be **serrated** (suh-ryay-ted), or toothed like a saw. You can use a serrated slicer to slice coarse foods, such as bread and vegetables, without tearing them apart.

**Boning knife.** A small knife with a thin, angled blade, the boning knife is used to remove bones from meat, fish, and poultry. You can also use this knife to trim the fat from meat. The boning knife's blade may be rigid or flexible. Rigid blades are used for heavier work. Flexible blades are used for lighter work.

**Paring knife.** The paring knife has a rigid blade that is only 2 to 4 inches long. You can use this knife to pare, or trim off a thin outer layer or peel fruits and vegetables.

**Tournée knife.** Similar in size to the paring knife, the tournée (toor-nay) knife has a curved blade that looks like a bird's beak. It is used to cut potatoes and vegetables into shapes that resemble footballs.

**Fillet knife.** The fillet knife has an 8–9 in. blade with a pointed tip. The blade may be rigid or flexible. It is mainly used to fillet fish.

**Butcher knife.** The butcher knife has a 6–14 in. blade whose tip curves up at a 25° angle. It

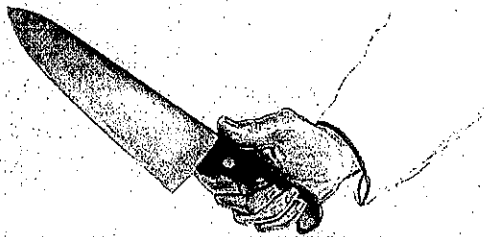
is sometimes called a scimitar (sim-ih-TAR) because its curved blade resembles a saber by that name. You can use the butcher knife to cut meat, poultry, and fish.

## ✂ KNIFE SKILLS

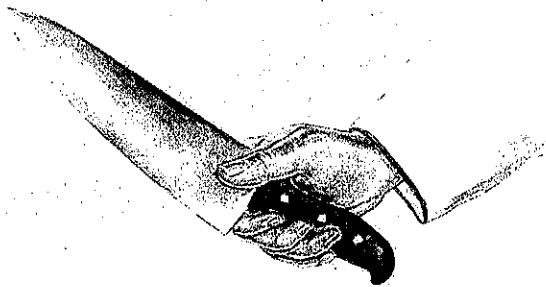
One of the most important skills you'll learn is how to use a knife properly. You'll use a knife to perform many different tasks, from boning fish to paring fruits, slicing bread, and dicing or mincing vegetables. The more you practice, the more efficient you'll become.

■ **Grip.** You can grip the knife in several different ways. Comfort and the task at hand will help you determine which grip to use. As a general rule, grip the knife firmly but not so tightly that your hand gets tired. Fig. 10-3 shows some basic gripping styles. Avoid placing your index finger on the top of the blade.

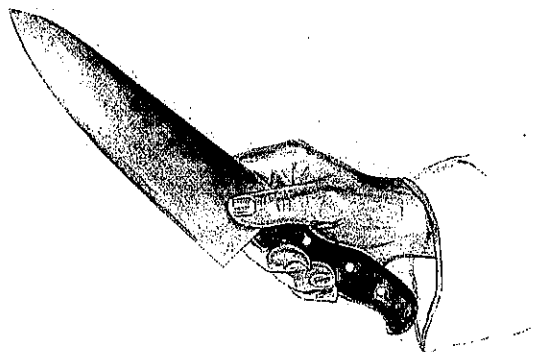
Fig. 10-3. Gripping styles.



A: Grip the knife by placing four fingers on the bottom of the handle and the thumb firmly against back of the blade.



B: Grip the knife by placing four fingers on the bottom of the handle and the thumb against the side of the blade.



C: Grip the knife by placing three fingers on the bottom of the handle, the index finger flat against the blade on one side, and the thumb on the other side. This grip offers extra control and stability.

■ **Control.** To make safe, even cuts, you need to guide the knife with one hand while you hold the food firmly in place with the other hand. Use the sharp edge of the blade to do the cutting. A sharp knife is the safest knife to use. Use smooth, even strokes, and never force the blade through the food. Fig. 10-4 shows two safe ways to cut.

