### Pasta: Selection, Preparation, Cooking, and Serving

**Unit:** Preparing Foods

**Problem Area:** Potatoes, Pasta, and Grains

Lesson: Pasta: Selection, Preparation, Cooking, and Serving

- **Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:
  - **1** Describe the common ingredients and preparation of pasta.
  - **2** Identify common types and shapes of pasta and noodles.
  - 3 Analyze the connection between pasta shape and sauce choices.
  - 4 Demonstrate methods to cook, serve, and eat pasta.
- **Resources.** The following resources may be useful in teaching this lesson:
  - "Asian Noodles-Types and Cooking Times," *About.com: Chinese Food.* Accessed Jan. 3, 2011. <a href="http://chinesefood.about.com/library/blnoodlescook.htm">http://chinesefood.about.com/library/blnoodlescook.htm</a>.
  - Cook's Illustrated (authors). The Complete Book of Pasta and Noodles, Clarkson Potter, 2002.
  - "Different Types of Pasta: An A to Z Guide," *Pasta Recipes Made Easy*. Accessed Jan. 3, 2011. <a href="http://www.pasta-recipes-made-easy.com/different-types-of-pasta.html">http://www.pasta-recipes-made-easy.com/different-types-of-pasta.html</a>.
  - "Making Pasta Dough," *Allrecipes.com*. Accessed Jan. 3, 2011. <a href="http://allrecipes.com//HowTo/making-pasta-dough/Detail.aspx">http://allrecipes.com//HowTo/making-pasta-dough/Detail.aspx</a>.



- McGreal, Michael J. *Culinary Arts: Principles and Applications*. American Technical, 2008.
- Parkinson, Rhonda. "Delicious Chinese Dumplings," *About.com: Chinese Food.* Accessed
  - Jan. 3, 2011. <a href="http://chinesefood.about.com/cs/dimsumdumplings/a/dumpling.htm">http://chinesefood.about.com/cs/dimsumdumplings/a/dumpling.htm</a>.
- Simonds, Nina. Asian Noodles. William Morrow Cookbooks, 1997.
- Teubner, Christian, Silvio Rizzi, and Tan Lee Leng. *The Pasta Bible: The Definitive Sourcebook*. Chartwell Books, 2009.
- Yarvin, Brian. A World of Dumplings: Filled Dumplings, Pockets & Little Pies from Around the Globe. Countryman, 2007.

### **Equipment, Tools, Supplies, and Facilities**

- ✓ Overhead or PowerPoint projector
- ✓ Visuals from accompanying masters
- ✓ Copies of sample test, lab sheets, and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials

### **Key Terms.** The following terms are presented in this lesson (shown in bold italics):

- al dente
- alfredo sauce
- angel hair
- bean thread noodles
- Bolognese
- cellophane noodles
- > chow mein
- coagulates
- conchiglie
- dies
- dim sum
- dumplings
- egg rolls
- extrusion
- farfalle
- farina flour
- fettucine
- fresh pasta
- ▶ fusilli
- glass noodles

- gluten
- gnocchi
- kluski
- kreplach
- lasagna
- linguine
- ➤ lo mein
- manicotti
- marinara sauce
- matzo balls
- mein
- mostaccioli
- mung beans
- noodles
- opaque
- orzo
- pad Thai
- parboil
- pappardelle
- pasta

- penne
- peirogi
- pot stickers
- Provençal sauce
- ragu
- ravioli
- rest stage
- rigatoni
- rotini
- ruote
- semolina flour
- späetzle
- spaghetti
- spring rolls
- translucent
- vermicelli
- won tons
- > ziti

**Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

All of your students have likely eaten pasta in one form or another, and it is likely that their knowledge of pasta is from a can, a restaurant, or a box. In addition, they may only be familiar with a couple pasta shapes (e.g., spaghetti and penne). To increase their knowledge, assemble a wide variety of dry pasta in different shapes. Ask for specific names of each pasta or noodle.

You may want to bring a precooked and ready-to-eat bowl or pan of pasta with a sauce or topping of your choice. It will be crucial for you to choose a form of pasta that is uncommon. Ask students to identify the cooked dish, and accept only the formal name for the item. You may wish to provide Internet access or books with visual descriptions for students to conduct research. This activity could be done in groups.

### CONTENT SUMMARY AND TEACHING STRATEGIES

**Objective 1:** Describe the common ingredients and preparation of pasta.

**Anticipated Problem:** What are the common pasta ingredients? How is fresh pasta prepared?

- I. Ingredients and preparation
  - A. **Pasta** is the Italian word for "paste" or "dough" and, in its simplest form, is produced from a mixture of flour and water. Pasta has become the generic term for numerous types of noodle products made from simple dough—usually semolina flour and liquid. However, **noodles** are made from pasta dough that contains eggs. All pasta products are based on a flour ground from a starchy, high-gluten grain and some form of liquid. In general, the addition of eggs to noodle dough softens the gluten and makes dough more tender than pasta dough. Western pasta types are usually prepared from wheat flours; and Asian pastas and noodles may use rice flour or potato starches or bean flours.
    - Pasta dough is colored, flavored, and shaped into numerous forms. The style, shape, and country of origin may vary, but some form of pasta is found in nearly all cultures.
    - 2. **Fresh pasta** is pasta or formed noodles that are still in a soft dough form when cooked. Fresh pasta is prized for its exceptionally tender texture and its speed of cooking.

3. Pasta is also pleasing to the eye. It swirls, twists, and curls in addition to making shells, ribbons, and butterfly shapes.

