

Chapter 4

WELCOME TO THE BACK OF THE HOUSE

TOPICS

- **4.1 A Tour of the Back of the House**
- **4.2 Back of House Careers and Language**
- **4.3 Purchasing and Receiving**
- **4.4 Storage**
- **4.5 Preparation and Cooking**
- **4.6 Holding, Cooling, and Reheating**
- **4.7 Off-Site Foodservice**

SKILLS

- **Making a *Mirepoix*** **Included in the manual*
- Setting up a Butane Burner
- **Cooling Large Amounts of Food Quickly** **Bonus Essential Skill included in this manual*

RECIPES

- Vegetable Soup
- Caesar Salad and Dressing
- **American Chop Suey** **Bonus recipe included in this manual*
- **Sweet and Spicy Pork Tenderloin** **Bonus recipe included in this manual*

Part 1: SKILLS

Essential Skills: Making a *Mirepoix* (Section 4.3)

A *mirepoix* is two parts onion, one part carrot, one part celery. To turn your *mirepoix* into a “holy trinity” *mirepoix*, which is the basis for many Creole and Cajun dishes, replace the carrot with green bell pepper.

You will need

- **Time:** 30-45 minutes
- **Skills:** Knife skills; adding flavor, color, and aroma to soups.

Check each item off as you collect it.

Equipment

- | | |
|---|--|
| <input type="checkbox"/> Cutting board | <input type="checkbox"/> Compost container |
| <input type="checkbox"/> Chef’s knife | <input type="checkbox"/> Large skillet |
| <input type="checkbox"/> Paring knife | <input type="checkbox"/> Wooden spoon |
| <input type="checkbox"/> Vegetable peeler | |

Ingredients

- | | |
|---|--|
| <input type="checkbox"/> 1 cup Onion, diced | <input type="checkbox"/> ½ cup Celery, diced |
| <input type="checkbox"/> ½ cup Carrots, diced | <input type="checkbox"/> 1 Tbsp. Butter or oil |

Steps

1. Rinse and scrub the carrots and celery and wash the onion. Cut off both ends of the onion, the root end of the celery, and both ends of the carrots.
2. Chop the vegetables into a dice that is between ¼ and ½ inch.
3. Place a large skillet on a burner. Turn the dial for the stove burner to open the gas and light the flame. For butane burners or induction cookers, follow manufacturer directions. Set the dial to achieve medium-low heat and use it to adjust the flame/heat until it is as strong as you need it to be. Continue to adjust the flame/heat during cooking.
4. Add butter or oil to the skillet. Add the diced vegetables and stir well to coat. Cook for 6-8 minutes, stirring often, until vegetables are softened but not browned. The onions will start to become translucent.
5. Add the *mirepoix* to soups or to meat dishes to add depth of flavor.

Reflection

Why is it important to cut all the diced vegetables the same size?

They will cook at the same rate of time.

What are some examples of soups that use a *mirepoix* as the base?

Answers will vary but may include: chicken noodle soup, minestrone soup, bean soups.

What are some examples of soups that would use the “holy trinity” version of *mirepoix* as the base?

Answers will vary but may include: jambalaya, etouffee, gumbo.

Essential Skills: Cooling Large Amounts of Food Quickly

(Bonus skill included in this manual; related to Section 4.6)

You will need

- **Time:** 1 hour 30 minutes active prep and cooking time, maximum 6 hours cooling time
- **Skills:** Cooling large amounts of food quickly, making vegetable stock

Check each item off as you collect it.

Equipment

- Chef's knife
- Cutting board
- Colander
- Stock pot that holds 6 quarts of water
- Large pot
- Lid for stock pot
- Butcher's twine
- Strainer
- Ice paddle (optional)*

Ingredients

- 4 qts. Cold water
- 1 bunch Green onions
- 1 Onion, quartered
- 3 Large carrots, broken in half
- 5 Celery stalks
- 10 Mushrooms, halved
- Bouquet garni*: 1 sprig fresh thyme, 1 bay leaf, 6 parsley sprigs, 2 unpeeled garlic cloves, 2 whole cloves

Steps

1. Tie *bouquet garni* ingredients together using butcher's twine.
2. Place everything in a large stock pot; cover the pot and bring to a boil.
3. Reduce heat and simmer for one hour.
4. Strain stock into another large pot.
5. Place pot in an ice water bath and stir frequently with an ice paddle* to cool from 135°F (57°C) to 70°F (21°C) within two hours. Then cool from 70°F (21°C) to 41°F (5°C) in four hours.

* *Alternatively, simmer vegetables in only 2 quarts of water, and then add 4 pounds of ice to quickly chill the stock.*

Reflection

Why is it crucial to cool a large amount of hot food, such as this stock, quickly? What are the potential consequences of slow cooling?

Pathogens grow well in the temperature danger zone, between 41°F (5°C) and 135°F (57°C). The longer stock sits in that temperature range, the more likely it is to cause foodborne illness.

