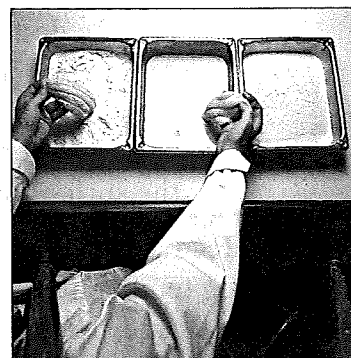


## Essential Skills

### Standard Breading Procedure

Cooks often give fried foods a crisp coating through the standard breading procedure, which involves dredging the seasoned items in flour, egg wash, and finally a crunchy ingredient (such as breadcrumbs or grated cheese).

- ① Prepare an assembly line. Working from left to right (if you are right-handed), organize your seasoned, uncoated items, a pan of flour, a pan of egg wash, a pan of breadcrumbs or other crunchy substance, and a parchment-lined pan for the coated product.
- ② Keeping one hand for wet food and one hand for dry food, submerge each item first in flour, then in egg wash, and then in crumbs, removing any excess as you go. Make sure to coat the entire product. See Figure 5.35.
- ③ Carefully arrange the coated items on the lined pan, separating layers with additional parchment paper as needed.
- ④ Store the finished product in the refrigerator or freezer until needed.
- ⑤ Discard all unused flour, egg wash, and crumbs to prevent cross-contamination.



**Figure 5.35:** Step 2—One hand for wet food and one hand for dry food.

Food that can be deep-fried must be naturally tender and of a shape and size that allows it to cook quickly without becoming tough or dry. As much as 35 percent of the flavor of a deep-fried food comes from the oil in which it is fried. Always use a good-quality oil.

The “float” of the item, the point when the item rises to the surface of the oil and appears golden brown, indicates doneness. To ensure doneness, be sure to check a piece of the item being cooked for the proper internal temperature. The crust should be crisp and delicate, surrounding a moist, tender piece of meat, fish, poultry, or vegetable. There are three slightly different methods for deep-frying food:

1. In the **swimming method**, gently drop a breaded or batter-coated food in hot oil, where it falls to the bottom of the fryer and then swims to the surface. Once the food items reach the surface, turn them over, if necessary, so they brown on both sides.

2. In the **basket method**, bread the food, place it in a basket, lower the basket and food into the hot oil, and then lift it all out with the basket when the food is done.
3. Use the **double-basket method** for certain food that needs to be fully submerged in hot oil for a longer period of time in order to develop a crisp crust. In this method, place the food item in a basket, and then fit another basket on top of the first. The top basket keeps the food from floating to the surface of the oil.

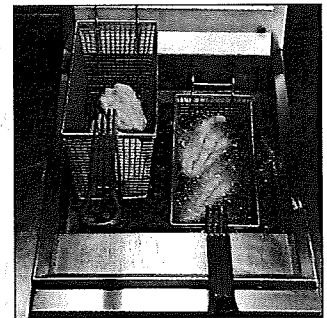
**Recovery time** is the amount of time it takes oil to reheat to the correct cooking temperature once food is added. The more food items dropped in the oil at one time, the longer the recovery time. The **smoking point** is the temperature at which fats and oils begin to smoke, which means that the fat has begun to break down. Use oil for deep-frying that has a neutral flavor and color and a high smoking point, around 425°F.

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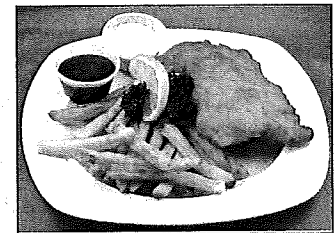
## Essential Skills

### *Deep-Frying*

- ① Heat the fat or oil to the proper temperature, usually 325°F to 375°F.
- ② Add the food item (usually breaded, floured, or batter-coated) to the hot oil, using the appropriate method (swimming, basket, or double-basket). See Figure 5.36a.
- ③ Turn the item during frying, if necessary.
- ④ If the item is too thick to cook fully in the oil, then crisp the item on the outside and finish it in the oven.
- ⑤ Blot the food with absorbent paper toweling.
- ⑥ Season and serve with the appropriate sauce and garnish. See Figure 5.36b.