### B. Ingredients

- 1. Flour provides the structure (gluten) for pasta.
  - a. **Semolina flour** is flour ground from the heart of durum wheat kernels and has high gluten content that helps maintain the shapes, forms, and textures of dry pasta. Its appearance is as hard, fine, granular, and yellowish flour. Semolina is high in protein, making it perfect for noodles that hold up well when dried. It is used for most commercially produced dried pasta.
  - b. *Farina flour* is a granular wheat flour often utilized in pasta preparation that is made from the endosperm of any wheat kernel (not just durum wheat varieties). It is coarsely processed hard wheat flour used in hot breakfast cereals and pasta.
  - c. White and whole-wheat bread and/or all-purpose flour are also commonly used in pasta and noodle making. Recipe amounts may vary when substituting standard milled flours for semolina.
  - d. Rice flour is a common Asian noodle choice. Almost any starchy flour can be used to form noodle dough. For example, dried *mung beans* are items ground into flour and are used to make noodle dough. The ancient Chinese ground wild millet seeds to make a form of pasta dough. Flax seed flour, which contains fatty acids known to be heart healthy, is a relatively new form of starchy flour for pasta.
- 2. Liquids provide steam leavening, flavor, color, and texture to pasta.
  - a. Water produces excellent pasta when combined with semolina. Noodles made with just water tend to be particularly delicate and tender without the coagulated toughening of egg protein. For pasta that will be dried and stored for a length of time, water is a good liquid source.
  - b. Eggs are an excellent liquid choice for semolina pasta that will be cooked fresh (rather than dried and stored). High in protein, eggs are the perfect liquid source to make pasta dough that holds (binds) together when boiled because protein *coagulates* (hardens or stiffens) when heated. The fat in the yolk helps offset the protein coagulation by softening the noodle at the same time. In general, the addition of eggs to pasta or noodle dough softens the gluten and makes dough more tender. Noodles made with eggs will always have a slightly more intense yellowish color.
  - c. Olive oil is sometimes added for flavor, depending on the pasta use and the sauce choice.
  - d. Wheat flour noodles can be made with eggs, water, or a combination.
  - e. Rice flour pastas and noodles are typically made with water as the liquid source, though eggs can be used. Rice-flour—based noodles are prized for the pure white and/or **translucent** (permitting light to pass through) appearance compared to the **opaque** (not permitting light to pass through) nature of noodles made with wheat flour.

- 3. Salt is a required element in most noodle recipes. It provides flavor and provides a better texture for the finished dough.
- 4. Optional ingredients for pasta dough are products that color (e.g., spinach, tomatoes, and beets) and/or flavor (e.g., spices, herbs, and oils) the dough.

### C. Preparation of fresh pasta

- 1. Regardless of the specific type of pasta being made or the recipe used, the process to make fresh pasta is fairly consistent. Whether it is in a bowl, on the table, or in a machine, flour and salt are mixed together (along with any other dry ingredients desired, such as herbs or spices). The liquids are added to the dry mixture and are mixed in slowly. Small batches made on a table or in a bowl can be created rather efficiently by making a "well" in the center of the dry ingredients, putting the liquids in the center, and mixing from the center of the pile outward, slowly incorporating more of the flour. Large batches and those prepared in automatic pasta machines typically mix the full volume of ingredients together.
- 2. Making good fresh pasta is more of an art form than a science, and recipes should be considered guidelines rather than absolutes. Knowing the proper texture of the dough desired is more essential than strictly following a recipe.
  - a. The dough should be mixed until it holds together.
  - b. Then the dough is kneaded until smooth and lump free.
  - c. The dough should not be sticky to the touch (perhaps just a tad), and it should not be dry or tough.
  - d. Additional flour or water would be added as required to attain this texture. Kneading can be accomplished by hand on a table or by extended mixing via machine.
- 3. All fresh pasta made with wheat flour should be given a rest stage after mixing. A **rest stage** is a period in which dough is wrapped in plastic and is refrigerated (typically for 20 to 30 minutes or for several hours). The protein in flour is **gluten**, which makes dough stretchy. It can also become too tight, as evidenced if the dough contracts when stretched or pulled. Allowing the dough to rest in a cooler relaxes the gluten in wheat flour, making the dough easier to roll out and the noodle more tender. No rest stage is required for noodle dough made with non-wheat flour because such flour does not contain gluten.
- 4. Forming noodles or pasta into shapes is accomplished by various methods.
  - a. Originally, dough was rolled out by hand into sheets. It was used whole or was cut into strips (wide and small). Many home noodle makers still enjoy and prefer this method. The sheets of dough can be cut into shapes and then manipulated into other shapes, or they may be filled and layered.
  - b. Hand-cranked rolling machines came into use in the late 1800s, rolling sheets of dough quickly and evenly. Larger electric rolling machines were created in the early 1900s. The hand-cranked machines include attachments to slice sheets of dough into noodles of different widths and shapes.

c. In modern electric pasta machines, the dough is mixed in a hopper. Then it is forced out through open-ended tubes in different shapes. The process of forcing the dough through the tube is called *extrusion*, and the differently shaped plates that attach to the open tube are called *dies*. It is through the use of dies that the variety of noodle shapes exploded and created tubes, curls, twists, etc. Extruder attachments are available for home mixers and grinders, offering home cooks the ability to make various noodle shapes.

**Teaching Strategy:** Use VM–A to review common ingredients in fresh pasta. Use VM–B to review hand and machine fresh pasta preparation. Assign LS–A. Some of the pasta prepared in LS–A may be held and used to complete LS–C.

**Objective 2:** Identify common types and shapes of pasta and noodles.

**Anticipated Problem:** What are the common types and shapes of pasta and noodles?

- II. Types and shapes
  - A. Dumplings and filled pastas
    - 1. **Dumplings** are small masses of leavened dough usually cooked by boiling or steaming. European dumplings (e.g., späetzle and gnocchi) are similar in taste and texture to fresh pasta.
    - 2. **Späetzle** (SHPET-sluh) are tiny German dumplings made in the same manner as egg and flour noodles. The rough product looks more like batter than dough because of the number of eggs used. Dropped in little strands or in small globs off a spoon, they are cooked in water or in broth.
    - 3. **Gnocchi** (N-yo-key) are pasta made from soft dough rolled into long tubes or strands and cut into individual dumplings that are boiled. Italians added mashed potatoes to basic pasta dough.
    - 4. Standard American dumplings are bound with egg. Care must be taken that the egg protein is not overcooked (simmered not boiled) or the dumplings become tough. These dumplings accompany dishes, such as Creamed Chicken or New England Boiled-Dinner. They are often shaped in large free forms. Some are similar in appearance to biscuit dough that contains some baking powder, allowing the dough to puff a bit as it simmers or bakes. The ingredients and cooking method place this food in the pasta family.
    - 5. **Matzo balls** are Jewish dumplings that use matzo meal rather than flour to make the batter. Matzo is a dry white cracker. These dumplings are commonly served in clear broth soups.
    - 6. **Pot stickers** and **dim sum** are small and filled Asian dumplings that are stirfried or steamed.

