

6.1 Stocks

- The essential parts of stock
- Types of stock
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- Preparing ingredients for stock
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6.2 Sauces

- Grand sauces
- Basic ingredients in sauces
- Preparing different kinds of sauces
- Matching sauces to food

6.3 Soups

- Basic kinds of soup
- Preparing soup

SECTION 6.2 SAUCES

The word *sauce* comes from the French word that means a relish to make food more appetizing. All types of sauces are important in cooking. A good sauce adds flavor, moisture, richness, and visual appeal. Sauces should complement food, not disguise it.

Study Questions

After studying Section 6.2, you should be able to answer the following questions:

- What are the grand sauces? What other sauces are made from them?
 - What are the proper ingredients for sauces?
 - How do you prepare different kinds of sauces?
 - How do you match sauces to the appropriate type of food?
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Grand Sauces

A **sauce** is a liquid or semisolid product that is used in preparing other foods. Sauces add flavor, moisture, and visual appeal to another dish. A **saucier** is a cook who specializes in making sauces.

There are five classical **grand sauces** that are the basis for most other sauces. These are sometimes called “mother sauces.” They include the following:

- **Béchamel** (BAY-shah-MELL): This is made from milk and white roux.
- **Velouté** (veh-loo-TAY): This is made from veal, chicken, or fish stock and a white or blond roux.

- **Brown or *Espagnole* sauce** (ess-spah-NYOL): This is made from brown stock and brown roux.
- **Tomato sauce:** This is made from a stock and tomatoes (roux is optional).
- **Hollandaise** (HALL-en-daze): This is an emulsion made from eggs, butter, and lemon.

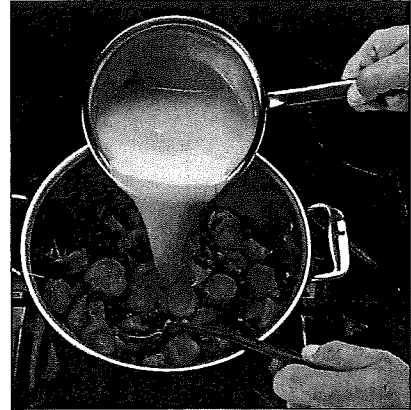


Figure 6.8: A saucier prepares a brown sauce.

Figure 6.8 shows a saucier preparing a brown sauce. Grand sauces are rarely used by themselves. They are often used to make derivative sauces. For example, **demi-glace** (deh-mee glahs), a rich brown sauce, is traditionally made by combining equal parts *espagnole* sauce and veal stock. Table 6.1 lists the grand sauces and their derivatives.

[fast fact]

Did you know...?

While there are many derivative sauces, the original grand sauces are works of art. Chefs use them to create outstanding dishes. One example is hollandaise sauce, featured in Eggs Bénédict. Toast a crumpet or English muffin, and layer it with a warm slice of Canadian bacon or ham, a perfectly poached egg, and a generous spoonful of hollandaise sauce over all. Absolutely delicious!

[ServSafe Connection]

Holding Hollandaise

Hollandaise sauce is a delicate balance of warmth, egg/butter/lemon emulsion, and mild lemon butter flavor. Any abuse will break the sauce. Overheating or overcooling will destroy the balance. However, holding the sauce too long at a warm temperature in the danger zone is unacceptable, due to the egg content of the sauce.







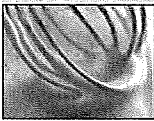
The key is to make the right amount of hollandaise for the service, and use it immediately. Unfortunately, this is not always practical. Once a perfect hollandaise has been made, it can be held for up to an hour over a bath of lukewarm water (>135°F) on the stove. The stove should be at very low heat, not hot enough to boil the water bath.

Refrigerate unused hollandaise for one to two days, or freeze it to keep longer. When it's revived, it will be different, but it will still be a nice sauce.