**Figure 5.36a:** Step 2— Add the food item to hot oil using an appropriate method.



**Figure 5.36b:** Step 6— Season and serve.

## Moist-Heat Cooking Methods

Moist-heat cooking techniques produce food that is delicately flavored and moist, sometimes with a rich broth, which can be served as a separate course or used as a sauce base. In fact, an entire dinner, complete with meat, fish, or poultry and vegetables, can be cooked in one pot. One example of this is the classic New England boiled dinner, consisting of corned beef, cabbage, and potatoes. Moist-heat cooking methods provide the opportunity to create nutritious, appealing dishes with a range of flavors and textures.

Moist-heat cooking methods include the following:

- Simmering
- Poaching and shallow poaching
- Blanching
- Steaming

### Simmering

When **simmering**, completely submerge food in a liquid that is at a constant, moderate temperature. Use well-flavored liquid and cuts of meat that are less tender than those recommended for dry-heat cooking methods. Simmering less tender items cooks them at a slightly higher temperature than other moist-heat methods, 185°F to 205°F. Simmering differs from boiling in that bubbles in a simmering liquid rise gently and just begin to break the surface. Do not allow the water to come to a full boil, because the boiling motion will cause meat to become stringy and rubbery.

### Poaching

When **poaching**, cook food between 160°F and 180°F. The surface of the poaching liquid should show some motion, but no air bubbles should break the surface. Use well-flavored liquid, and make sure the food is naturally tender. Cooks commonly poach chicken and seafood.

Cooks also often serve poached and simmered items with a flavorful sauce prepared from the poaching/simmering liquid to add zest to the dish's mild flavor. Be careful not to overcook poached and simmered food.

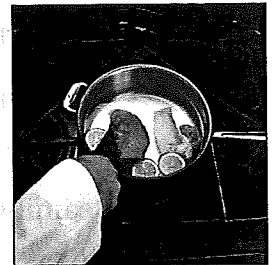
**Shallow poaching** cooks food using a combination of steam and a liquid bath. Shallow poaching is a last-minute cooking method best suited to food that is cut into portion-sized or smaller pieces. The food is partially covered by a liquid containing an acid (usually wine or lemon juice), herbs, and spices in a covered

pan. The steam cooks the items that are not directly covered by the poaching liquid. Food that has been shallow poached should be very tender and moist, with a fragile texture. Cooks commonly shallow poach **paupiettes** of sole and other white fishes. Shallow poaching transfers much of the flavor of the food from the food item to the liquid. To keep this lost flavor, use the liquid as a sauce base. This liquid is called a **cuisson**.

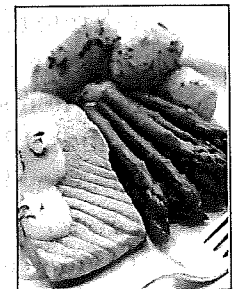
## Essential Skills

### *Shallow Poaching*

- ① Heat butter in a saucepan.
- ② Add the seasonings to the pan, and make a level bed.
- ③ Add the food item and the poaching liquid. The liquid should come partway up the food item. See Figure 5.37a.
- ④ Bring the liquid to a proper cooking temperature, usually 160°–180°F.
- ⑤ Cover the saucepan with buttered parchment paper or a lid.
- ⑥ Finish the food in the saucepan, either over direct heat or in an oven.
- ⑦ Remove the food item from the poaching pan, and keep it warm and moist.
- ⑧ Reduce the poaching liquid, and prepare a sauce as desired.
- ⑨ Serve the food item with the sauce and appropriate garnish. See Figure 5.37b.



