Objectives
Participants will:
1. Identify the parts of the pressure cooker and explain their functions.
2. Explain how to store a pressure cooker properly.
3. Demonstrate how to make a quick main dish using a pressure cooker.
4. Explain safety precautions to follow when using a pressure cooker.
5. Calculate the time saved by using a pressure cooker to make a recipe compared to a regular conventional cooking method.
6. Explain the advantages (including nutritional) of using a pressure cooker.

Required Materials:
- Required paperwork for program.
- Pens or pencils.
- Pressure cooker.
- Timer.
- Stove top or hot plate.
- Ingredients for chili recipe (see pg. 10).
- Handouts and Activities (see pgs. 8 - 12).
- Bowls, spoons, and napkins for sampling by participants.
- Calculators for participants (provide if needed for objective 5).

Preparation Required:
Note: This lesson was adapted from National Presto Industries, Inc. (Presto’s Pressure Cooker School Lessons: http://www.gopresto.com/information/school) to help educators familiarize their students with pressure cooking. The lesson was created for use with pressure cookers utilizing rocking regulators. To use this lesson with a pressure cooker utilizing a different regulator, please consult the operating instructions accompanying the pressure cooker to examine differences in parts and functions. Adapt lesson as needed.
- Review the lesson.
- Review the instruction manual for the pressure cooker model that you will be using for the demonstration. Make alterations to fit the pressure cooker you are using if needed.
• Make copies of pressure cooker parts for naming activity (see pg. 11) and cut them out.
• Make copies of safety tips for memory game (see pg. 12) and cut them out.
• Prepare ingredients needed for demonstration.
Introduction
Time: 5 Minutes

• Welcome everyone to the class and thank them for taking time to participate.
• Briefly introduce yourself and the program.
• **Ask the class:** Do you ever get to dinnertime and have to think of the fastest thing you can make to get food on the table for the night? Does this sometimes result in a less healthful option being served? This is the situation where using a pressure cooker can come in handy.
• In this fast-paced world we are constantly trying to find ways to save time in the kitchen and still prevent growing waistlines. The pressure cooker is the answer to our cry for "help" by making it possible to create a nutritious flavor-packed meal in minutes. Pressure cooking can save you time and money while producing foods that are ultra tender, low in fat, and full of flavor. Although pressure cookers have been around for a long time, they are the perfect tool for any modern kitchen. Today we will talk about how using a pressure cooker can help you to "have it all" when it comes to cooking quick, delicious, healthy meals.

Objective 1: Identify the parts of the pressure cooker and explain their functions.
Time: 10 minutes

• **Show the pressure cooker to the class.**
• **Ask the class:** Do you know how a pressure cooker works?
  o A pressure cooker works by using steam and pressure to increase the cooking temperature. Under pressure, internal temperatures in the cooker are raised above the normal boiling point of water which results in faster cooking time, natural meat tenderization and intensified natural flavors so less fat, salt, sugar or heavy seasonings need to be used to get great taste.
  o A pressure cooker has some unique parts. It is important to understand the function of each of the parts to use the pressure cooker properly.
• **Hand out the “Getting Acquainted” worksheet (see pg. 8).**
• Take a few minutes to see if you can identify parts of the pressure cooker. Write down the name and function if you know it.
• **Ask for seven volunteers:**
  • Give each volunteer a number of a part to identify (see pg. 11). After the class has had a few minutes to try to identify the parts themselves, have the volunteers come up one by one in order. Have them identify their part on the pressure cooker and explain the function. See illustration and description of parts below for help in explaining the names and functions of the parts.
  • **Note:** If the class is small, you can pass around the pressure cooker for the participants to see up close. If the class is large, invite the participants to look closer at the pressure cooker after class.

Photo from Presto’s Pressure Cooker School Lessons
http://www.gopresto.com/information/school/parts.php
1. **Pressure Regulator:** The pressure regulator controls and maintains 15 pounds of pressure in the pressure cooker. This is the ideal cooking pressure and is obtained when the pressure regulator begins a gentle rocking motion. When purchasing a pressure cooker, choose one that operates at 14-16 pounds per square inch or PSI when it reaches high pressure. This will be the fastest type of cooker to use.