- 7. Several pasta dishes fall somewhere between noodles and dumplings. These filled dough items are common in many cultures.
  - a. **Ravioli** is an Italian dish prepared by sandwiching a filling between two sheets of pasta that are sealed and simmered in broth or sauce.
  - b. Tortellini ("small twists" in Italian) is a dish made by cutting 2-inch rounds from a sheet of pasta dough, placing a small amount of meat or vegetable filling in the center, and folding over the pasta to make a half moon. Then the "tails" of each half moon are slightly overlapped and pinched together.
  - c. **Kreplach** (KREP-loch) are an Eastern European Jewish version of triangular or square ravioli that are usually filled with beef or mashed potatoes and are floated in clear broth soups. Jewish families traditionally serve kreplach before the Yom Kippur fast and at other holidays.
  - d. **Pierogi** is a Polish version of ravioli and is filled with mashed potatoes, meat, cheese, or vegetables.
  - e. **Egg rolls** and **spring rolls** are cylindrical casings of egg dough fashioned using sheets of Asian rice noodle dough that are filled, rolled, and fried.
  - f. **Won tons** are dumplings that use Asian rice noodle dough that is folded or scrunched and fried with or without a filling.
- B. Italian pasta and noodle categories
  - 1. Round, string-like, solid noodles come in numerous thicknesses, including:
    - a. **Angel hair** is the thinnest of all Italian pasta. (**Bean thread noodles** are the Asian counterpart of angel hair pasta, but they are made from rice flour.)
    - b. **Vermicelli** ("little worms" in Italian) is pasta that is a bit thicker than angel hair and is twisted.
    - c. **Spaghetti** is pasta that is thicker than vermicelli. Its thickness is designated by the numbers 1 through 9, with 1 being the thinnest and 9 being the typical thickness. The **kluski** is an egg noodle from Poland that resembles spaghetti, though it is very short and is typically used in chicken noodle soup. Many countries use the term "vermicelli" for their thin, long noodles.
  - 2. Flat or broad noodles
    - a. **Linguine** ("small tongue" in Italian) is a flat noodle that is about the same thickness as spaghetti.
    - b. **Fettuccine** ("small ribbons" in Italian) is a flat noodle that is thicker than linguine and is about 1/4-inch wide.
    - c. **Pappardelle** is a classic flat pasta cut in broad strips. Many common egg noodles and no-yolk noodles (for those watching cholesterol) are flat noodles in various widths, with pappardelle being one of the most common.
    - d. **Lasagna** is a flat ribbon noodle, about 2 to 3 inches wide, made from pasta dough. The thinnest type is called mafalda (ma-FAL-da), and the type with the wide curly edges is called riccia (REE-CEE-a).

- 3. Hollow tubes or macaroni-type pasta
  - a. Elbow macaroni is a tiny curved hollow tube associated with cold salads and baked macaroni and cheese dishes.
  - b. **Mostaccioli** ("small moustache" in Italian) is about 2 inches long, with diagonally cut ends.
  - c. **Penne** ("pens" or "feathers" in Italian) is a pasta similar in shape to mostaccioli but with ridges running the length of the noodle.
  - d. *Manicotti* ("small muff" in Italian) is typically 4 to 6 inches long and is about 2 inches in diameter. The creation process includes cutting a square of pasta, rolling a filling inside, and sealing the edges.
  - e. **Ziti** ("bridegrooms" in Italian) and **rigatoni** ("large grooved" in Italian) are thicker pasta tubes cut with flat smooth ends rather than angled edges as in penne.

### 4. Specialty pasta shapes

- a. **Fusilli** ("twists" or "corkscrews" in Italian) is a twisted noodle that is about  $1\frac{1}{2}$  inches long.
- b. **Rotini** ("tiny wheels" in Italian) is a spiral shape that is about 1 inch in length.
- c. **Ruote** is a cartwheel- or wagon-wheel-shaped noodle with spokes emanating from a center hub.
- d. **Orzo** ("barley" in Italian) is shaped like a small seed and is rice-size pasta.
- e. *Farfalle* ("butterfly" in Italian) is commonly called "bow tie" pasta in the United States and is often used in cold salads.
- f. **Conchiglie** ("conch shells" in Italian) is usually generically termed shell pasta in the United States. It is available from small to jumbo sizes that are big enough to fill and bake.

#### C. Asian noodles

- 1. Asian noodle flour sources vary from wheat to rice or other milled grain forms. Most Asian noodles are flat or string shaped.
- Cellophane noodles are exceptionally translucent noodles when softened or cooked and are made from mung bean starch. They are found in most Asian cultures. Recipes refer to cellophane noodles as bean thread noodles, vermicelli, or glass noodles.
- 3. Mein is a generic Chinese term for noodle. In China, people tend to prefer long noodles, especially when served soft (Io mein) rather than fried (chow mein). Most Chinese noodles are the thickness of spaghetti or thinner and are made from wheat flour, though rice and buckwheat are also used.
- 4. Japanese noodles also tend to be thin. Ramen, soba, somen, and udon noodles are the most common. Wheat, rice, and other starches (e.g., mung bean) are typical noodle flour sources.
- 5. Koreans are fond of thin sweet-potato—based noodles called "tang myron," more commonly known as vermicelli. The texture is a bit rubbery, but the thin shape makes it easier to chew.

- 6. **Pad Thai** is a famous Thai cuisine recipe made from rice flour. Thai cuisine primarily uses rice flour noodles in various widths. Like most rice-based noodles, pad Thai noodles are very starchy and very sticky. They easily thicken the sauces with which they are served.
- 7. Vietnamese noodles are typically rice-based noodles, such as "banh hoi," a version of vermicelli, and bean thread noodles from mung bean starch.
- 8. In Indonesia, tiny, thin bean thread noodles from mung beans are popular, as is rice vermicelli.

**Teaching Strategy:** Use VM–C through VM–H to review. Assign LS–B. Have students draw the shapes to true size on their lab sheets. Any pasta types not shown or demonstrated may be researched. If students are unfamiliar with some of the dumplings, you may want to provide a video image of the pasta and the dumpling process, such as http://www.youtube.com/watch?v=-Vul9FiE\_L4, http://www.youtube.com/watch?v=5mkxhVsvAGw&feature=related, and/or http://www.youtube.com/watch?v=fJoHI3qWIOc&feature=related.