Why is it important to cool food in the specific time frame given?

Failure to cool food within the time frame requires the food to be discarded or reheated and cooled again in the correct time frame.

Why is it essential to monitor the temperature of stock during the cooling process?

Consistent temperature monitoring ensures that the stock is cooling within the safe time frame and helps identify any deviations that require correction action.

Part 2: ACTIVITIES

Math Activity

In this activity, you will focus on calculations related to the first-in, first-out (FIFO) method of inventory management and usage rates.

The Busy Bee Café is known for its blueberry muffins. To ensure freshness, the café uses the FIFO method to manage its blueberry inventory. Read the description below to find out about the Busy Bee Café's blueberry deliveries over the span of a week:

Monday morning: The café received a delivery of 20 pounds of blueberries.

Tuesday: They used 10 pounds of blueberries from Monday's delivery.

Wednesday: They received a delivery of 30 pounds of blueberries.

Thursday: They used 15 pounds of blueberries, using with the remaining blueberries from Monday's delivery and some from Wednesday's delivery.

Friday: They used another 15 pounds of blueberries, again using the FIFO method of inventory management.

Next, based on the information provided about the café's blueberry deliveries, use the tables below to calculate your answers to the following questions. Show your work in the tables.

1. How many pounds of blueberries were left at the end of the week?

50	lbs.	-	40	lbs.	=	10	lbs.
Total pounds of blueberries delivered			Total pounds of blueberries used			Pounds of remaining blueberries (at the end of the week)	

2. What was the café's average daily usage rate of blueberries over the week?

40	lbs.	÷	5	=	8	lbs.
Total pounds of blueberries used			Number of days the café is open for the week			Average daily usage of blueberries

Research Activity

The restaurant you work for wants to start offering off-site catering services for guests. You have been tasked with conducting research on what the restaurant may need to consider. Go online to find out about the specific regulations, guidelines, and best practices for offering these services, especially as they relate to the following considerations; record your findings below:

Answers may include:

Transportation Needs:

Using insulated food containers to maintain safe temperatures; containers are food grade, and prevent leaks and spills. The inside of the vehicles should be easy to clean. Lengths of routes must be considered when offering off-site catering.

Temperature Control:

Hot TCS foods should be held at 135°F (57°C) or higher. Never use hot-holding equipment to reheat food.

Cold TCS foods should be held at 41°F (5°C) or lower.

Time Controls for Food Held without Temperature Control:

Hot food must be held at 135°F (57°C) or higher before removing it from temperature control and labeled with the time it must be thrown out, four hours from the time it was removed from temperature control.

Sell, serve, or discard the food within four hours.

Cold food must be held at 41°F (5°C) or lower before removing it from refrigeration, labeled with the time it was removed from refrigeration and the discard time, six hours from the time it was removed from refrigeration. Cold food should not exceed 70°F (21°C) while it is being served. Discard cold food that reaches this temperature. Sell, serve, or discard the food within six hours.

Equipment Needed for an Off-Site Catering Company:

Insulated food containers, thermometers, butane burners, cleaning supplies, handwashing station.

Part 3: RECIPES

American Chop Suey

(Bonus recipe not included in textbook)

You will need

- **Time:** 1 hour 30 minutes
- **Skills:** Checking canned and boxed foods for best-by dates, making a “holy trinity” version of a *mirepoix*

Check each item off as you collect it.

Equipment

- | | |
|--|--|
| <input type="checkbox"/> Scale | <input type="checkbox"/> Can opener |
| <input type="checkbox"/> Measuring spoons | <input type="checkbox"/> Box or handheld grater |
| <input type="checkbox"/> Liquid measuring cups | <input type="checkbox"/> Dutch oven or 6-qt. pot |
| <input type="checkbox"/> Cutting board | <input type="checkbox"/> Colander |
| <input type="checkbox"/> Chef’s knife | <input type="checkbox"/> Wooden spoon |
| <input type="checkbox"/> Paring knife | <input type="checkbox"/> Medium bowl |

Ingredients

Yield: 3-4 servings

- | | |
|---|--|
| <input type="checkbox"/> 6 oz. Elbow macaroni | <input type="checkbox"/> 1 Tbsp. Tomato paste |
| <input type="checkbox"/> Salt and pepper | <input type="checkbox"/> 2 Garlic cloves, minced |
| <input type="checkbox"/> 1½ Tbsp. Vegetable oil | <input type="checkbox"/> ¼ tsp. Red pepper flakes |
| <input type="checkbox"/> 1 lb. Ground beef, 90% lean | <input type="checkbox"/> 15-oz. can Tomato sauce |
| <input type="checkbox"/> 1 medium Onion, chopped fine | <input type="checkbox"/> 8-oz. can Diced tomatoes |
| <input type="checkbox"/> ½ Green bell pepper, stemmed, seeded, and chopped fine | <input type="checkbox"/> ½ cup Water |
| <input type="checkbox"/> 1 Celery rib, chopped fine | <input type="checkbox"/> ¼ cup Parmesan cheese, grated (and extra for serving) |