2. **Vent Pipe:** The pressure regulator fits on the vent pipe and allows excess pressure to be released if needed.

3. **Air Vent/Cover Lock:** The air vent/cover lock automatically "vents" or exhausts air from the pressure cooker and acts as a visual indication of pressure in the pressure cooker. When the air vent/cover lock is in the up position, there is pressure in the unit. When it is in the down position, there is no pressure in the unit.

4. **Lock Pin:** The lock pin, located on the cover (or lid) handle, engages with the air vent/cover lock to prevent the cover from being opened when there is pressure in the unit.

5. **Sealing Ring:** The sealing ring fits into the pressure cooker lid and forms a pressure-tight seal between the lid and the body during cooking.

6. **Overpressure Plug:** The overpressure plug is located in the lid. It will automatically release steam in case the vent pipe becomes clogged and pressure cannot be released normally.

7. **Cooking Rack:** The cooking rack is placed on the bottom of the pressure cooker for steaming foods. It also holds foods such as vegetables out of the cooking liquid which allows the cooking of several different foods at the same time without any intermingling of flavors. When it is desirable to blend flavors, do not use the cooking rack.

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**Objective 2: Explain how to store a pressure cooker properly.**

**Time:** 3 minutes

- **Proper storage of the pressure cooker is essential to keep it working properly for a long time.**
- **Ask the class:** What is the best way to store a pressure cooker?
  - To properly store the pressure cooker the lid should be inverted on the pressure cooker body with the sealing ring out of the groove.
  - The sealing ring should be removed and rinsed after each use. Allow the sealing ring to air dry before placing back in the lid.
  - Check your specific owner’s manual for any other storing instructions unique to your cooker.
- **Ask the class:** What could happen if the pressure cooker is not stored correctly?
  - Storing the cooker with the lid locked on (incorrectly) may cause unpleasant odors and may deform the sealing ring.

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**Objective 3: Demonstrate how to make a quick main dish using a pressure cooker.**

**Time:** 10 minutes

- **Demonstrate and explain how to make the chili recipe:**
  - Heat the pressure cooker.
  - Add oil and ground beef. Brown beef and drain any excess fat.
  - Add remaining ingredients and mix well.
  - Check to make sure vent pipe is not clogged.
  - Close lid securely.
  - Place pressure regulator on vent pipe. Bring the pressure cooker to pressure over high heat. (Pressure is built when regulator starts rocking). When pressure is reached, turn down heat slightly but maintain a slow steady rocking motion.
  - Cook 15 minutes with regulator rocking gently.
o Take cooker off heating surface and let pressure drop using the natural release method. This means you let the pressure drop of its own accord. This will take about 10 minutes. Pressure is released when the air vent/cover lock is down. Do not open the cooker until pressure is released. **Note: Many newer pressure cookers will not allow you to remove the lid until the pressure has dropped.**

o Open and serve.

o Garnish with cheese slices if desired.

o Serves 4-6

**Note:** While the food is cooking continue with objectives 4-6.

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**Objective 4: Explain safety precautions to follow when using a pressure cooker.**

Time: 10 minutes

- When you think of pressure cooking, you may have a vision of exploding pots of stew that ended up on the ceiling of your grandma’s kitchen. You will be happy to know that today this accident is non-existent due to safety features included on each pressure cooker. With these added safety features and a few general safety tips you will be on your way to delicious foolproof cooking!

- We will play a memory game to help us learn a few general safety tips for using a pressure cooker.

**Memory Game:** Split the class into groups and give each group a slip of paper with a safety tip (see tips below and on pg. 12) about pressure cookers. Give the group time to read the safety tip and to come up with a way to remember that safety tip. Then have each group read their safety tip and present their way to remember it to the class. After everyone has presented, quickly review each tip once more using the memory aids presented.

**Safety Tips:**

- Never overfill the pressure cooker. The pressure cooker releases excess pressure automatically to keep the pressure constant inside. If the cooker is too full these parts cannot function properly.