For long holding, or to restore chilled hollandaise, maintain or reheat it over a double-boiler on low heat. Gently stir in some béchamel sauce. This new sauce is lovely for vegetables, fish, or chicken. However, it's not quite hollandaise any longer.

To attempt to restore the sauce to its original form as hollandaise, gently beat two tablespoons of the chilled sauce in a double boiler over hot water on low heat. When that portion has revived, add and gently beat in the rest one spoonful at a time.

Table 6.1: Grand Sauces and Their Derivatives

Grand Sauce	Derivative Sauce	Additional Ingredients
 Béchamel	Cream Cheddar cheese Soubise (soo-BEEZ)	Cream (instead of milk) Cheddar cheese Puréed cooked onions
 Veal velouté	<i>Allemande</i> (ah-leh-MAHND) Hungarian Curry	Egg yolks Egg yolks, Hungarian paprika Egg yolks, curry spices
 Chicken velouté	Mushroom Supreme Hungarian	Cream, mushrooms Reduced with heavy cream Cream, Hungarian paprika
 Fish velouté	White wine Bercy Herb	White wine White wine, shallots, butter, parsley White wine, herbs
 Brown <i>(espagnole)</i>	<i>Bordelaise</i> (bohr-dl-AYZ) <i>Chasseur</i> <i>Lyonnaise</i> (lee-oh-NEHZ) Madeira	Red wine, parsley Mushrooms, shallots, white wine and tomato <i>concassé</i> Sautéed onions, butter, white wine, vinegar Madeira wine
 Tomato	Creole (KREE-ohl) Portuguese	Sweet peppers, onions, chopped tomatoes Onions, chopped tomatoes, garlic, parsley
 Hollandaise	<i>Béarnaise</i> (behr-NAYZ) Maltaise	Tarragon, white wine, vinegar, shallots Blood orange juice and zest

Basic Ingredients in Sauces

Sauces need a liquid component, but some sauces, such as salsa, may contain more solid elements than liquid. A key ingredient in sauce is the thickener, which adds richness and body. Some examples of thickeners are roux, beurre manié, slurry, and liaison.

[fast fact]

Did you know...?

Roux can be cooked until it is white, blond, brown, or dark brown. The color depends on the temperature and time taken to cook the fat-flour mixture. None of these types of roux is better or worse than any other. The color you choose will depend on the flavor and color you want to give your sauce or soup.

Roux (ROO) is a thickener made of equal parts cooked flour and a fat, such as clarified butter, oil, or shortening. To make a roux, the fat is heated in a pan, and then the flour is added. The mixture is stirred until the flour and fat are fully blended. The color of the roux is determined by how long the mixture has been heated.

There are four commonly used types of roux:

- **White roux:** This is cooked for a very short period of time; used in sauces where little color is needed, like béchamel. White roux is bland and a little starchy and has the most thickening power.
- **Blond roux:** This is cooked longer than white roux, until the flour turns golden and has a nutty aroma; used in ivory-colored sauces like velouté. Blond roux has a little more flavor development. It is nutty tasting.
- **Brown/dark brown roux:** This sauce is cooked until it develops a dark brown color; used in dishes that require a dark brown color. Brown roux is nutty and a rich medium-brown color. Dark brown roux is quite dark, with a nutty, roasted flavor. It has the least thickening ability because the starch has been cooked the longest.

Beurre manié (byurr man-YAY) is a thickener made of equal parts flour and soft, whole butter. Mix flour and butter together, and then shape the mixture into small pea-sized balls and add to the cooking sauce. See Figure 6.9. Use *beurre manié* to thicken a sauce quickly at the end of the cooking process.

A **slurry**, cornstarch mixed with a cold liquid, can be used instead of roux. You cannot add cornstarch directly to a sauce; it will make the sauce lumpy. First, dissolve the cornstarch in a cold liquid.



Figure 6.9: *Beurre manié* is a paste made from flour and butter that is used as a sauce thickener.