**Figure 5.37a:**  
Step 3—Add a food item and the poaching liquid.



**Figure 5.37b:**  
Step 9—Serve the food item with sauce and garnish.

## Blanching

Blanching is a variation of boiling. When **blanching**, partially cook food (also called **par-cooking**), and then finish it later. Cooks frequently use blanching to pre-prepare vegetables.

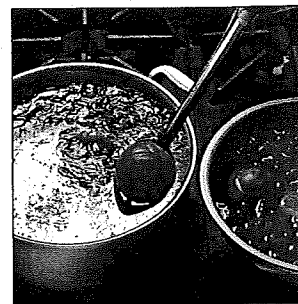
An example of blanching is the preparation of green beans. Blanch the beans, and then give them a quick toss with seasoned butter in a hot pan at service. The result is a green bean cooked to perfection, with bright color, but prepared fresh and quickly at service. Many times, cooks blanch food that takes too long to cook thoroughly before they deep-fry it.

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## Essential Culinary Skill

### Blanching

- 1 Bring water to a boil, and then place items in the boiling water.
- 2 Boil the food for a short time, not cooking it all the way.
- 3 Remove the item from the pot, and then shock it by placing it in ice water. This immediately stops the cooking. See Figure 5.38.
- 4 Drain and dry the item, and then hold it until it is time for finishing.



**Figure 5.38:** Step 3—Shock the item by placing it in ice water.

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## Steaming

**Steaming** is cooking food by surrounding it in steam in a confined space such as a steamer basket, steam cabinet, or combi-oven. Direct contact with the steam cooks the food.

Steaming can take place with or without pressure. Placing food in a steamer basket on top of a pot of boiling water directly exposes the food to steam, which is 212°F. Placing food in a commercial steam cabinet or combi-oven also cooks food through direct contact with the steam, but the temperature is generally higher because the steam is under pressure. It cannot escape the cabinet or oven. Both methods cook in the same way, but one cooks faster than the other. Take this into consideration when preparing a dish.

Enhance the flavor of food steamed over, but not directly in, boiling liquid by using broth instead of water as the liquid. Use naturally tender food, cut it into small sizes, and place it on a rack above the boiling liquid within a closed cooking pot. As the liquid comes to a boil, the steam created surrounds the food, heating it evenly and keeping it moist. Once all the ingredients are in the steamer and the cover is in place, do not remove the lid because the steam will escape, slowing down the cooking process.

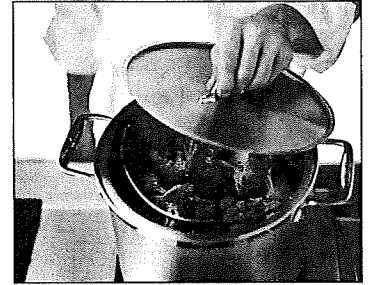
With steam, no browning can occur, so food appears pale. Items cooked with steam have mild, delicate flavors and often have a fresher taste, color, and appearance. Cooking time is longer with steaming than with boiling or simmering. Cook steamed food until it is just done but not overcooked. Steamed food should be moist and plump, not rubbery or chewy.

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### Essential Skills

#### *Steaming Food on Top of the Range*

- ① Bring the liquid to a boil.
- ② Add the food item to the pot in a single layer on a rack raised above the boiling liquid.
- ③ Cover the pot. See Figure 5.39.
- ④ Steam the food to the correct doneness.
- ⑤ Serve the food immediately with the appropriate sauce and garnish.



**Figure 5.39:** Step 3—Cover the pot.

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## *Combination-Cooking Methods*

Sometimes the best method for preparing certain food is a combination of both dry-heat and moist-heat cooking methods. Such cooking is called **combination cooking**. For example, braising and stewing use both dry and moist heat to cook food that is less tender. Combination-cooking techniques are useful because they can transform the less tender and less expensive main ingredients into delicious and tender finished products.