- Never fill the pressure cooker over $\frac{2}{3}$ full (for most foods). When cooking foods that expand significantly like rice, beans (dried vegetables), grains, and soups do not fill the cooker more than $\frac{1}{2}$ full and follow the recommended instructions for cooking these items in your specific owner’s manual.

- Some foods foam, froth and sputter so much that they should be cooked with caution or not at all in the pressure cooker. These foods include things such as applesauce, cranberries, rhubarb, split peas, pearl barley, oatmeal or other cereal, noodles, macaroni or spaghetti. If you want to cook these types of foods, use a recipe designed for a pressure cooker and follow specific instructions to safely cook these foods.

- Replace the sealing ring and overpressure plug. Replace the overpressure plug if it becomes hard or when replacing the sealing ring. Replace the sealing ring if it becomes hard or soft and sticky. If water is dripping down the sides of the cooker and it is not coming up to pressure, this is a good indication you may need to replace the sealing ring.

- Always look through the vent pipe before closing the cooker to make sure it is clear. Make sure no food or particles are stuck inside it. If the vent pipe is blocked, it cannot function as it should and thus cannot relieve excess pressure. This may cause pressure to build to unsafe levels.

- Keep an eye on the pressure regulator. When the pressure has built up, it will start rocking. Then turn down the heat. If you keep the heat on high the pressure will continue to build. The goal is to maintain high pressure with as little heat as needed.

- Read the instructions that come with the model of pressure cooker you are using and be sure you know the proper way to operate your specific model. If you bought the cooker...
used or no longer have the instruction manual, check online. You most likely will be able to find it there.

- Make sure pressure is released before opening the lid. (As a safety feature most modern pressure cookers will be automatically locked until pressure is low enough to safely remove the lid.) You can reduce pressure by letting the pressure cooker sit (natural release), with the manual release system or by running cool water over the pressure cooker (quick release). Pressure cooker recipes usually state which way to release pressure for that particular recipe. Be sure to follow the instructions specified by the recipe to get perfectly cooked food.

- Always use cooking liquid. If an empty pressure cooker is left on a hot burner or if a cooker boils dry and is left on a heated burner, the cooker will overheat excessively causing possible discoloration and warping of the cooker. Any liquid will work in the pressure cooker including bouillon, fruit juices and water. You will need much less liquid than in a regular recipe, but you must have some type of liquid so the cooker can build up steam.

**Objective 5: Calculate the time saved by using a pressure cooker to make a recipe compared to a regular conventional cooking method.**

**Time: 5 minutes**

- The pressure cooker is the ultimate time saver! Most recipes can be made more quickly using the pressure cooking method. With practice you can even make an entire meal at once in the pressure cooker.
- *Hand out “Time and Compare” worksheet (see pg. 9).*
- **Ask the class:** Find one or two foods on the pressure cooker time sheet that you might make as part of a meal at home. Estimate the time it would take you to make that meal using a normal cooking method.
- *Have the class calculate the time it would take in the pressure cooker based on the estimated cooking times on the sheet provided. Contrast the difference.*
  - Pressure cooking generally takes one third of the time it would take to make a recipe on the stove top. For instance if the recipe takes 30 minutes on the stove top it will only take 10 minutes in the pressure cooker!
  - Remember that cooking time starts after the item has been brought up to pressure. This typically takes about five minutes after the cooker is placed on the stove but can be longer if the cooker is really full. A timer is very helpful when using a pressure cooker. Using it will help you get perfectly cooked food.
  - The pressure cooker usually can be brought up to pressure over high heat. If burning occurs when doing this, bring the cooker up to pressure on a medium heat setting.

**Objective 6: Explain the advantages (including nutritional) of using a pressure cooker.**

**Time: 3 minutes**

- **Ask the class:** From what we have talked about so far, what are some advantages of pressure cooking that you have observed or learned?
  - **Steam:** High temperature steam intensifies the flavors so less seasoning (salt, pepper etc.) needs to be used.
  - **Quick cooking:** High pressure allows for cooking temperatures to be raised significantly higher than possible under normal conditions resulting in 3-10 times faster cooking times than other conventional methods.
  - **Nutrients:** Pressure cooking retains more valuable nutrients than other cooking methods. The reason is that foods cook quickly in an almost airless environment with very little liquid.
Consequently, vitamins, minerals and other nutrients are not boiled away during cooking.