Essential Skills

Making Roux

- ① Heat clarified butter or other fat in a heavy saucepan.
- ② Add flour and stir together with the fat to form a paste. See Figure 6.10.

Note: Most often, chefs use equal parts flour and fat (by weight), but some sources suggest 60 percent flour and 40 percent fat.

- ③ Stir the roux continually to prevent burning.
- ④ Cook the paste over medium heat until the desired color is reached.

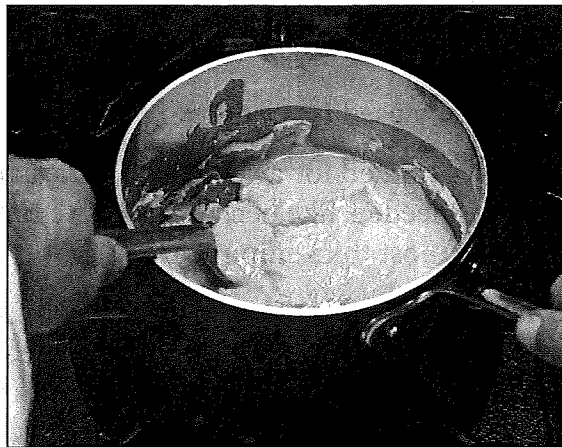


Figure 6.10: Step 2—Add flour and stir with fat to form a paste.

Don't boil sauces thickened with cornstarch too long or the starch will break down, creating a watery sauce.

A **liaison** (lee-AY-zohn) is a mixture of egg yolks and heavy cream, often used to finish some sauces, such as *Allemande* sauce. Liaison adds a rich flavor and smoothness to the sauce without making it too thick. It is important to temper the liaison to prevent the egg yolks from curdling. To **temper** the sauce, slowly mix a little bit of the hot sauce with the eggs and cream mixture to raise the temperature, and then add the warmed-up egg mixture into the sauce.

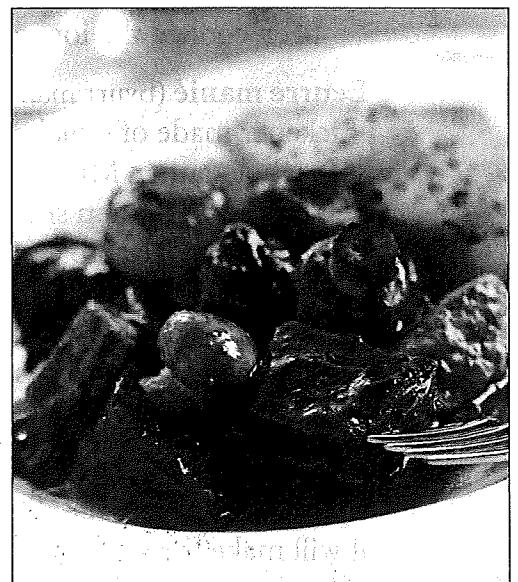


Figure 6.11: *Boeuf Bourguignonne* is a well-known, traditional French recipe.

Red Wine

A lot is said about sauces being a lavish “extra” that weight-conscious individuals should have “on the side.” A sauce is a beautiful, flavorful, integral part of a dish and its presentation. And some sauces even enhance the nutrition of an item. One is sauce *bourguignonne*, which uses the red wine *Bourgogne* to deglaze.

In the deglazing and gentle cooking, the alcohol content of the wine is decreased. The nutrient content of the wine remains, boosting the nutrition of the entire dish, be it *boeuf bourguignonne* (as seen in Figure 6.11) or *coq au vin*. Red wine provides antioxidants, flavonoids (like anthocyanins), procyanidids, and resveratrol. These long-name chemicals fight both cancer and heart disease.

Preparing Different Kinds of Sauces

There are various kinds of sauces besides grand sauces and derivative sauces. These include compound butters, cold or thick sauces like salsa and *coulis* (koo-LEE), and sauces made from the natural juices of meat.