## KEY Math SKILLS

### MEASURING ANGLES

Common angle measures are often referenced to help you visualize how to hold a knife. You may recall that two non-collinear rays, with a common endpoint, form an angle. The measure of an angle is stated using the degree ( $^{\circ}$ ) symbol.

Common reference angles are  $0^{\circ}$ ,  $45^{\circ}$ ,  $90^{\circ}$ , and  $180^{\circ}$ . Angles measuring  $0^{\circ}$  and  $180^{\circ}$  are otherwise known as straight lines. A  $90^{\circ}$  angle is commonly referred to as a right angle, and a  $45^{\circ}$  angle is an angle halfway between a straight line and a right angle.

—  $180^{\circ}$  or  $0^{\circ}$      $\angle 45^{\circ}$      $\perp 90^{\circ}$

Another method for remembering common reference angles is to think of the hands on a clock. At 12:00 and 6:00, the hands on a clock form a  $180^{\circ}$  angle, and at 3:00 and 9:00, the hands form a  $90^{\circ}$  angle.

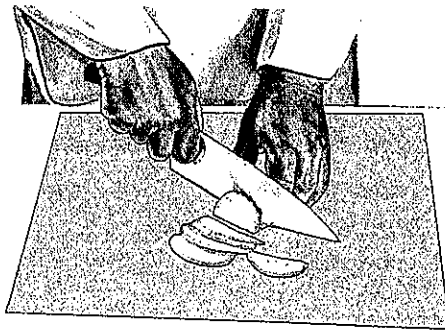
Remembering these common reference angles will help you quickly estimate the correct handling position for a knife. For example, cut an item holding the knife at a  $20^{\circ}$  angle. For a visual picture of this angle, think of  $20^{\circ}$  being about halfway between a  $0^{\circ}$  angle and a  $45^{\circ}$  angle. If the angle happens to be at  $100^{\circ}$ , think of an angle slightly larger than a  $90^{\circ}$  angle. If in doubt, use a protractor to give you a concrete image of the angle.

### TRY IT!

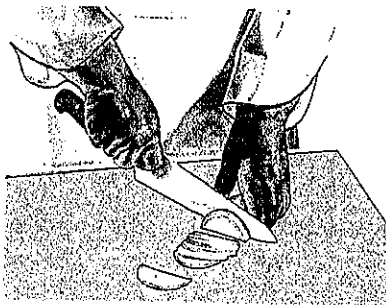
1. Sketch a  $10^{\circ}$  angle and a  $60^{\circ}$  angle.
2. Practice cutting each of these angles on a raw potato.

Fig. 10-4.

### Cutting Method A:

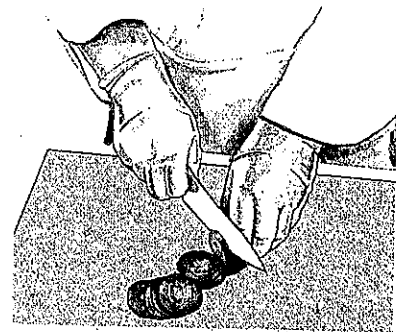


1. With your fingertips curled back, grip the food to be cut with your thumb and three fingertips. Holding the knife in your other hand, keep the tip of the knife on the cutting board, and lift the knife's heel.

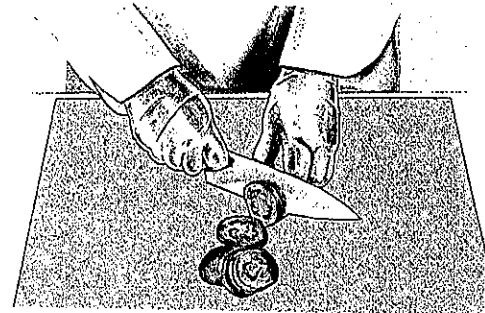


2. Use the second joint of your index finger as a guide as you slice with a smooth, even, downward motion. To make slices of equal size, adjust your index finger as you work. As you slice, move your thumb and fingertips down the length of the food, using the tip of the knife as the support.