- **Low-fat**: Cooking is virtually fat-free. The steam cooks the food so no added fats need to be used. Using the cooking rack to keep foods out of the cooking liquid allows fats in foods to be drained away during cooking.

- **Energy efficient**: You can cook an entire meal in one pot resulting in less pots and pans to heat up or clean! You can also save energy from significantly shorter cooking times resulting in less power used to heat the stove and cool down the house after meal preparation in the summer time.

**Conclusion:**

**Time: 3 minutes**

- Distribute samples of the chili for participants to try.
- **Ask the class**: What other recipes could you try in the pressure cooker? How much time can you save?
- **Ask the class**: Are there any questions?

**References**


This material was funded by USDA’s Supplemental Nutrition Assistance Program – SNAP. The Supplemental Nutrition Assistance Program (SNAP) provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact 1-800-221-5669 or visit online at http://www.fns.usda.gov/snap/. In accordance with Federal Law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs or disability. To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avanue, S.W., Washington, D.C. 20250-9410 or call (800)795-3572.
The pressure cooker is a special saucepan with unique parts not found on ordinary pots and pans. Each part has a special function that enables the pressure cooker to safely build up steam pressure and cook foods quickly. While the parts of a pressure cooker may vary between models, the diagram above shows many of the parts found on a typical, modern pressure cooker.

In the space provided, name each part as numbered in the diagram and describe its function.

1.

2.

3.

4.

5.

6.

7.
Instructions: Below is a chart with various cooking times of foods typically cooked in a pressure cooker. Pick one or two items and calculate the time you would save making that item in a pressure cooker rather than on a stove-top or in an oven or slow cooker.

<table>
<thead>
<tr>
<th>Food</th>
<th>Minutes to Cook</th>
<th>Release Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicken breast, boneless</td>
<td>4</td>
<td>4 min natural release, then quick release</td>
</tr>
<tr>
<td>Chicken thighs, bone in</td>
<td>8</td>
<td>4 min natural release, then quick release</td>
</tr>
<tr>
<td>Pork chops</td>
<td>4 - 5</td>
<td>Natural release</td>
</tr>
<tr>
<td>Beef rump roast, 3-4 pounds</td>
<td>45 - 55</td>
<td>Natural release</td>
</tr>
<tr>
<td>Brown rice</td>
<td>15</td>
<td>Quick release</td>
</tr>
<tr>
<td>Dry pinto beans, presoaked</td>
<td>9 - 11</td>
<td>Natural release</td>
</tr>
<tr>
<td>Beets, small whole (3-4 ounces)</td>
<td>11 - 13</td>
<td>Quick release</td>
</tr>
<tr>
<td>Artichokes, large (8-9 ounces)</td>
<td>10 - 11</td>
<td>Quick release</td>
</tr>
<tr>
<td>Carrots, baby-cut</td>
<td>4 - 5</td>
<td>Quick release</td>
</tr>
<tr>
<td>Russet potatoes, 1” chunks</td>
<td>7 - 8</td>
<td>Quick release</td>
</tr>
<tr>
<td>Sweet potatoes, 2” chunks</td>
<td>9 - 10</td>
<td>Quick release</td>
</tr>
<tr>
<td>Winter squash; acorn squash, half</td>
<td>6 - 7</td>
<td>Quick release</td>
</tr>
</tbody>
</table>

Write down item and time saved below:
Cooking Under Pressure!

Learning to use a pressure cooker can help you make quick, delicious, fast-paced meals. Foods cooked in a pressure cooker retain more nutrients, are lower in fat, are more tender, and cook at record pace!! Most recipes cook in ⅓ the time when using a pressure cooker.

### Honey Glazed Chicken

- 6 chicken thighs, trimmed off skin and fat
- 2 tablespoons cooking oil
- ¼ cup honey
- 1 tablespoon reduced sodium soy sauce
- ½ cup water

Heat pressure cooker; add oil and brown chicken. Combine honey and soy sauce; brush on chicken. Pour water and remaining sauce in pressure cooker. Close lid securely. Place pressure regulator on vent pipe and cook 12 minutes with regulator rocking gently. Cool pressure cooker at once. Crisp chicken under broiler if desired.