Compound butter is a mixture of raw butter and various flavoring ingredients, such as herbs, nuts, citrus zest, shallots, ginger, and vegetables. Use compound butters to finish grilled or broiled meats, fish, poultry, game, pastas, and sauces, among other uses. Roll the butter into a long tube shape, then chill and slice for use as needed. See Figure 6.12. One blend is ***maître d’hôtel butter*** (MAY-tra doe-TEL), a softened butter flavored with lemon juice and chopped parsley. It is often used to garnish grilled meat or fish.

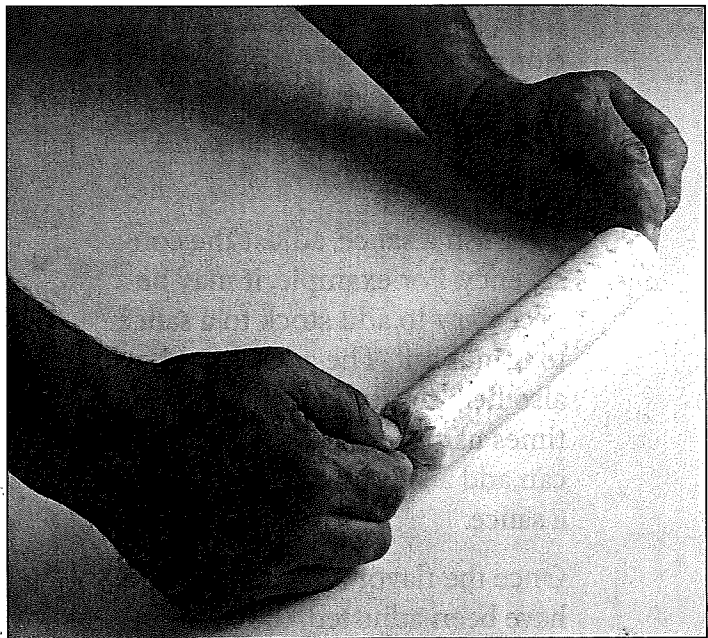


Figure 6.12: Compound butter is ordinary butter to which a flavor or additional ingredient, such as herbs, shallots, or lemon juice, has been added. The most common form is called *beurre maître d’hôtel*.

Other miscellaneous sauces that add flavor, texture, and color to a dish include salsa and *coulis*. **Coulis** is a thick puréed sauce, such as the tomato *coulis* as pictured in Figure 6.13. **Salsa** is a cold mixture of fresh herbs, spices, fruits, and/or vegetables. It can be used as a sauce for meat, poultry, fish, or shellfish. These sauces allow chefs to change a menu item by adding flavor, moisture, texture, and

[fast fact]

Did you know...?

"Salsa" is the Spanish word for sauce. This food originated back in the time of the Incas and Aztecs. Today, when we think of salsa, we think of a fresh, uncooked sauce made of tomatoes, chiles, and a variety of other ingredients. The sauce can be smooth, semi-chunky, or evenly chopped. When we go to the grocery store, we can find spicy or mild salsa, with all sorts of ingredients added to it—corn, cilantro, garlic, black beans, guacamole or even mango or peach.

color to a dish. One advantage is that these sauces can provide a lower-fat alternative to the usually heavy grand or derivative sauces. Figure 6.14 shows salsa being used to add flavor to a fish dish.

Sauces are sometimes made with the natural juices of meat. **Jus-lié** (ZHEW-lee-AY) is a sauce made from the juices of cooked meat and brown stock. Meats served with their own juices are called **au jus** (oh ZHEW).

To finish a sauce, adjust the consistency. For example, it may be necessary to add stock to a sauce to thin it out. The added stock will also help flavor the sauce. Sometimes using a red or white wine can add a very distinctive taste to a sauce.

