



The Culinary Institute of America's

Lesson Plan Toolkit - Knife Skills

To a student exploring the culinary world, the transformation of a carrot to a pile of perfectly even julienne is almost miraculous. To the seasoned chef, the miracle is the skill, the coordination, and rhythm of the right tool in an accomplished hand.

This **Lesson Plan Toolkit** provides lectures, testing, along with group exercises. These educational materials are designed to help culinary educators and employers teach their students and employees the importance of **Knife Skills** – the basics, precision cuts, and the all-important *mis en place*.

LESSON PLAN TOOLKIT:

KNIFE SKILLS

LEARNING OBJECTIVES

By the end of the lecture you should be...

- Familiar with the four basic knife grips
- Able to perform a variety of basic knife cuts
- Knowledgeable of the various precision knife cuts
- Cognizant of the basics of mis en place

LEARNING ACTIVITIES

Lecture/Discussion
Group Exercises
Post-Evaluation

KEY TERMS

Allumette
Bâtonnet
Chiffonade
Chop
Dice
Fermière
Guiding hand
Julienne
Lozenge

Mince
Mis en place
Oblique
Paysanne
Roll cuts
Rondelle
Shred
Tourné

BASIC KNIFE SKILLS



It is indeed a poor workman who blames his tools...

Knife skills include basic and advanced cuts that are used every day to prepare vegetables and other ingredients. A thorough mastery of knife skills includes the ability to prepare ingredients properly for cutting, to use a variety of cutting tools, and to make cuts that are uniform and precise. Another important factor is the ability to select the right tool for the job, and to keep that tool in proper working condition. A steel should be on hand, whenever you are cutting any food, to periodically hone the knife's blade as you work

HOLDING THE KNIFE

It is important to be comfortable with your knife as you work. There are several different ways a knife can be held. The way you hold the knife will be determined in part by the way your knife and your hand fit one another. The grip you choose will also be determined according to the task at hand. Delicate cutting or shaping techniques will call for greater control, involving fingertips more than the fist. Coarser chopping and cutting tasks require a firmer grip and more leverage.

The four basic grips used with a chef's knife are as follow:

	<p><input checked="" type="checkbox"/> Grip the handle with all four fingers and hold the thumb gently but firmly against the blade's spine</p>
	<p><input checked="" type="checkbox"/> Grip the handle with all four fingers and hold the thumb gently but firmly against the side of the blade</p>



- ☑ Grip the handle with three fingers, rest the index finger flat against the blade on one side, and hold the thumb on the opposite side to give additional stability and control



- ☑ Grip the handle overhand, with the knife held vertically – this grip is used with a boning knife for meat fabrication tasks

THE GUIDING HAND

Your grip on the knife is determined as much by your personal preference and comfort as it is by the cutting tasks at hand. The same is true for your guiding hand, the hand responsible for controlling the food you are cutting.

The guiding hand, the hand not holding the knife, is used to hold the object being cut. This is done to prevent food from slipping as you cut it. It also makes it easier to control the size of the cut or slice you are making.



Figure 1



Figure 2



Figure 3

- ☑ One of the classic positions for the guiding hand is illustrated in figure x. The fingertips are tucked under slightly and hold the object, with the thumb held back from the fingertips. The knife blade then rests against the knuckles, preventing the fingers from being cut.
- ☑ When you peel or trim foods, cut them into tournées, or flute them, you may find yourself holding the food in the air, above the cutting surface. In that case, the guiding hand holds and turns the food against the blade to make the work more efficient. Be sure that the food, your hands, and your knife handle are very dry.
- ☑ Certain cutting techniques, such as butterflying meats or slicing a bagel in half, call for the guiding hand to be placed on top of the food to keep it from slipping, while the cut is made into the food parallel or at an angle to the work surface. Holding your hand flat on the upper surface of the food with a little pressure makes these cuts safe to perform.
- ☑ The guiding hand is also used to hold a carving or kitchen fork when disjointing or carving cooked meats and poultry in front of customers. The tines of the fork can be laid flat on the surface of the food or inserted directly into the item to hold it in place as it is carved.