### Cutting Method B:



1. Use the same grip as described in Step 1 to the left. Slice the food into the desired thickness by using the second joint of your index finger to guide you. Lift the tip of the knife and cut by moving the knife slightly toward you and down through the food.



2. Use your wrist, not your elbow, to move the knife. Don't apply too much downward pressure. Your wrist serves as the support for this slicing method. The weight of the knife should be doing most of the work.

## KNIFE CUTS

The purpose of using a knife is to make a food smaller and to shape a food. It's important to cut foods in uniform pieces so that they cook evenly. Uniform sizes also make the finished product more visually appealing. The basic cutting techniques include slicing, mincing, and dicing.

### Slicing

When slicing food, you will use a chef's knife to cut it into large, thin pieces. To slice safely, make sure the flat side of the food is down so it won't slip. If necessary, cut a piece of the food to create a flat surface. You can make various specialty

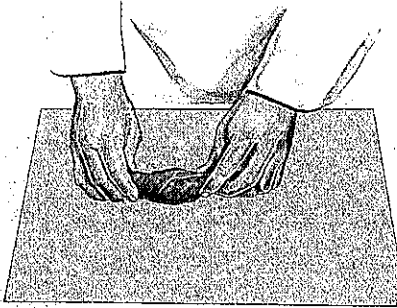
slices including chiffonade, rondelle, and diagonal cuts.

- To **chiffonade** (shif-o-NOD) means to finely slice or shred leafy vegetables or herbs. This cut is often used to make certain garnishes. See Fig. 10-5.
- A **rondelle** (ron-dell), or round, is another type of slice. These disk-shaped slices are made from cylindrical fruits or vegetables, such as cucumbers or carrots. See Fig. 10-6.
- A diagonal cut results in an oval or elongated slice of a cylindrical fruit or vegetable. The technique used to slice a diagonal is similar to the one used for a rondelle except that you must hold the knife at an angle of approximately 60°. See Fig. 10-7.

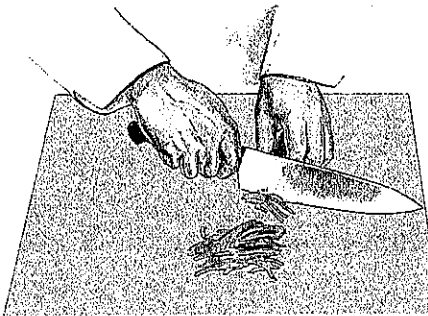
## ^ Mincing

Food that is cut into very small pieces is minced (minced). This technique is used most often on items such as shallots and garlic. See Fig. 10-8.

Fig. 10-5. Chiffonade cut.

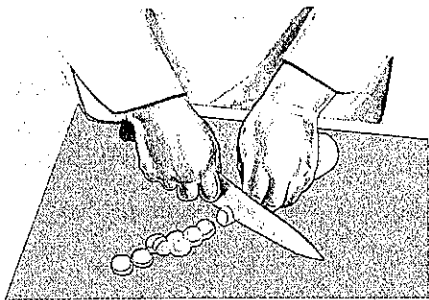


1. Wash and de-stem the vegetable's leaves as needed. Stack several leaves on top of one another and roll them tightly.



2. Holding the rolled leaves tightly, finely slice them.

Fig. 10-6. Rondelle cut.

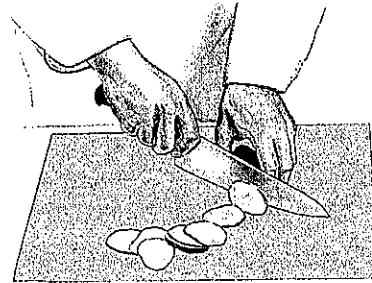


Peel the food if desired. On a cutting board, hold the knife perpendicular to the food and make even slices.