**Objective 3:** Analyze the connection between pasta shape and sauce choices.

**Anticipated Problem:** What is the rule of thumb for matching pasta shapes and sauces?

- III. Pasta shapes and sauces
  - A. Asian pastas and sauces
    - 1. Asian noodle history is the oldest known documentation of pasta and sauce. Asian cooking styles developed for very specific reasons.
      - a. Restricted energy sources resulted in the use of the wok, which is an energy-efficient pan for quickly cooking small pieces of food.
      - b. Liquid that "cooked out" of meat and vegetable dishes was readily thickened with the addition of noodles. The starch popped and thickened the sauce. The starch from Asian style noodles continues to be used as a thickening agent today, leaving the noodle shape less important than its starch content.
    - 2. The shape of Asian noodles is fairly uniform. They are typically thin and string-shaped or thin and flat. The deciding factors regarding shape are primarily for geographic and cultural reasons, resource availability, traditions, and personal choice.
    - 3. There is no direct correlation between noodle shape and sauce usage in Asian cuisines.
  - B. Italian and European pasta and sauce
    - 1. The Italian and European cultural use of pasta and sauce varies across countries when it comes to pasta shapes and sauce choices.

- 2. Dumplings were typically used in soups and stews. They evolved as a side dish in places where sauces and gravies became the norm.
- 3. Sauce on pasta was not considered until the 1800s. When it began, pasta was still found in sheet or string form. Tomatoes were just becoming popular as a sauce ingredient. Thin noodles (vermicelli-type) and relatively thin sauces, such as a simple *marinara sauce* (diced tomatoes added to a mixture of onions, carrots, and garlic sautéed in olive oil), work well together. In this case, some of the pasta starch effectively thickens the sauce.
- 4. Matching pasta shapes to sauces
  - a. General rules to match pasta with a sauce
    - (1) Sauce is meant to moisten the pasta, not drown it.
    - (2) Chunky, rustic, and hearty sauces are matched with bold pasta shapes. For instance, penne and other thick and wide noodles would be paired with flavorful rustic sauces and bite-size portions of meat and vegetables.
    - (3) Thin and delicate pasta, such as angel hair, is best with a light sauce.
    - (4) A tomato sauce (light to medium in thickness), simple cream sauces, and butter complement all pasta.
    - (5) Bite-size pasta and small shells are best in hearty bean and vegetable soups.
    - (6) Cream and butter sauces pair well with fresh egg pasta.

### b. Specific match-ups

- (1) Ruote (cartwheel) and spiral-shaped pastas: Meat sauces are perfect for cartwheel and spiral shapes as little pieces of meat cling inside the spirals or coves. Thick and hearty sauces work well too, but they can become overpowering. These shapes also work with a light coating, such as **Provençal sauce** (a sauce consisting of chopped raw tomatoes and herbs).
- (2) String and flat pasta and noodles: Thick cream and cheese sauces work well with string pasta because the nature of heavy cream and cheese sauce is to cling to the pasta surface, and strings have lots of surface. Thicker noodles are best suited to these heavy rich sauces versus thin and lighter types (e.g., angel hair).
- (3) Tube-shaped pastas: Thin sauces pair well with tube pasta, as there is a great deal of surface area for the sauces to coat. The downside is the potential for sauce to drip out of the tubes. With tiny macaroni, cream and cheese sauces are an excellent choice. With a wide-open penne tube, however, the temptation to "over sauce" can be an issue with thicker sauces.
- (4) Tube-shaped pastas: Oil-based sauces, such as basil-infused olive oil, is an excellent choice to accompany a penne and shrimp dish.
- (5) Thick tube-shaped pasta: Sauce to accompany thick tube-shaped pasta (e.g., rigatoni and ziti) or one stuffed with meat or cheese is often used only on top of the pasta or underneath the serving. This is

- a form that suits thick tube-shaped pasta, but it could be effective for almost any pasta or noodle.
- (6) Shell shapes: Shell shapes hold up adequately with thin sauces but may be "drippy." Heartier meat sauces and thickened tomato sauces are usually better suited to large shell pasta dishes. Some chefs and diners may find heavy cream sauces served with large shells to be an overwhelming taste and task. Stuffed shells offer the same versatility as thick, stuffed tubes.
- c. Pasta surface textures play an important role in choosing a sauce.
  - (1) Penne's ridges (rigati) on the pasta's surface give it texture to hold thinner sauces. In contrast, mostaccioli has a smooth surface that allows for more drips with a thin sauce and, as a result, usually works better with heartier sauces.
  - (2) Orzo and other small pasta shapes are often relegated to use in soups and stews. Eating orzo with a spoon, such as in soup, works perfectly. Eating orzo with a fork is more of a challenge.
- d. Some sauces to investigate
  - (1) Aglio e oilo (a classic garlic and oil sauce)
  - (2) Zucchini aglio e olio (or other vegetables, anchovies, and/or peppers)
  - (3) Pesto sauce
  - (4) Marinara sauce
  - (5) Alfredo sauce
  - (6) Tomato sauces (with meatballs, grilled tomatoes, etc.)
  - (7) Puttanesca sauce (with anchovies, black olives, tomatoes, and capers)
  - (8) Bolognese sauce (with pancetta or bacon, mirepoix, skirt steak, and/ or chicken livers and tomato)

**Teaching Strategy:** Use VM–I to illustrate some matches between pasta and sauce. You may want to ask students to share their favorite dishes (e.g., mom's lasagna or Olive Garden's ravioli). You could create a chart on the board and determine what the most popular dishes have in common.