PRECISION CUTS

The basic and advanced cuts used in the professional kitchen include **chopping** and **mincing**, **shredding (chiffonade)**, **julienne** and **bâtonnet**, **dice**, **paysanne** or **fermière**, **lozenge**, **rondelle**, **oblique** or **roll cuts** and **tourné**.

The aim should always be to cut the food into pieces of uniform shape and size. Evenly cut items look more attractive, but more important, they cook evenly so your dishes have the best possible flavor, color, and texture. Unevenly cut items give an impression of carelessness that can spoil the dish's look.

The flavor, texture, and appearance of the dish suffer if its components are unevenly cut. Most foods require some preliminary trimming, peeling, or squaring off to make subsequent cuts easier to perform.

- ☑ Trimming tasks include removing root and stem ends from fruits, herbs, and vegetables.
- ☑ Peeling tasks can be done using a rotary peeler if the skin is not too thick; carrot, potato, and similar skins are easy to remove with a peeler. Remember that these peelers work in both directions.
- ☑ Pairing knives can also be used to trim many fruits and vegetables.
- ☑ A chef's knife is required for vegetables, fruits and other foods with thick rinds or skins, such as hard-skinned squashes and pineapples.
- ☑ Exterior fat, gristle, and sinew can be removed from meats and poultry with a boning knife.
- ☑ Foods that are naturally round can be difficult to control as you cut them. A slice can be removed from the bottom or side of a round food to make it sit flat on the cutting board.

BASIC & ADVANCED KNIFE CUTS

It is very important that the chef be completely familiar with these cuts and able to execute them properly.

CHOP

Coarse chopping is generally used for mirepoix or similar flavoring ingredients that are to be strained out of the dish and discarded. It is also appropriate when cutting vegetables that will be puréed.

- ☑ Trim the root and stem ends and peel the vegetables if necessary.
- ☑ Slice or cut through the vegetables at nearly regular intervals until the cuts are relatively uniform. This need not be a perfectly neat cut, but all the pieces should be roughly the same size.

MINCE

Mincing is a very fine cut that is suitable for many vegetables and herbs. When mincing herbs, rinse and dry well, and strip the leaves from the stems.

- ☑ Gather the leaves in a pile on a cutting board.
- ☑ Use your guiding hand to hold them in place and position the knife so that it can slice through the pile; coarsely chop.
- ☑ Once the herbs are coarsely chopped, use the fingertips of your guiding hand to hold the tip of the chef's knife in contact with the cutting board.
- ☑ Keeping the tip of the blade against the cutting board, lower the knife firmly and rapidly, repeatedly cutting through the herbs. Continue cutting until the desired fineness is attained.

CHIFFONADE

The chiffonade cut is done by hand to cut herbs, leafy greens, and other ingredients into very fine shreds. Chiffonade is distinct from shredding, however, in that the cuts are much finer and uniform. This cut is typically used for delicate leafy vegetables and herbs.

- ☑ For greens with large, loose leaves, roll individual leaves into tight cylinders before cutting. Stack several smaller leaves before cutting.
- ☑ Use a chef's knife to make very fine, parallel cuts to produce fine shreds.

SHRED OR GRATE

Shredded or grated items can be coarse or fine, depending upon the intended use. Foods can be shredded with a chef's knife, a slicer, shredding tools and attachments, a mandoline or box grater.

- ☑ When cutting tight heads of greens, such as Belgian endive and head cabbage, cut the head into halves, quarters, or smaller wedges and remove the core before cutting shreds with a chef's knife.
- ☑ The tip of the knife either remains in contact with the board as you cut or comes in contact with the board as you make a smooth downward slicing stroke. The blade's edge rocks onto and off of the cutting surface with each stroke.
- ☑ To shred or grate larger quantities, use a box grater or a food processor fitted with grating disks. An electric slicer can be used to shred cabbages and head lettuce.