Combination-cooking methods include the following:

- **Braising:** Primarily used for larger cuts of meat
- **Stewing:** For smaller pieces of food

### Molecular Gastronomy

The term “molecular gastronomy” has recently become popular in the culinary world. Food writers use it as a catch-all term to describe a variety of unusual culinary techniques and the chefs who are associated with them. Once limited to a few high-end restaurants in Europe and the United States, many of these techniques have been adopted by restaurants worldwide, and some methods are even suitable for home use. Here is a quick survey of some common trends in molecular gastronomy:

- **Spherification:** Mixing juices or other liquids with calcium chloride and then dripping the mixture into an alginate solution causes “pearls” or “caviar” to form. These balls are liquid inside and gel outside, so when you bite into them, a burst of liquid, such as apple juice or chicken consommé, explodes in your mouth.
- **Foams:** Liquids are made foamy with carbon dioxide or by buzzing with an immersion blender (sometimes with lecithin or another stabilizer added first). The resulting froth, for instance, a delicate froth made of pan juices, is spooned directly onto a dish or frozen for later use.
- **Flash-freezing:** Immersing a food into liquid nitrogen or placing it on an Anti-Griddle™ can instantly freeze a sauce, cream, or purée, making anything from an ice cream to a liquid-filled ice pop.
- **Meat glue:** More correctly known as **transglutaminase**, this chemical “glues” proteins to one another to create a solid piece from fragments; for instance, bonding bacon to a rabbit loin or making “pasta” from finely ground meat pastes.

This is just the tip of the iceberg! New technologies and techniques are being pioneered daily. Since some of these can be tried at home, consider investigating further to see what novel concepts you can create.

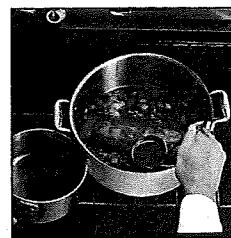
### Braising

In **braising**, first sear the food item in hot oil, and then partially cover it in enough liquid to come halfway up the food item. Then cover the pot or pan tightly, and finish the food slowly in the oven or on the stovetop until it is tender. A bed of seasonings adds moisture and flavor to the food. If the recipe calls for them, add vegetables to braised meat or poultry near the end of the cooking time. As the meat cooks, its flavor is released into the cooking liquid, which becomes the accompanying sauce. The key to quality braising is long, slow cooking. In an item such as coq au vin, the meat should slide from the bone in the final product, and the meat itself should fall apart with a gentle touch.

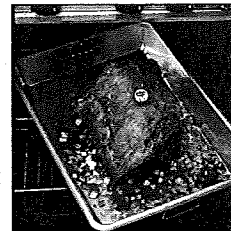
## Essential Skills

### Braising

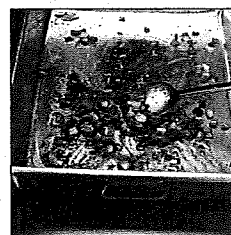
- ① Preheat both the pan and the oil.
- ② Sear on all sides. See Figure 5.40a.
- ③ Add mirepoix and tomato.
- ④ Stir a small amount of liquid into the mirepoix to deglaze the pan.
- ⑤ Add the appropriate amount of liquid.
- ⑥ Cover the pot and finish the braise.
- ⑦ Check to see if the braised foods are done. See Figure 5.40b.
- ⑧ Place the pot over the direct heat, and continue to reduce the sauce to develop its flavor, body, and consistency. See Figure 5.40c.



**Figure 5.40a:** Step 2—Sear on all sides.



**Figure 5.40b:** Step 7— Check to see if the braised food is done.



**Figure 5.40c:** Step 8—Continue to reduce the sauce.

Slow, gentle braising causes the tougher connective tissue of lean meat to become fork tender and well done. More tender food requires less cooking fluid and can be heated at lower temperatures for a shorter time. Few nutrients are lost with braising. Braised food that is finished in the oven is less likely to be scorched than food that is finished on the stovetop. Braised food should be extremely tender, but should not fall into shreds.