Once the flavor and consistency have been adjusted, the sauce may need to be strained to make sure it is smooth. The easiest way to strain sauce is the **wringing method**. In this method, place a clean cheesecloth over a bowl, and pour the sauce through the cheesecloth into the bowl. The cloth is then twisted at either end to squeeze out the strained

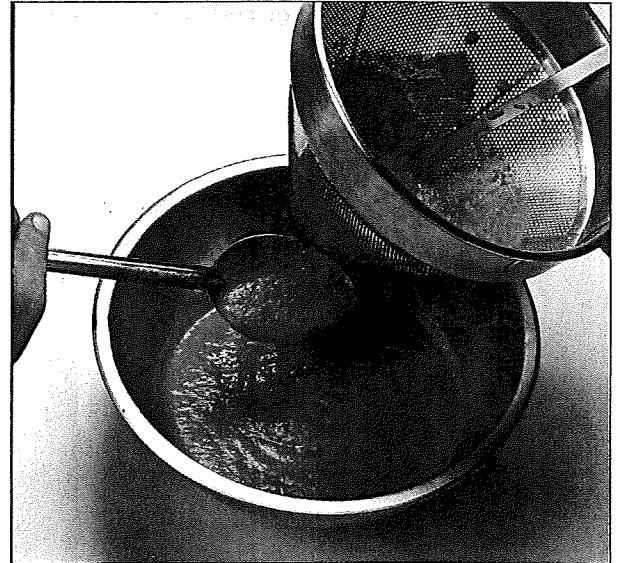


Figure 6.13: Coulis is a thick sauce made of puréed fruit or vegetables.

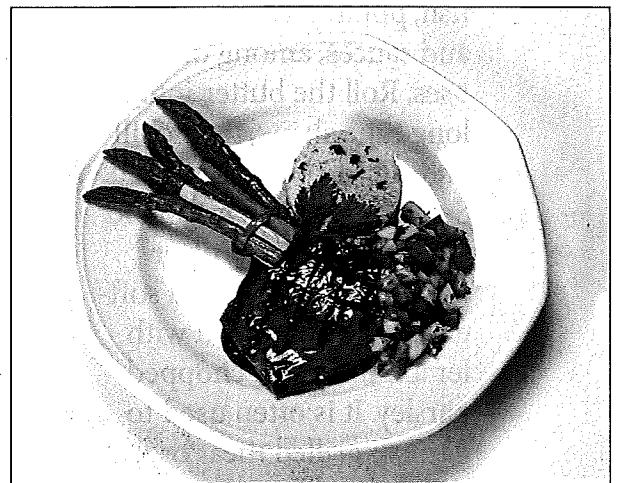


Figure 6.14: Salsa is a cold sauce made from a combination of vegetables, usually tomatoes, onions, and peppers. For example, pineapple papaya salsa is used as a topping on teriyaki salmon.

sauce. The cheesecloth catches the unwanted lumps of roux, or herbs, spices, and other seasonings. Sauces may also be strained through a **China cap** lined with cheesecloth, a fine meshed strainer, or a *chinois* (chee-no-AH). Figure 6.15 shows sauce being strained using the wringing method.

As in all cooking, the final step in finishing a sauce is to adjust the seasonings. Salt, lemon juice, cayenne, and white pepper can all be used to bring out the flavor of the sauce.

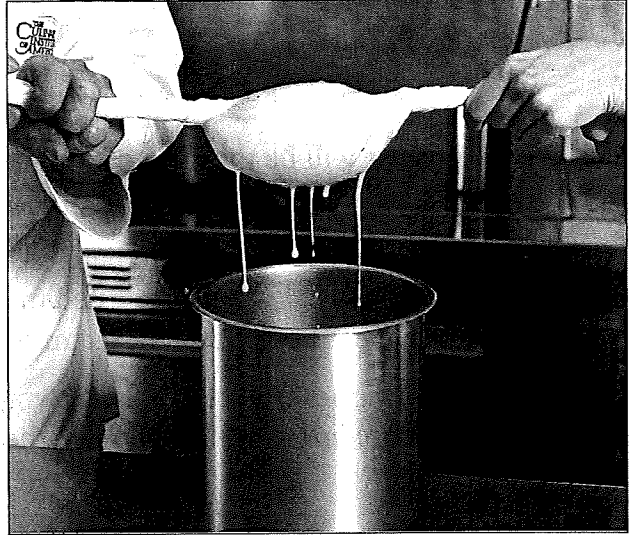


Figure 6.15: For a velvety texture, use the wringing method to strain sauce through a piece of cheesecloth.