JULIENNE & BÂTONNET

Julienne and bâtonnet are long, rectangular cuts. Related cuts are the standard pommes frites and pommes pont neuf cuts (both are names for French fries) and the allumette (or matchstick) cut. The difference between these cuts is the final size.

- ☑ Julienne cuts are 1/8 inch in thickness and 1-2 inches long.
- ☑ Bâtonnet cuts are 1/4 inch in thickness and 2-2 1/2 inches long.

These dimensions may be modified slightly to suit a specific need. The key point to keep in mind is that each cut should be nearly identical in dimension to all others for even cooking and the best appearance.

- ☑ Trim and square off the vegetable by cutting a slice to make four straight sides. Cut both ends to even the block off. These initial slices make it easier to produce even cuts. The trimmings can be used for stocks, soups, purées, or any preparation where shape is not important.
- ☑ Slice the vegetable lengthwise, using parallel cuts of the desired thickness.
- ☑ Stack the slices, aligning the edges, and make parallel cuts of the same thickness through the stack.

DICE CUTS

Dicing is a cutting technique that produces a cube-shaped product. Different preparations require different sizes of dice - fine (*brunoise*), small, medium, and large dice.

The term *brunoise* is derived from the French verb, *brunoir* (to brown), and reflects the common practice of sautéing these finely diced vegetables.

- ☑ Trim and peel the vegetables as needed.
- ☑ Cut the slices to the thickness that you wish the finished dice to be.
- ☑ Stack the slices on top of one another and make even parallel cuts to the appropriate thickness.
- ☑ Gather the sticks together; using your guiding hand to hold them in place, and make crosswise parallel cuts through the sticks.
- ☑ To produce perfectly even, neat dice, these cuts should be the same thickness as the initial slices.

PAYSANNE & FERMÈRE CUTS

Cuts produced in the paysanne (peasant) and fermière (farmer) style are generally used in dishes intended to have a rustic or home-style appeal. When used for traditional regional specialties, they may be cut in such a way that the shape of the vegetable's curved or uneven edges are still apparent in the finished cut. However, it is important to cut them all to the same thickness so that they will cook evenly.

- ☑ For a more rustic presentation, cut the vegetable into halves, quarters, or eighths, depending on its size. The pieces should be roughly similar in dimension to a batonnet. Make even, thin crosswise cuts at roughly 1/8-in/4-mm intervals.
- ☑ In order to feature paysanne or fermière cuts as an ingredient in a classical dish or for a more upscale setting, square off the vegetable first and make large batonnet, 3/4 in/20 mm thick. Cut the batonnet crosswise at 1/8-in/4-mm intervals.

DIAMOND/LOZENGE CUTS

The diamond, or lozenge, cut is similar to the paysanne and is most often used to prepare a vegetable garnish. Instead of cutting batonnet, thinly slice the vegetable, then cut into strips of the appropriate width.

- ☑ Trim and thinly slice the vegetable.
- ☑ Cut the slices into strips of the desired width.
- ☑ Make an initial bias cut to begin. This will leave some trim (reserve the trim for use in preparations that do not require a neat, decorative cut).
- ☑ Continue to make bias cuts, parallel to the first one.

RONDELLES

Rounds, or rondelles, are simple to cut. The shape is the result of cutting a cylindrical vegetable, such as a carrot, crosswise. The basic round shape can be varied by cutting the vegetable on the bias to produce an elongated or oval disk or by slicing it in half for half-moons. If the vegetable is scored with a channel knife, flower shapes are produced.

- ☑ Trim and peel the vegetable if necessary.
- ☑ Make parallel slicing cuts through the vegetable at even intervals using a chef's knife, slicer, utility knife, electric slicer, or mandoline.

DIAGONAL AND BIAS CUTS

This cut is often used to prepare vegetables for stir-fries and other Asian-style dishes because it exposes a greater surface area and shortens cooking time.