Braising techniques include daube, *estouffade*, and pot roasting:

- **Daube** (DAWB): A braised dish usually made with red meat, often beef, vegetables, red wine, and seasoning. The main item is often marinated before braising.
- **Estouffade** (ess-too-FAHD): The French term refers to both the braising method and the dish itself (a beef stew made with red wine).
- **Pot roasting:** A common American term for braising as well as the name of a traditional dish.

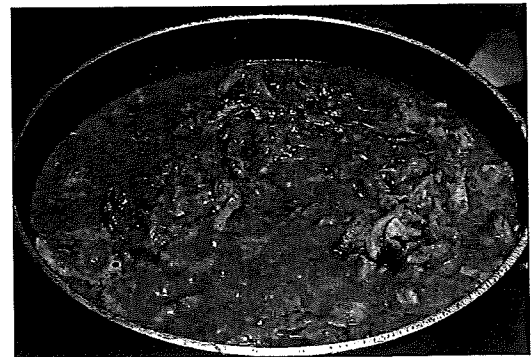


## Stewing

**Stewing** techniques are similar to braising, but the pre-preparation is a little different. First, cut the main food item into bite-sized pieces, and either blanch or sear them. As with braising, cook the food in oil first, and then add liquid. Stewing requires more liquid than braising. Cover the food completely while it is simmering.

There are many kinds of stews. Here are some types that are popular in classical European cooking:

- **Blanquette** (blahn-KETT): A white stew made traditionally from veal, chicken, or lamb, blanquette is garnished with mushrooms and pearl onions, and served in a white sauce.
- **Bouillabaisse** (BOO-yuh-base): This is a Mediterranean fish stew combining a variety of fish and shellfish.
- **Fricassée** (frick-uh-SAY): This is a white stew, often made from veal, poultry, or small game.
- **Goulash** (GOO-losh): This stew originated in Hungary and is made from beef, veal, or poultry, seasoned with paprika, and generally served with potatoes or dumplings. See Figure 5.41.
- **Navarin** (nav-ah-RAHN): This stew is usually prepared from mutton or lamb, with a garnish of root vegetables, onions, and peas. The name probably comes from the French word for turnips (*navets*), which are used as the principal garnish.
- **Ragout** (ra-GOO): This is a French term for stew that means “restores the appetite.” See Figure 5.41.
- **Matelote** (ma-tuh-LOAT): A special type of fish stew, matelote is usually prepared with eel.



**Figure 5.41:** Goulash and ragout.

[nutrition]

### Nutritious Cooking

Some cooking techniques are naturally more nutritious than others. Sautéing and grilling, for instance, use a minimal amount of fat, while steaming and poaching require none at all. Deep-frying and pan-frying, on the other hand, increase the fat content of the final product. However, fat can help carry flavor. Foods cooked with fat often taste better than those cooked without it. For most people, it is possible to find a balance between more and less healthy cooking methods. Practicing moderation is the key. The well-thought-out use of herbs, spices, and other flavoring ingredients can also help people lower their fat intake without sacrificing great taste.

[ServSafe™ Connection]

### Safe Cooking Guidelines

When cooking, follow these general guidelines:

- Specify cooking time and the required minimum internal cooking temperature in all recipes.
- Use a thermometer with a probe that is the right size for the food.
- Avoid overloading ovens, fryers, and other cooking equipment.
- Let the cooking equipment's temperature recover between batches.
- Use utensils or gloves to handle food after cooking.
- Taste food correctly to avoid cross-contamination.

## Other Cooking Methods

Two other cooking methods include *sous vide* and microwave cooking.

### Sous Vide Cooking

*Sous vide* is a method in which food is cooked for a long time, sometimes well over 24 hours. *Sous vide* is French for “under vacuum.” Rather than placing food in a slow cooker, the *sous vide* method places food in airtight plastic bags in water that is hot but well below boiling point. This cooks the food using precisely controlled heating, at the temperature at which it should be served.

The water might feel about as hot as a bathtub, but feeling is not enough. For safety and quality reasons, *sous vide* water-bath temperatures are measured in tenths of a degree. The exact range is narrow and precise.