Mise en Place

- | | |
|---|---|
| <ul style="list-style-type: none"> • Weigh pasta and beef. • Chop onion, green bell pepper, and celery ribs to make a “holy trinity” version of a <i>mirepoix</i>. • Mince garlic. | <ul style="list-style-type: none"> • Open cans. • Measure water. • Grate cheese and measure. |
|---|---|

Steps

1. Bring 4 quarts of water to boil in a Dutch oven. Add pasta and 1½ teaspoons salt; cook for 3 minutes. Drain and rinse pasta with cold water. Drain again and set aside.
2. Heat 1 tablespoon of oil in the now-empty Dutch oven over medium-high heat until just smoking. Add beef, ½ teaspoon salt, and ¼ teaspoon pepper; cook, breaking up pieces with a spoon, until all liquid has evaporated, and meat begins to sizzle, 10–15 minutes. Transfer meat to a bowl.
3. Heat remaining ½ tablespoon of oil in the now-empty Dutch oven over medium-high heat until shimmering. Add onion, bell pepper, and celery; cover and cook, stirring occasionally, until vegetables soften, about 5 minutes. Add tomato paste and cook, stirring constantly, until rust-colored, about 2 minutes. Stir in garlic and red pepper flakes and cook until fragrant, about 30 seconds. Add tomato sauce, tomatoes, water, and cooked ground beef. Bring to simmer and cook, covered, over low heat, stirring occasionally until vegetables are softened, about 15 minutes.
4. Off heat, stir in reserved pasta, cover, and let sit until pasta is tender, about 10 minutes. Stir in Parmesan. Season with salt and pepper to taste. Serve, passing additional Parmesan separately.

American Chop Suey Questions

Tasting notes

Answers will vary.

Did anything surprise you while preparing this item?

Answers will vary.

What would you change if you prepared this item again?

Answers will vary.

What is the main difference between a *mirepoix* and the “holy trinity” version used in this recipe?

Answers: The holy trinity version of the *mirepoix* uses green bell peppers instead of carrot for the flavor base.

Sweet and Spicy Pork Tenderloin

You will need

- **Time:** 30 minutes
- **Skills:** Checking specific internal temperatures, checking for temperatures in at least two locations

Check each item off as you collect it.

Equipment

- | | |
|---|--|
| <input type="checkbox"/> Measuring spoons | <input type="checkbox"/> Half sheet pan |
| <input type="checkbox"/> Scale | <input type="checkbox"/> Aluminum foil |
| <input type="checkbox"/> Small bowl | <input type="checkbox"/> Digital thermometer |
| <input type="checkbox"/> Paper towels | <input type="checkbox"/> Medium bowl |
| <input type="checkbox"/> 12-inch nonstick skillet | <input type="checkbox"/> Pastry brush |
| <input type="checkbox"/> Wire rack | <input type="checkbox"/> Slicing knife |

Ingredients

Yield: 2–3 servings

- | | |
|---|--|
| <input type="checkbox"/> 1 Tbsp. Chili powder | <input type="checkbox"/> 1½ tsp. Vegetable oil |
| <input type="checkbox"/> ½ tsp. Smoked paprika | <input type="checkbox"/> 2 Tbsp. Ketchup |
| <input type="checkbox"/> ½ tsp. Salt | <input type="checkbox"/> 1 tsp. Cider vinegar |
| <input type="checkbox"/> ¼ tsp. Pepper | <input type="checkbox"/> ¾ tsp. Granulated sugar |
| <input type="checkbox"/> 12–16 oz. (1 loin) Pork tenderloin | |

Mise en Place

- Trim pork tenderloins.
- Measure spices for dry rub.

Steps

1. Adjust oven rack to middle position and preheat oven to 450°F (230°C). Combine chili powder, paprika, salt, and pepper in a small bowl. Reserve 1½ teaspoons of the spice mixture. Pat pork dry with paper towels and season with remaining spice mixture.
2. Heat oil in a 12-inch nonstick skillet over medium-high heat until just smoking. Cook tenderloin until browned on all sides, 5-7 minutes. Transfer pork to wire rack and set inside aluminum foil-lined rimmed baking sheet. Bake for 15–18 minutes until meat registers 145°F (62°C) for 3 minutes. Be sure to check the temperature in two places on the pork tenderloin. Transfer meat to a platter, tent with foil, and let rest for 5 minutes.
3. Combine reserved spice mixture, ketchup, vinegar, and sugar in a bowl. Brush over pork. Slice pork and serve.

Sweet and Spicy Pork Tenderloin Questions

Tasting notes

Answers will vary.

Did anything surprise you while preparing this item?

Answers will vary.

What would you change if you prepared this item again?

Answers will vary.

Which two places did you choose to take the temperatures on your pork tenderloin? Why did you choose those locations?

Answers: Thickest or middle

The thickest or middle part of a large cut of meat takes the longest to cook to the correct temperature.