**Objective 4:** Demonstrate methods to cook, serve, and eat pasta.

**Anticipated Problem:** How is pasta cooked? How is pasta served? What is the correct way to eat pasta?

- IV. Cook and serve pasta
  - A. Cooking methods: bake, boil, stir-fry, and deep-fry
    - 1. Baked was the first way the Chinese and Italians prepared pasta dishes. When beginning with most dried pasta, the chef must completely cook or *parboil*

(partially cook) the pasta prior to baking. Fresh pasta may be baked raw (soft dough) with good results. Ideal examples of baked pasta dishes are:

- a. Lasagna, stuffed shells, and/or manicotti
- b. Casserole preparations (e.g., macaroni and cheese, tuna noodle casserole, and baked ziti and cheese)
- 2. Boiling has become the predominant form of cooking pasta. Virtually all dumplings (e.g., kreplach) and filled noodles (e.g., ravioli) are boiled, along with the vast majority of pasta. To boil pasta:
  - a. The rule of thumb is to use approximately four parts of salted water to one part pasta. For example, for every pound of pasta, it is necessary to boil a minimum of 3 to 4 quarts of water. Cooking more than 2 pounds of pasta at a time would require an enormous pot and would be unwieldy to empty.
  - b. Water should be at a rolling boil and should be well salted before the pasta is added. Adding pasta to hot (but not boiling) water results in longer cooking, a poor quality product, and the potential for noodles to stick together. Salt adds flavor to the noodles and increases the boiling temperature of the water.
  - c. The pasta should be added and stirred to separate the noodles from each other and to prevent them from sticking to the bottom of the pot. When the pasta pot returns to a boil, it is necessary to begin timing the pasta's cook time.
  - d. It is best to cook the pasta at a boil, uncovered to prevent a boil over, until it is *al dente* (a term that literally means "to the teeth"). Al dente pasta has a firm and chewy texture rather than an overcooked and mushy texture. Cooked pasta should retain some integrity, structural shape, and texture. The cooking time for pasta varies considerably.
    - (1) Fresh pasta cooks quickly. A cook can begin testing pieces of fresh pasta after 30 seconds to determine doneness. Some thick tubes may take up to 8 minutes to cook to al dente.
    - (2) Dried pasta takes longer to cook, but it depends on the shape. Angel hair cooks much faster than lasagna noodles and penne. A general rule of thumb for dried pasta is to begin checking noodles at 8 minutes. Most are done by 10 minutes, but spaghetti typically requires 10 to 15 minutes and macaroni and other tubes often need 15 to 20 minutes.
    - (3) Rice noodles should be soaked before cooking to decrease the amount of time in boiling water. It is essential to taste the noodles during the cooking time to determine doneness.
  - e. When pasta has been cooked to the proper doneness, it is poured out of the pot into a strainer or colander, at which point it should be sauced and served immediately. Otherwise, it should be plunged into cold water to stop the cooking process and to wash off some excess starch, preventing the noodles from sticking together. To further assure that noodles do not stick together, a small amount of oil can be added to the cool noodles.

- f. Particular care should be taken to ensure that noodles to be served cold in a salad or other cold preparation are not overcooked as overcooking destroys the quality of the finished product.
- 3. Dumplings of all kinds are typically boiled in salted water or stock. Some dumplings (e.g., späetzle) are dropped as a raw batter into the boiling liquid. Gnocchi dumplings are also formed and then dropped into the boiling liquid in a raw state. As with standard pasta, dumplings are served immediately after cooking or are cooled to stop the cooking. Asian dim sum dumplings are often steamed, whereas filled egg and spring rolls are formed and deep-fried. Many types of Asian noodles are softened and/or parboiled prior to use in a stir-fry dish.

### B. Serving and garnishing pasta

- 1. There are countless hot and cold pasta dishes. Other than pastas used in soups, most other varieties receive some form of sauce. The following are four common ways in which a sauce is applied to pasta:
  - a. Tossing the pasta with sauce
  - b. Ladling the sauce over or underneath the noodles
  - c. Providing a side dish of sauce for dipping
  - d. Covering cold salad preparations with marinades
- 2. Pasta will be served as an appetizer, entrée, or side dish and will be plated for individual service or will be served "family style" in large bowls or on platters.
- 3. Pasta garnishes (an edible adornment)
  - a. Grated cheeses
    - (1) Parmesan is a hard, dry cow's milk cheese with a slightly salty and nutty flavor. Parmigiano-Reggiano is a premier type of cheese made in northern Italy and is quite expensive. Good substitutes are Asiago and Grand Padano.
    - (2) Pecorino Romano is a fine sheep's milk cheese from Rome or Sardinia. Many other Italian Romano cheeses are available.
    - (3) Ricotta and mozzarella are softer cheeses used in many stuffed and layered pasta dishes.
  - b. Fresh ground black pepper
  - c. Freshly chopped parsley
  - d. Fresh sprigs of basil or oregano
  - e. Asian noodle preparations may be garnished with slivered nuts, chopped scallions, or fried leeks or won ton strips.

### C. Some classic pasta dishes

- 1. Fettuccine Alfredo is a dish with flat noodles in a rich white cream and cheese sauce.
- 2. Linguine with clam sauce is a dish with fine flat noodle strands in red tomato or white cream clam sauce.
- 3. Pasta Bolognese is a dish with any pasta shape served with a hearty tomato and meat sauce. **Bolognese** is a type of **ragu** (a sauce of beef, carrots,

- onions, tomatoes, celery, white wine, and seasonings). It is often one of the layers in a lasagna dish along with a contrasting white and creamy béchamel sauce.
- 4. Linguine in pesto sauce is a dish with long, thin, and flat linguine paired with fresh green pesto sauce made from a purée of olive oil, pine nuts, fresh basil, and Parmesan cheese.
- 5. Spaghetti alla Carbonara is a dish of spaghetti served with pieces of pancetta or bacon in a rich cream and egg sauce.
- 6. Penne Cacio e Pepe is a dish of penne in a creamy Pecorino-Romano cheese and black peppercorn sauce.
- 7. Pad Thai is a combination of pad Thai (usually rice) noodles cooked and served with any combination of meat and/or vegetables. Common flavorings are tamarind, coconut milk, sugar, and peppers.
- 8. Lo Mein is a dish of thin lo mein noodles (or even spaghetti) cooked al dente and served boiled or pan fried with any number of ingredients, such as small pieces of meat or vegetables. Lo Mein may be served with a lightly flavored sauce or without sauce.
- 9. Gnocchi alla Sorrentina is a dish that consists of tender al dente gnocchi dumplings tossed with tomato sauce and fresh mozzarella that is baked with a Parmesan topping.
- 10. Pasta e Fagioli (pasta fasul) is a dish between a soup and a stew, often with a tomato base (or beef or chicken), small pasta, and small cut vegetables.
- 11. Pasta Provençal is a dish of Italian string pasta served in a spicy and light, diced tomato, olive, and caper sauce. It is a good vegan menu alternative.