[what's new]

Chemists Measure Chili Sauce Hotness with Nanotubes

Perhaps you have seen domed buildings that look like a soccer ball. These are called geodesic domes. It's a shape that was designed by Buckminster Fuller.

In 1985, chemists discovered a carbon molecule shaped like one of these geodesic domes. They called the form carbon fullerene in honor of Mr. Fuller, but the nickname buckyball is the one that has been popularized in the news. Different sizes of buckyballs have different numbers of carbon atoms, but the most common one, the one that looks just like a soccer ball, has 60 interconnected carbon atoms.

As scientists experimented with fullerenes, they developed a new shape, one that is tube-shaped and looks like a straw made from a rolled-up mesh. It is called a nanotube because it is only a few nanometers in diameter. These straws are very useful, and have an interesting use in food science.

Hot chili sauce is hot because of chemicals called capsaicinoids that create a burning feeling. But just how hot is a hot sauce? Do you have to try it to know? The answer used to be "yes." Humans would taste and rate chili sauce hotness.

Using nanotubes as little molecular straws, these capsaicinoids can now be measured by chemists at Oxford University in Oxford, England. A rating can be assigned to a hot sauce before anyone has to taste it, burn his or her mouth, grab water, or do the tongue's-on-fire dance.

ScienceDaily (May 8, 2008)

Matching Sauces to Food

Several factors help to determine the right sauce for a dish:

- What will be the style of service? Some sauces are plated (put on the plate with the food). Others may be available self-serve on a buffet.
- How is the main ingredient of the dish being cooked? Bold sauces and garnishes work well for roasted meat. Lighter sauces are best for white meat and food cooked with light techniques, such as poaching or steaming.
- How does the sauce's flavor work with the dish's flavor? The sauce should complement, not clash with, the flavor and texture of the dish.