## Dicing

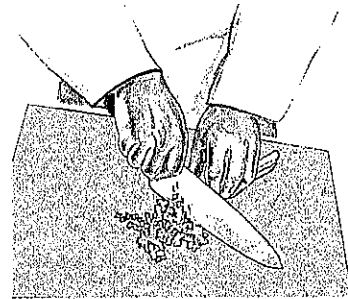
When you dice a food, you'll use a chef's knife to cut it into  $\frac{1}{8}$ - to  $\frac{5}{8}$ -in. cubes. To make the cubes, you will need to cut the food into sticks, called julienne and batonnet, first. See Fig. 10-9.

Fig. 10-7. Diagonal cut.

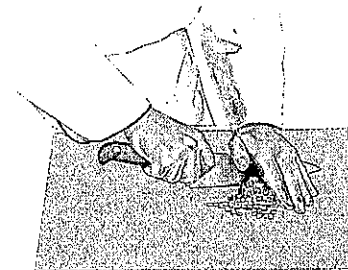


Peel the food if desired. On a cutting board, hold the knife at the desired angle to the food being cut and make even slices.

Fig. 10-8. Mincing.



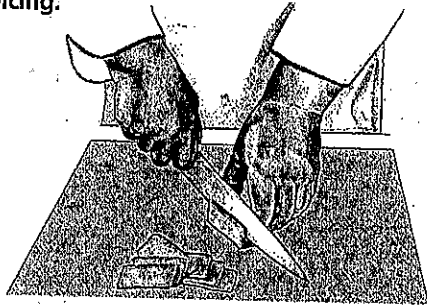
1. Dice celery using the same technique you would use to peel and dice an onion.



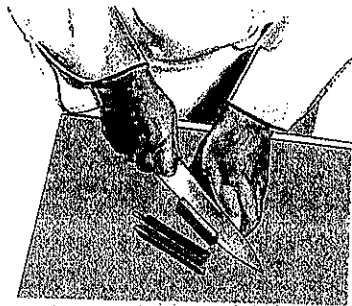
2. Hold the tip of the knife on the cutting board with a flat hand. Use a rocking motion to mince the shallots with the knife's heel.

- **Julienne** (ju-lee-en) cuts are  $\frac{1}{8}$ -in.-thick matchstick-shaped cuts. Carrots are often cut julienne.
- **Batonnet** (bah-toh-nah) cuts are thicker than julienne cuts. Batonnet cuts are  $\frac{1}{4}$ -in.-thick matchstick-shaped cuts. Some restaurants serve batonnet-cut fried potatoes.
- **Brunoise** (broon-WAZ) cuts are  $\frac{1}{8}$ -in.-thick cubes. These are often cut after a vegetable has been cut julienne.

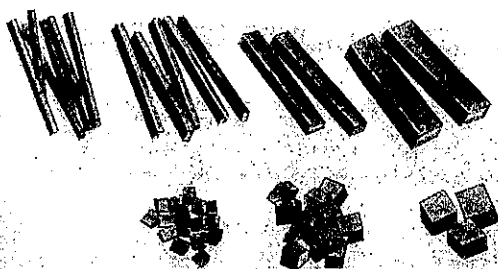
Fig. 10-9. Dicing.



1. Peel the food if desired and square off the sides. Trim the food to the proper length for the slices you're making. Cut slices of the desired thickness.



2. Stack the slices and cut them into uniform sticks. These sticks should be of the same thickness as the slices.



3. To make a small dice, make a  $\frac{1}{4}$ -in. cut perpendicular to the length of a batonnet. A  $\frac{3}{8}$ -in. cut from a  $\frac{1}{2}$ -in. stick makes a medium dice. A  $\frac{1}{2}$ -in. cut from a  $\frac{1}{2}$ -in. stick creates a large dice. Making a  $\frac{1}{8}$ -in. cut from a julienne makes a cube called a brunoise.

## a LINK to the Past

### The Cutting Edge

Did you know that knives are the oldest known manmade tools? In fact, cutting tools discovered in Kenya are thought to be almost 3 million years old! These first knives were made of flint.

Once humans learned to extract metals from mineral deposits, they used metal to make tools. Around 3500 B.C., people learned to make metal alloys. An alloy is a combination of pure metals with minerals or other metals. For example, they combined copper with tin to make bronze, the first metal hard enough for a blade. By about 1800 B.C., bronze making spread across Europe.