Yield: 4-6 servings

### Chili

- ¾ to 1 pound ground beef
- 1 tablespoon cooking oil
- 2 cups diced onion
- 2 ½ cups tomato juice
- 1 large clove garlic, minced
- 1 tablespoon chili powder
- 1 teaspoon cumin
- 1 teaspoon sugar
- Salt and Pepper
- 1 (10 ½ oz.) can kidney beans, drained and rinsed

Heat pressure cooker; add oil and brown ground beef. Add remaining ingredients and mix well. Close cover securely. Place pressure regulator on vent pipe and cook 15 minutes with regulator rocking gently. Let pressure drop of its own accord. Garnish with cheese slices if desired.

Yield: 4-6 servings

### Safety Tips

1. Read instructions which accompany the model of pressure cooker you are using.
2. Never overfill the pressure cooker. Never fill the pressure cooker more than ⅔ full for most foods or ½ full for dry rice, beans, vegetables or soups.
3. Always look through the vent pipe before closing cooker to make sure it is clear.
4. Never open the pressure cooker until internal pressure is completely released (most new models will not even allow you to).
5. Caution must be used when cooking sputtering foods such as applesauce, cranberries, rhubarb, split peas, dry beans, pearl barley, oatmeal, or other cereals, noodles, macaroni, or spaghetti. Be sure to use a pressure cooker specific recipe for this.
6. Replace the sealing ring and/or overpressure plug when they become hard or soft and sticky.

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Objective 1 Activity: Identify parts of pressure cooker and explain function.
Copy this page and cut apart to hand out to 7 participants (see pg. 3 of lesson).

1. **Pressure Regulator:** The pressure regulator controls and maintains 15 pounds of pressure in the pressure cooker. This is the ideal cooking pressure and is obtained when the pressure regulator begins a gentle rocking motion. When purchasing a pressure cooker, choose one that operates at 14-16 pounds per square inch or PSI when it reaches high pressure. This will be the fastest type of cooker to use.

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Objective 4 Activity: Explaining Safety Tips
Copy this page and cut apart to hand out to groups (see pg. 4 – 5 of lesson).

Never overfill the pressure cooker. The pressure cooker releases excess pressure automatically to keep the pressure constant inside. If the cooker is too full these parts cannot function properly.

Never fill the pressure cooker over 2/3 full (for most foods). When cooking foods that expand significantly like rice, beans (dried vegetables), grains, and soups do not fill the cooker more than ½ full and follow the recommended instructions for cooking these items in your specific owner’s manual.

Some foods foam, froth and sputter so much that they should be cooked with caution or not at all in the pressure cooker. These foods include things such as applesauce, cranberries, rhubarb, split peas, pearl barley, oatmeal or other cereal, noodles, macaroni or spaghetti. If you want to cook these types of foods, use a recipe designed for a pressure cooker and follow specific instructions to safely cook these foods.

Replace the sealing ring and overpressure plug. Replace the overpressure plug if it becomes hard or when replacing the sealing ring. Replace the sealing ring if it becomes hard or soft and sticky. If water is dripping down the sides of the cooker and it is not coming up to pressure, this is a good indication you may need to replace the sealing ring.

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Keep an eye on the pressure regulator. When the pressure has built up, it will start rocking. Then turn down the heat. If you keep the heat on high the pressure will continue to build. The goal is to maintain high pressure with as little heat as needed.

Read the instructions that come with the model of pressure cooker you are using and be sure you know the proper way to operate your specific model. If you bought the cooker used or no longer have the instruction manual, check online. You most likely will be able to find it there.

Make sure pressure is released before opening the lid. (As a safety feature most modern pressure cookers will be automatically locked until pressure is low enough to safely remove the lid.) You can reduce pressure by letting the pressure cooker sit (natural release), with the manual release system or by running cool water over the pressure cooker (quick release). Pressure cooker recipes usually state which way to release pressure for that particular recipe. Be sure to follow the instructions specified by the recipe to get perfectly cooked food.

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