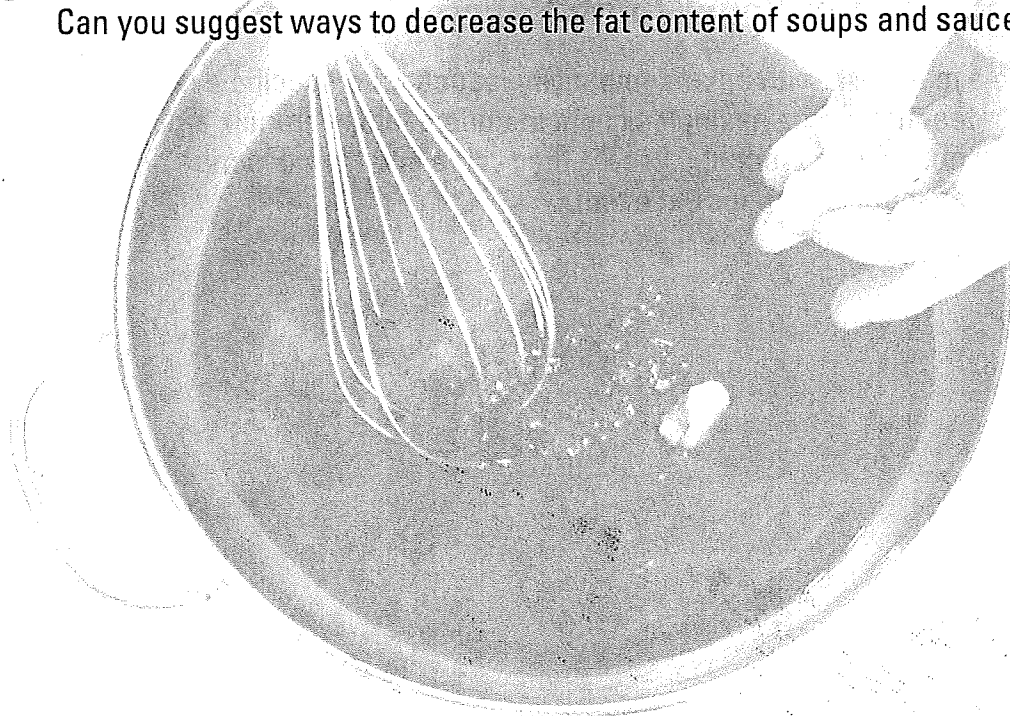
Summary

In this section, you learned the following:

- There are five classical grand sauces that are the basis for most other sauces. They are béchamel, velouté, brown or *espagnole* sauce, tomato sauce, and hollandaise:
 - Béchamel, the base for cream, cheddar cheese, soubise
 - Veal velouté, the base for *Allemande*, Hungarian, curry
 - Chicken velouté, the base for mushroom, supreme, Hungarian
 - Fish velouté, the base for white wine, bercy, herb
 - Brown or espagnole, the base for bordelaise, *chasseur*, lyonnaise, Madeira
 - Tomato, the base for Creole, Portuguese
 - Hollandaise, the base for béarnaise, *Maltaise*
- Thickeners, such as roux, beurre manié, slurry, and liaison, add richness and body to sauces.
- There are other sauces that are not classified as grand sauces or as derivatives of grand sauces. These include compound butters, salsa, and coulis. In addition, some sauces are made with the natural juices from meat, such as *jus-lié* or au jus.
- You should match sauces to the type of food you are serving. Consider factors such as the main ingredient of the dish and how the flavors will complement each other.

Section 6.2 Review Questions

- 1 Identify the primary ingredients in each of the five grand sauces.
- 2 Name three sauces that are not classified as grand sauces.
- 3 Why are thickeners important in preparing sauces? List some examples.
- 4 What is the most important factor to consider when matching a sauce with a meal?
- 5 Why do you think that Chef Sonnenschmidt calls the demi-glace sauce "the base of all sauces?"
- 5 Do you think it would help Uptown Grille to offer a menu with a wider variety of options at lunch? How would you incorporate sauces into the lighter, less expensive luncheon menu of a fine dining restaurant? What problems might arise?
- 6 Sauces are considered a foundation of French cuisine. Can you think of some sauces from other ethnic food styles and cuisines? What are they? How are they used?
- 7 Some sauces are built upon butter and/or cream with a high fat content. Can you suggest ways to decrease the fat content of soups and sauces?



Section 6.2 Activities

1. Study Skills/Group Activity: Flashcards

Create flash cards with each of the grand sauces or derivative sauces on one side, and the list of appropriate ingredients on the other side. With three other students, take turns holding up a list of ingredients and have them write down the name of the sauce (or vice versa).

2. Activity: Bones-to-Bordelaise

Make a flow chart of the various steps involved in making a specific derivative sauce, such as bordelaise sauce, Creole sauce, béarnaise sauce, etc. The chart should use arrows to indicate the direction and order of the process. Be sure to include the ingredients added at various steps. For example, you may start with beef bones. It is acceptable to use "flour" or "bones" or "butter" as starting points. Exhibit your flowchart, eliminating the name of the sauce. See how many of your classmates can guess the right sauce.

3. Critical Thinking: Which Sauce Should I Use?

Create a main dish with an accompanying sauce for a specific event as assigned by your teacher. Some examples might include a family brunch, a dinner at home, an open house, or a wedding. Create the recipe and then describe why you chose that specific dish for the event.