Cutlery was not common until about 1500 A.D. These early knives were not particularly sharp, durable, or flexible, but they led to the development of the knives that are used in professional kitchens today. In the early 1900s, advancements in steel manufacturing made knives durable and flexible enough for rigorous use.



**KNIFE-USE GUIDELINES**—Here are some important safety guidelines that you must keep in mind when using knives:

- Always use the correct knife for the task.
- Always use a sharp knife. You're more likely to cut yourself with a dull knife because you'll need to use more force.
- Always cut with the blade facing away from your body.
- Always use a cutting board.
- Never let the knife's blade or handle hang over the edge of a cutting board or a table.
- When carrying a knife, hold it by the handle with the point of the blade straight down at your side. Make sure that the sharp edge is facing behind you. See Fig. 10-10.
- Don't try to catch a falling knife. Step away and let it fall.
- When you're passing a knife to someone, lay the knife down on the work surface or pass it by carefully holding the dull side of the blade with the handle facing out toward the other person.
- Never use a knife to perform inappropriate tasks, such as opening a can or a bottle or prying something apart. These tasks could damage or even break the blade.
- Never leave a knife in a sink filled with water. Someone could reach into the sink and be cut by the knife.
- Carefully wipe the blade from its dull side.
- Always wash, sanitize, and wipe knives before putting them away.

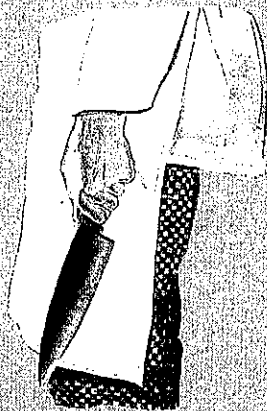


Fig. 10-10.

## ✕ KNIFE SAFETY & CARE

Now that you know which knives to use for which tasks and how to use them safely, you need to know how to care for them properly. To keep your knives in good condition, keep them sharp and clean. Sanitize knives after each use and always store them properly.

### Sharpening Knives

You'll use a sharpening stone, or **whetstone**, to keep your knives sharp. A whetstone is made of either silicon carbide or stone, and may have up to three sides with grains ranging from coarse to fine.

1. Using four fingers to guide the knife, hold the knife at a 20° angle against the whetstone. If you're using a three-sided whetstone, start with the coarsest surface and end with the finest. See Fig. 10-11.
2. Press down on the blade, keeping it at the 20° angle. Gently draw the knife across the stone.
3. Continue moving the knife across the stone.
4. Gently bring the knife off the stone.
5. Turn the knife over and repeat Steps 1-4, using strokes of equal number and pressure.

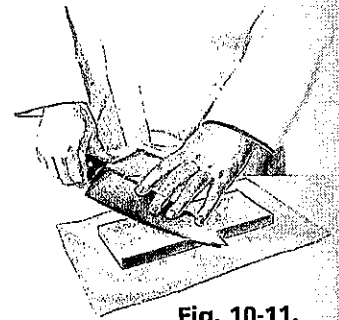


Fig. 10-11.

### Trueing Knives

After you've sharpened your knife, a steel is used to keep the blade straight and to smooth out irregularities. This process is called **trueing**.

1. Hold the steel with the hand that you don't write with. Place your arm in front of you at a 60° angle.
2. Hold the knife in the hand that you do write with. Rest the blade against the inner side of the steel at a 20° angle.



3. Keeping the knife at a 20° angle, slowly draw the blade along the entire length of the steel. See Fig. 10-12.

4. Repeat these steps several times on each side of the blade until the knife edge is straightened.

5. After using a steel, wipe the blade to remove any particles of metal.

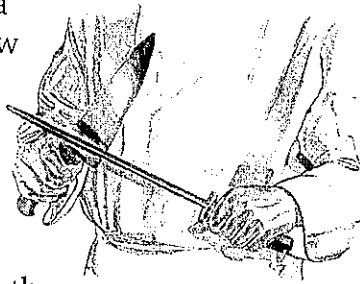


Fig. 10-12.