### D. Pasta etiquette

- 1. The proper way to eat a pasta dish is to use only a fork. It is best to push a small amount of pasta away from the rest on the plate and then twirl it until a reasonable amount is entwined on the fork. This pasta etiquette is similar to spooning soup away from oneself. "Tackling" only a bit of pasta at a time is considered sophisticated. The fork technique is not as simple as it sounds and does require practice. In Italy, only the lower classes eat pasta with a spoon and fork.
- 2. For family meals, teaching children to use a large tablespoon and fork to entwine the pasta is acceptable. It is easier to twirl pasta on a fork while the pasta is cradled in the curve of a large spoon. This is especially true of eating string and thin pastas.
- 3. Asian cultures use chopsticks to eat their pasta a bit at a time.
- 4. In the preferred Italian and Asian pasta etiquette, natives bring their faces close to the bowl or plate and literally push the noodles into their mouths.

**Teaching Strategy:** In addition to demonstration and the use of resources, use VM—J to illustrate some famous pasta dishes. Assign LS—C. If you asked students to save some of their fresh pasta dough from LS—A, it may be used. This lab activity is

designed to give students a "wide birth" to experiment and make decisions, even wrong ones.

Then ask each student to invent an original pasta dish. The information in Objectives 3 and 4 is crucial to the student development of an original pasta dish. A formal tasting and naming of the pasta dishes would be an appropriate finale to this open-ended laboratory assignment.

- **Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle.
- **Application.** Use the included visual masters and lab sheet to apply the information presented in the lesson.
- **Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.
- Answers to Sample Test:

### **Part One: Matching**

- 1. g
- 2. b
- 3. f
- 4. d
- 5. c
- 6. a
- 7. e

#### **Part Two: True/False**

- 1. T
- 2. T
- 3. F
- 4. F
- 5. T
- 6. F
- 7. T
- 8. F
- 9. T
- 10. F

### **Part Three: Completion**

- 1. kreplach
- 2. translucent
- 3. mostaccioli
- 4. Bolognese
- 5. Lo Mein
- 6. marinara
- 7. Pasta Provençal
- 8. Fettucine Alfredo
- 9. fork
- 10. rice

## Pasta: Selection, Preparation, Cooking, and Serving

Part	One:	Matchin	g
			_

Instructions: Match the term with the correct definition.

- a. pasta
- b. noodles
- c. späetzle
- d. gnocchi

- e. dim sum
- f. dumplings
- g. matzo balls
- \_\_\_\_\_1. Jewish dumplings that use matzo meal rather than flour to make the batter\_\_\_\_\_2. Pasta dough that contains eggs

3. Small masses of leavened dough usually cooked by boiling or steaming

- \_\_\_\_\_4. Pasta made from soft dough rolled into long tubes or strands and cut into individual dumplings
- 5. Small German dumplings made in the same manner as egg and flour noodles
- \_\_\_\_\_6. The Italian word for "paste" or "dough"
- 7. Small, filled Asian dumplings that are stir-fried or steamed

#### Part Two: True/False

Instructions: Write T for true or F for false.

- 1. Rice noodles are usually soaked before cooking.
  - \_\_\_\_\_2. Parboil dry pasta before baking it.
  - \_\_\_\_3. The best flour for making dry pasta is all-purpose.



	4.	Extrusion of pasta dough occurs when pasta dough is mixed.	
	5.	Vermicelli is a term that describes thin, string-type noodles.	
	6.	Fusilli are butterfly- or bow-shaped pasta.	
	7.	Ziti is a hollow tube-shaped noodle.	
	8.	To make pasta with wheat flour, the steps are to mix the ingredients, roll it out, and cut it or form the shapes desired.	
	9.	Pasta is properly cooked when it reaches al dente.	
	_10.	Lasagna, fettucine, and linguine are specialty shapes of pasta.	
Insti	uctio	ee: Completion  ns: Provide the word or words to complete the following statements.	
1.	The	filled Jewish noodle that is boiled fresh is	
2.	Noodles made with mung bean starch tend to be; light can pass through them.		
3.	Mostaccioli and penne tube pastas differ in that has no ridge lines; it is smooth.		
4.	A rich pasta sauce made with meat, tomatoes, wine, vegetables, and fragrant spices is; also called ragu.		
5.	An Asian dish made with soft noodles is		
6.	A simple pasta sauce made from adding diced tomato to a mixture of onions, carrots, and garlic sautéed in olive oil is called		
7.	A good vegan menu alternative is, which is a pasta dish served with a spicy and light diced tomato, olive, and caper sauce.		
8.	Flat noodles in a rich white cream and cheese sauce is the description of the classic pasta dish called		
9.	Pushing a small amount of pasta away from the rest on the plate and twirling it until a reasonable amount is nicely entwined on the is proper pasta etiquette.		
10.	Pad flour	Thai is a popular Asian noodle dish of noodles made from	

### FRESH PASTA INGREDIENTS

 Semolina flour looks a bit like cornmeal. It is preferred for making dried pasta.



Water, salt, eggs, and olive oil are the common ingredients in fresh pasta. Optional ingredients (e.g., spinach) would add color and flavor (e.g., the herb sage pictured here).





Making a well for the eggs right on a table is a fresh pasta and noodle tradition.



• Mung beans and rice are ground into flour and are mixed with water to make noodle dough.





### **PREPARING FRESH PASTA**

Learning to recognize the correct texture and surface of properly kneaded pasta dough is essential to a good fresh pasta product.



Pasta dough may be rolled and cut by hand.





Pasta and noodle dough may be rolled and cut by a handcrank machine.





# PASTA TYPES AND SHAPES: DUMPLINGS

 Asian pot sticker dumplings often contain meat and/or vegetables.



Chinese dim sum is a steamed dumpling.



Matzo balls, shown in soup and accompanied by a matzo cracker, are traditional Jewish dumplings.



 Gnocchi, shown uncooked here, are traditional Italian dumplings.



# PASTA TYPES AND SHAPES: FILLED NOODLES

Pierogi are filled Polish dumplings.



Rice dough, in the form of egg roll wrappers, is the capsule for these filled Chinese egg rolls.



These fried Chinese won tons may be filled or unfilled and may be boiled or steamed.



Italian ravioli packets are filled with meat, squash, and cheese.



 Kreplach filled noodles are Jewish ravioli traditionally served on holidays.



# PASTA TYPES AND SHAPES: ITALIAN STRINGS

- Angel hair pasta is finer and narrower than spaghetti and vermicelli pasta.
- Vermicelli pasta is thicker than angel hair pasta strings. It is shown here in a single-serving dried nest that is ready to cook.
- Spaghetti is the thickest of the Italian string pasta types.