- ☑ Place the peeled or trimmed vegetable on the work surface.
- ☑ Hold the blade so that it is cutting through the food on an angle; the wider the angle, the more elongated the cut surface will be.
- ☑ Continue making parallel cuts, adjusting the angle of the blade so that all the pieces are approximately the same size.

OBLIQUE OR ROLL CUTS

Oblique, as it refers to a vegetable cut, reflects the fact that the cut sides are neither parallel nor perpendicular. The effect is achieved by rolling the vegetables after each cut. This cut is used for long, cylindrical vegetables such as parsnips, carrots, and celery.





- ☑ Place the peeled or trimmed vegetable on the work surface.
- ☑ Make a diagonal cut to remove the stem end
- ☑ Hold the knife in the same position and roll the vegetable a quarter-turn (approximately 90 degrees)
- ☑ Slice through it on the same diagonal, forming a piece with two angled edges. Repeat until the entire vegetable has been cut.

TOURNÉ

Turning vegetables (*tourner* in French) requires a series of cuts that simultaneously trim and shape the vegetable. The shape may be similar to a barrel or a football. This cut is one of the most demanding, time-consuming, and exacting cuts.

- ☑ Peel the vegetable, if desired or necessary. If the trimmings can be used with the peel still intact, or if there is no appropriate use for the trimmings, you do not need to peel the vegetable.
- ☑ Cut the vegetable into pieces of manageable size.
- ☑ Hold the vegetable in your guiding hand. Using a paring knife or tourné knife, carve the pieces into barrel or football shapes.
- ☑ To produce classic tournés, you should cut the vegetable so that it has seven even sides or faces. The faces should be smooth, evenly spaced, and tapered so that both ends are narrower than the center.

AN ILLUSTRATION OF THE CUTS

	<p>FINE JULIENNE 1/16 x 1/16 x 1 to 2 inches (2 x 2 x 25 to 50 millimeters)</p>
	<p>JULIENNE / ALLUMETTE 1/8 x 1/8 x 1 to 2 inches (4 x 4 x 25 to 50 millimeters)</p>
	<p>BATONNET 1/4 x 1/4 x 2 to 2 1/2 inches (6 x 6 x 50 to 60 millimeters)</p>
	<p>BRUNOISE 1/8 x 1/8 x 1/8 inch (4 x 4 x 4 millimeters)</p>



SMALL DICE

1/4 x 1/4 x 1/4 inch
(6 x 6 x 6 millimeters)



MEDIUM DICE

1/2 x 1/2 x 1/2 inch
(12 x 12 x 12 millimeters)







LARGE DICE

3/4 x 3/4 x 3/4 inch
(20 x 20 x 20 millimeters)



PAYSANNE

1/2 x 1/2 x 1/8 inch
(12 x 12 x 4 millimeters)

	<p>FERMIÈRE Cut to desired thickness, 1/8 to 1/2 inch (4 to 12 millimeters)</p>
	<p>LOZENGE Diamond shape, 1/2 x 1/2 x 1/8 inch (12 x 12 x 4 millimeters)</p>
	<p>RONDELLE Cut to desired thickness, 1/8 to 1/2 inch (4 to 12 millimeters)</p>
	<p>TOURNÉ Approximately 2 inches (50 millimeters) long with seven faces</p>

Please note: the dimensions indicated are guidelines and may be modified as necessary. Determine the size of the cut by the requirements of the recipe or menu item, the nature of the vegetable being cut, the desired cooking time, and appearance.

KNIFE CUTS GROUP EXERCISE

GENERAL EXERCISE DESCRIPTION

This knife-skills exercise is designed to familiarize students with a variety of basic and advanced cuts.

Students will need to form three groups to practice the following cuts:

Group 1: Small dice, julienne, brunoise, fermière, and tourné

Group 2: Medium dice, fine julienne, bâtonnet, losenge, and tourné

Group 3: Large dice, fine brunoise, paysanne, rondelle, and tourné

Groups should have access to the appropriate mis en place for each of the cuts and decide which vegetables to use based on the group's assigned cuts.