A knife kit is a safe, handy storage unit for a large knife collection. Individual slots keep each knife safely in place. Most chefs prefer vinyl cases because they're easy to clean and sanitize.

Custom-built drawers are another storage option. As with knife kits, special slots hold each knife in place. Magnetized bars, which can be hung on the wall, are yet another way knives are stored in commercial kitchens.

## Sanitizing Knives

Keeping knives clean is important. Wash knives in hot, soapy water after every cutting task and before storing them. Let knives air-dry thoroughly after washing and rinsing them.

To avoid cross-contamination and destroy microorganisms, sanitize knives after every use. Wipe down the blade and clean with sanitizing solution. There are also special sanitizing pads that can be used for wiping blades and handles.

## Storing Knives

To prevent damage to blades or to people, knives must be stored safely. A convenient way to store knives is in a slotted knife holder. Because of the danger of exposed blades, a slotted knife holder should be hung on a wall, not on the side of a table. See Fig. 10-13.

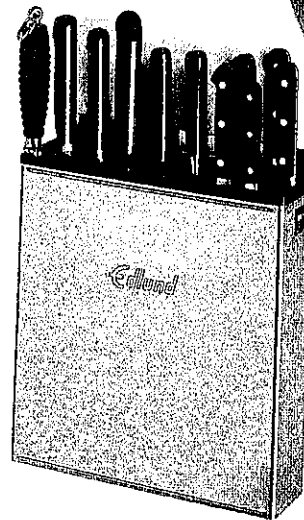
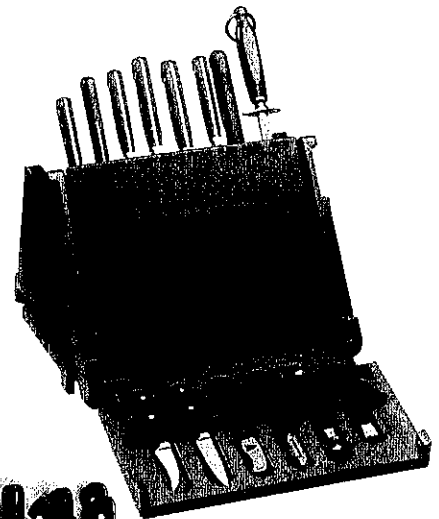


Fig. 10-13. Slotted knife holders and knife kits are two popular forms of storing knives.

## SECTION 10-1

## Knowledge Check

1. Contrast a chef's knife and a utility knife.
2. Contrast slicing, mincing, and dicing.
3. Explain why knife sanitation is important.

### MINI LAB

Imagine that you've been asked to prepare a three-course meal that includes a garden salad, beef stew, and strawberry shortcake. Explain which knives and cutting techniques you'll use to prepare each course.



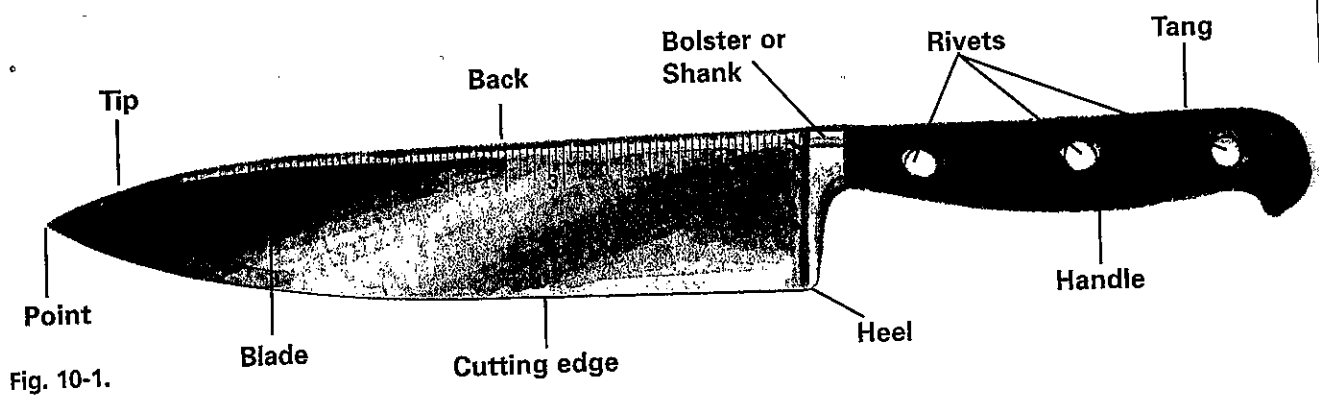


Fig. 10-1.