## PASTA TYPES AND SHAPES: ITALIAN FLAT

◆ Fettucine is a flat Italian pasta noodle, about ¼inch wide. Linguine is the same flat shape as fettucine but is thinner and narrower.



Papardelle is a broad, flat Italian noodle that is wider than fettucine.



◆ Two types of flat ribbon lasagna mafalda noodles are shown here: plain and spinach. Mafalda is a thin lasagna noodle with a straight edge.

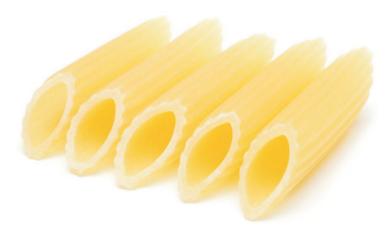


 Lasagna noodles with wide curly edges are called riccia.



## PASTA TYPES AND SHAPES: ITALIAN TUBES

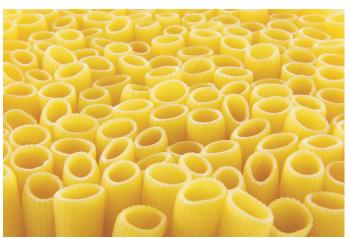
Penne pasta is a diagonally cut small pasta tube with ridges (rigati) to capture sauce. Mostaccioli is the same shape as penne, but it is larger.



Manicotti pasta tubes are typically 4 to 6 inches long and are about 2 inches in diameter.



Rigatoni, shown here, and ziti pasta tubes are cut with flat smooth ends and are thicker than penne and manicotti.



## PASTA TYPES AND SHAPES: SPECIALTY SHAPES

Conchiglie means "conch shell" in Italian. These shell shapes vary from tiny shells for pasta salads to large baked shells stuffed with meat, vegetables, and cheese.



Farfalle is "butterfly" in Italian and is commonly known as "bow tie" pasta in the United States.



These twisted fusilli pasta come in various lengths and hold lots of pasta sauce.



Orzo pasta is rice-shaped pasta that is approximately the size of a large grain of rice.



This ruote (or rotelle) pasta is shaped like wheels.



### **FAMOUS PASTA DISHES: PART 1**

Rich and cheesy Alfredo sauce clings well to flat fettucine noodles. The noodles are large enough to hold their own with the richly flavored sauce.



Linguine with clam sauce (Linguine alla Vongole Blanco) is a classic Italian pasta dish.



Linguine with pesto sauce is a fragrant dish with sauce made from a purée of olive oil, pine nuts, fresh basil, and Parmesan cheese.



### **FAMOUS PASTA DISHES: PART 2**

◆ Tender al dente gnocchi dumplings are tossed with tomato sauce and fresh mozzarella. Then they are baked or topped with Parmesan cheese to create the dish Gnocchi alla Sorrentina.



Chicken and Vegetable Lo Mein is soft Asian noodles tossed with small pieces of meat, vegetables (e.g., chive, carrot, and sprouts), and, in this case, a lightly flavored sauce.



Shrimp Pad Thai is shown in a tomato sauce with green onions, sprouts, and two dipping sauces.



Pasta Provencal is Italian string pasta served in a spicy and light diced tomato, olive, and caper sauce. Pasta Provençal is a good vegan menu alternative.



### **Prepare Fresh Pasta Dough**

### **Purpose**

The purpose of this activity is to practice making fresh pasta dough.

### **Objectives**

- 1. Measure the ingredients accurately.
- 2. Follow the recipe instructions.
- 3. Knead the pasta to the desired texture.
- 4. Roll and cut the pasta dough by hand and by machine.
- 5. Cook or dry the fresh pasta.

#### **Materials**

- lab sheet
- semolina, all-purpose, and/or bread flour
- eggs (optional)
- salt
- oil (olive would be best)
- ♦ bowl, wooden spoon, cutting board or table surface, and fork
- plastic wrap
- pasta rolling machine
- rolling pin
- knife
- ♦ 4- to 6-quart stockpot



#### **Procedure**

- 1. Work individually or in pairs to prepare fresh pasta dough.
- 2. Your product will be assessed on the following characteristics:
  - a. Measuring accurately
  - b. Kneading dough adequately
  - c. Creating the proper texture: not too sticky, not too dry, and not too tough
- 3. Read the recipe directions completely.
- 4. Assemble all ingredients (mise en place), and prepare one batch of dough following all of the directions. If you would like to see a demonstration by an Italian chef, access the following link: http://www.youtube.com/watch?v=\_kPLeAyw7z0.
- 5. Roll and cut half of the dough by hand.
- 6. Roll and cut the other half by pasta machine.
- 7. Depending on class time, cutting the noodles and cooking may not take place the same day the dough is made.
- 8. Sauce and eat the noodles after draining, or rinse them in cold water and add some oil for later use.

### **Basic Pasta Dough**

### Ingredients:

- ♦ 1 cup all-purpose flour\*
- 1 cup semolina flour\*
- a pinch of salt
- 3 large eggs
- ♦ 1 T. olive oil
- one 6-quart pot filled with 4 quarts of water
- 1 T. + 1 t. salt

#### **Directions:**

- a. Thoroughly sift together the all-purpose flour, semolina flour, and salt.
- b. On a clean surface, make a mountain of the flour mixture. Then create a deep well in the center of the flour.
- c. Break the eggs into a bowl. Then add them to the well.
- d. Add olive oil to the well.

<sup>\*</sup> Bread flour may replace the all-purpose and semolina flours, if desired.