Each group will need to present a sampling of each cut for review and discussion upon completion of the exercise. The instructor will need to determine whether the cuts are of the appropriate size and the groups will need to provide commentary on the best uses for each of the cuts.

MIS EN PLACE

Setting up your workplace properly is vital to becoming more efficient and effective in the professional kitchen.

☑ **Set up your work area safely and completely before you start to work**

Your work surface should be a height that doesn't force you to either stoop or reach up at an uncomfortable angle; it should be stable and secure.

Select a cutting board of the appropriate size and check to be sure it is not seriously gouged or chipped. Be sure to adhere to your own kitchen's standard practices, especially if a color-coded cutting board system is in place.

☑ **Gather items necessary to keep your work area safe and clean**

Cross-contamination of foods occurs when a contaminated item – for example, a shell egg with salmonella – comes in contact with another surface – another food item, your knife, your cutting board, your towel, your hands, or your gloves.

You must destroy or remove the pathogen by cooking the food, washing your hands properly, cleaning and sanitizing tools and work surfaces, and replacing soiled side towels, aprons, and gloves.

Your work station mise en place must include a container of double-strength sanitizing solution, clean wiping cloths, side towels, and gloves.

☑ **Gather the appropriate portioning and storage materials**

Have on hand enough containers to hold separately each of the following: prepped items ready to use in other preparations or to serve as is; wholesome trim to use in preparations such as stocks or soups, inedible trim and other refuse.

Be sure to have a separate container for composting if your kitchen is equipped to compost food scraps.

☑ **Use scales properly**

If part of your prep work includes portioning raw materials, have a scale or other portioning equipment ready, making sure that it is properly cleaned before you begin work.

Cover the food contact surface of the scale with plastic wrap, parchment paper, butcher's paper, or deli paper. This makes later cleanup easier, of course, and is also important to help prevent cross-contamination. Be certain to change the wrap between each type of product as well.

☑ **Keep foods at the best possible temperature for prep work**

Many foods should be kept well-chilled to avoid foodborne illness. Some foods, however, are relatively stable at room temperature. These include most root vegetables; not only are they safe at room temperature, they are easier to cut.

If you have any doubt about the potential danger of holding any food at room temperature, it is better to err on the side of safety and keep things cold.

☑ **Stand in a natural position, facing the cutting board squarely**

You may need to change your stance from time to time, but avoid twisting the trunk of your body in the opposite direction from your legs.

Good posture and general fitness help avoid back strain and general fatigue as you work. Regular exercise can improve posture and fitness as well as strength, flexibility, stamina, and even your ability to concentrate.

☑ **Arrange your work so that it flows in a logical direction**

The direction of flow depends upon whether you are left- or right-handed. The basic rule is to keep all product moving in one direction. You may need to break complex preparation tasks into individual steps.

☑ **Use gloves properly**

Gloves must be used properly if they are to keep the food safe from cross-contamination. Your gloves should fit close to your hand; gloves that are too large may slip as you work, and if too small, not only are they uncomfortable, they will tear easily.

Gloves are not a magic barrier to pathogens, and they do not take the place of thorough and proper handwashing.

Gloves themselves can become contaminated. Do not switch from one food type to another without changing your gloves. If a glove tears or rips, replace it right away, and replace your gloves whenever you have left your station for any reason.

EVALUATION - TEST QUESTIONS

True/False Questions

Indicate whether each of the following statements is True (T) or False (F)

1. There are two basic knife grips.
2. Coarse chopping and cutting tasks require a firm grip and more leverage.
3. The guiding hand is responsible for controlling the food you are cutting.
4. When you are peeling or trimming foods, the product should always remain on the cutting board.
5. The flavor, texture, and appearance of a dish suffer if the components are unevenly cut.
6. Paring knives can be used to remove exterior fat, gristle, and sinew from meats and poultry.
7. The chiffonade cut is done by hand to cut herbs, leafy greens, and other ingredients into very fine shreds.
8. Mincing is generally used for mirepoix.
9. Shredding and bâtonnet are similar knife cuts.
10. Paysanne and fermière cuts are generally used in dishes intended to have a rustic or home-style appeal.