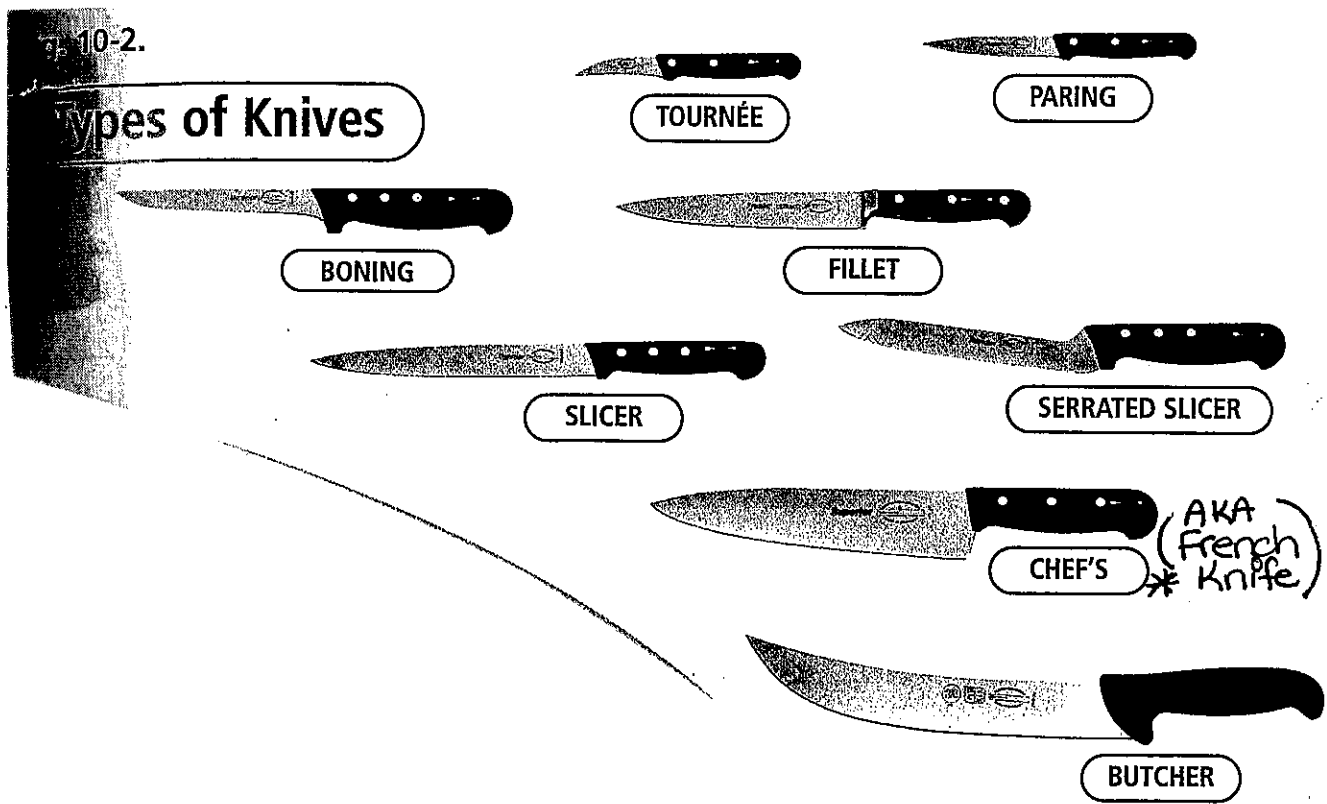


Fig. 10-2.