- e. Whisk the eggs and oil gently with a fork, gradually incorporating flour from the sides of the well. When the mixture becomes too thick to mix with a fork, begin kneading it with your hands.
- f. Knead the dough for 8 to 12 minutes, until it is smooth and supple (springy). Dust the dough and work surface with semolina as needed to keep the dough from becoming sticky.
- g. Divide it in half, and wrap each half of the dough tightly in plastic. Allow it to rest at room temperature or refrigerated for 30 minutes. Resting the dough relaxes the gluten and will make the rolling process easier.
- h. Clean up and prepare to roll the dough while the dough is resting. If you would like to view a short video presentation of the machine-rolled pasta technique, view the following: http://www.youtube.com/watch?v=wrn5qM9aVeo&feature=related.
- i. If you are preparing sauce, do so at this time.
- j. Roll out half the dough with a rolling pin to approximately ½- to ½-inch or the desired thickness. Cut it into your favorite style of noodle, or stuff it with your favorite filling to make ravioli.
- k. Roll out the other half of the dough (using a pasta machine) to approximately  $\frac{1}{8}$  to  $\frac{1}{4}$ -inch or the desired thickness.
- I. Bring the water to a boil in a large pot. Then add the salt. Add the pasta and cook until it is tender but not mushy (al dente), which typically takes 1 to 8 minutes, depending on the noodle thickness.
- m. Drain immediately. Then toss with your favorite sauce, or run it under cold water to stop the cooking, drain it, and refrigerate it for later use.
- 8. Taste your pasta, and share a tasting plate with others in the class. Describe the taste of hand-rolled pasta versus machine-rolled pasta. Evaluate both batches for texture and taste.
- NOTE: The dough made in this activity may be saved and used in the LS-C activity, if desired.

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### Pasta Types and Shapes: A Visual Glossary

### **Purpose**

The purpose of this activity is to identify the types and shapes of pasta and noodles.

### **Objectives**

- 1. Categorize pasta into common types.
- 2. Draw life-size images of the shape and dimensions of pasta and noodles.
- 3. Write a few keywords to describe each type and shape.

### **Materials**

- lab sheet
- writing utensil
- reference materials
- ♦ VM–C through VM–H

#### **Procedure**

- 1. Work individually. Review the entire lab sheet to determine which pasta types and shapes you will draw and describe.
- 2. As your instructor demonstrates and/or reviews typical pasta types and shapes, record the information in your **Visual Glossary**. Should you require more room to draw a life-size sketch of the pasta, use the back of your lab sheet. At the end of each category, there is an open space for you to add one more type of pasta or noodle of your choice. You may use any of the reference books, your text, and/or Web sites to find an additional pasta product.



a.	Dum	pling Category
	(1)	Asian pot stickers description and drawing
	(2)	Chinese dim sum description and drawing
	(3)	Jewish matzo balls description and drawing
	(4)	Italian gnocchi description and drawing
	(5)	and drawing
la.	<b>-</b> :	d Deata and Nacidles Ostadon.
b.		d Pasta and Noodles Category  Polish pierogi description and drawing
	(2)	Chinese egg roll description and drawing
	(3)	Chinese won ton description and drawing
	(4)	Italian ravioli description and drawing
	(5)	Jewish kreplach description and drawing
	(6)	and drawing

C.	Italia	an Strings Category
	(1)	Angel hair description and drawing
	(2)	Vermicelli description and drawing
	(3)	Spaghetti description and drawing
	(4)	and drawing
d.		an Flat Category Linguine description and drawing
	(1)	Linguine description and drawing
	(2)	Fettucine description and drawing
	(3)	Papardelle description and drawing
	(4)	Lasagna mafalda description and drawing
	(5)	Lasagna riccia description and drawing
	(6)	and drawing

e.	Italia	an Tubes Category
	(1)	Penne description and drawing
	(2)	Mostaccioli description and drawing
	(3)	Manicotti description and drawing
	(4)	Rigatoni description and drawing
	(5)	and drawing
f.		an Specialty Shapes  Conchiglie description and drawing
	(2)	Farfalle description and drawing
	(3)	Fusilli description and drawing
	(4)	Orzo description and drawing
	(5)	Ruote (or rotelle) description and drawing
	(6)	and drawing

### Cook, Sauce, and Serve a Pasta Dish

### **Purpose**

The purpose of this activity is to practice preparing and serving a pasta dish.

### **Objectives**

- 1. Produce fresh pasta.
- 2. Roll and cut pasta to a determined style.
- 3. Select a sauce recipe to complement the prepared pasta.
- 4. Cook pasta to al dente.
- 5. Plate and serve the pasta with an appropriate garnish.
- 6. Demonstrate pasta etiquette when eating pasta.

#### **Materials**

- ♦ lab sheet
- writing utensil
- fresh pasta (perhaps reserved from the LS–A assignment)
- ingredients to make appropriate sauces
- ♦ fresh basil, parsley, grated cheese, and/or other potential garnishes
- pots for boiling water
- stovetop or other flat heating element
- water and salt
- strainer or colander
- tongs or pasta lifters
- bowls for finished products
- plates or bowls and forks for tasting
- napkins and clean-up materials



#### **Procedure**

- 1. Work independently or in pairs to create your own pasta dish. Think about all of the different shapes and styles of pasta and noodle dishes and any that especially appeal to you.
- 2. Select a pasta dish to duplicate, or create an original dish. Use information and images from this lesson, along with anything you find in books or online to help you prepare a great dish. Think about recreating a famous pasta dish (e.g., Fettucine Alfredo) or creating a new dish. How will you cook the pasta: bake, boil, stir-fry, or deep fry? Will the pasta be served hot or cold? Brainstorm at least three options and write them below.
  - a.
  - b.
  - C.
- 3. Select a dish to prepare and, if it is an original dish, name it.
- 4. Prepare fresh pasta as in LS–A. Use 2 ounces dried pasta per appetizer or side dish serving and 4 ounces dried pasta per entrée portion. Once your fresh pasta has dried a bit, you will be able to use a scale to weigh each portion. Typically, you should plan to produce about 4 servings for tasting. Store any unused pasta for later use.
- 5. Prepare the sauce. Choose a sauce that properly matches the shape and type of pasta you are using.
- 6. Cook pasta to al dente.
  - a. Fresh, soft pasta cooks quickly, so begin testing it after 30 seconds of cooking and then at regular intervals.
  - b. Dried pasta: Check noodles at 8 minutes. Most noodles are done by 10 minutes. Spaghetti typically requires 10 to 15 minutes. Macaroni and other tubes often take 15 to 20 minutes.
- 7. Prepare a menu card with the name of your pasta dish to display at the tasting.
- 8. Plate and garnish your pasta and sauce in an appropriate and attractive manner.
- 9. Participate in a tasting and evaluation with your classmates and your instructor.
- 10. Ask for input, and provide feedback to each team as to the following elements of a fine pasta dish:
  - a. Tender al dente pasta
  - b. A flavorful sauce that clings or supports the dish
  - c. An appropriate sauce selection for the pasta type
  - d. Garnished appropriately for the temperature and taste palate of the dish
  - e. Attractively plated
- 11. Practice pasta etiquette using only a fork.