Multiple Choice Questions

1. A tournéed vegetable has how many sides?
 - a. 5
 - b. 7
 - c. 8
 - d. 6
2. Which cut is made from a julienne?
 - a. Rondelle
 - b. Paysanne
 - c. Brunoise
 - d. Chiffonade
3. A knife cut used with long, cylindrical vegetables
 - a. Allumette
 - b. Oblique/Roll cut
 - c. Rondelle
 - d. Diagonal
4. Three popular cuts for french fries are:
 - a. Matchstick, julienne, bâtonnet
 - b. Rondelle, allumette, dice
 - c. Julienne, bâtonnet, chiffonade
 - d. Dice, rondelle, chiffonade
5. Which is the correct way to hold a knife?
 - a. Grip the handle with all four fingers and hold the thumb gently but firmly against the blade's spine
 - b. Grip the handle with all four fingers and hold the thumb gently but firmly against the side of the blade
 - c. Grip the handle with three fingers, rest the index finger flat against the blade on one side, and hold the thumb on the opposite side to give additional stability and control
 - d. All of the above
6. A bâtonnet cut measures:
 - a. $\frac{1}{2}$ inch x $\frac{1}{2}$ inch x $2\frac{1}{2}$ inches
 - b. $\frac{1}{4}$ inch x $\frac{1}{4}$ inch x 2 inches
 - c. $\frac{1}{2}$ inch x $\frac{1}{2}$ inch x $\frac{1}{2}$ inch
 - d. none of the above

7. When cutting a round vegetable, you should first
 - a. Cut it in $\frac{1}{2}$
 - b. Cook the vegetable
 - c. Square off the edges
 - d. Rub the vegetable with salt to prevent rolling

8. A brunoise is:
 - a. Larger than a small dice
 - b. Smaller than a small dice
 - c. Another name for small dice
 - d. None of the above

9. Which vegetable cut is often used in stir-fires and other Asian-style dishes:
 - a. Oblique
 - b. Fermière
 - c. Lozenge
 - d. Diagonal

10. The most demanding, time-consuming cut is the:
 - a. Lozenge
 - b. Tourné
 - c. Oblique
 - d. Fermière

EVALUATION – TEST ANSWERS

True/False Answers

1. There are two basic knife grips. **FALSE**
2. Coarse chopping and cutting tasks require a firm grip and more leverage. **TRUE**
3. The guiding hand is responsible for controlling the food you are cutting. **TRUE**
4. When you are peeling or trimming foods, the product should always remain on the cutting board. **FALSE**
5. The flavor, texture, and appearance of a dish suffer if the components are unevenly cut. **TRUE**
6. Paring knives can be used to remove exterior fat, gristle, and sinew from meats and poultry. **FALSE**
7. The chiffonade cut is done by hand to cut herbs, leafy greens, and other ingredients into very fine shreds. **TRUE**
8. Mincing is generally used for mirepoix. **FALSE**
9. Shredding and bâtonnet are similar knife cuts. **FALSE**
10. Paysanne and fermière cuts are generally used in dishes intended to have a rustic or home-style appeal. **TRUE**

Multiple Choice Answers

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 - c. Grip the handle with three fingers, rest the index finger flat against the blade on one side, and hold the thumb on the opposite side to give additional stability and control
 - d. All of the above**
6. A bâtonnet cut measures:
 - a. ½ inch x ½ inch x 2½ inches**
 - b. ¼ inch x ¼ inch x 2 inches
 - c. ½ inch x ½ inch x ½ inch
 - d. none of the above

7. When cutting a round vegetable, you should first
 - a. Cut it in $\frac{1}{2}$
 - b. Cook the vegetable
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