

# Canning Fruits & Tomatoes:

## 4-H Food Preservation Project Unit 3

Canning is an easy way to preserve food for later use. It saves money and is also enjoyable.

### What You Will Learn in This Project

- How to know the amount of food to preserve for your family.
- How to use canning equipment.
- How to preserve fruits and tomatoes using a boiling water-bath method.
- How to blanch peaches and tomatoes to remove their skins.
- How to make syrup for canning fruit.
- How to label and store canned food.
- How to can safely.
- A wire basket or cloth for scalding peaches or tomatoes.
- A shallow pie pan or cake pan in which to set your jars, spoon, and filler when filling the jars.
- Clean pot holders and jar lifter for handling jars.
- Clean dish cloths and towels to keep utensils and work surface clean.
- A water-bath canner to process jars of fruit and tomatoes.
- Jars free of nicks and cracks—pints if your family is small, quarts for a family of five or more.
- Clean cloth to wipe the tops of the jars.
- 2-piece metal lids and bands.
- Board, rack, or cloth on which to set the processed fruit to cool.
- Sugar, salt, or vinegar as needed, following the recipe directions.

### What You Will Do in This Project

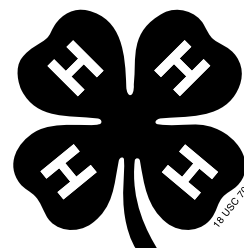
- Decide how many pints or quarts of tomatoes, tomato juice, and fruit your family should can for home use.
- Can tomatoes and tomato juice.
- Can one or more kinds of fruit, such as blackberries, apples, pears, and plums.
- Label and store canned foods.
- Exhibit canned foods at fairs and exhibit days.
- Give a visual presentation showing something you have learned in this project.
- Help your family can other fruits and vegetables.

### What You Will Need for This Project

- Fruit, berries, or tomatoes that are ripe but firm and free from decay.
- Large pans to hold fruit after it is washed.
- A colander or strainer for draining berries and fruit.
- Paring knife.
- Measuring cups and spoons.
- A pan for cooking syrup.
- A jar lifter.
- A jar filler or funnel.
- A sieve for making tomato juice.
- A plastic spatula or table knife for removing air bubbles from the jars.
- Two large spoons to pack fruit.
- Tongs for lifting hot lids.

### Words You Will Learn in This Project

- **Process:** To heat jars of fruits or tomatoes in a water-bath canner. Jars of vegetables and other low-acid foods are heated in a pressure canner.
- **Processing Time:** The duration needed to sterilize jars of food. Processing time is measured from the time the water comes to a rolling boil.
- **Boiling Water-Bath Method:** A method of processing jars of food in a special kettle deep enough to allow 2 inches of water over the top of the jars. Jars are placed on a rack in the kettle. If you do not have a water-bath canner, use a deep kettle with a rack and a good cover. Be sure jars do not touch each other.
- **Hot Pack:** Jars are filled with food precooked for 3 to 5 minutes, following the recipe directions.
- **Raw or Cold Pack:** The jars are filled with raw food and covered with boiling water, hot syrup, or juice. The jars are then processed regularly.
- **Headspace:** Space left at the top of a jar when filling it with food.



## Safety Rules

- Take your time—don't hurry.
- Let an adult help you when you use hot syrup and hot water or remove hot jars.
- Use thick pot holders.
- Use a good, strong jar lifter.
- When opening a hot canner, tip the cover away from your face and hands.
- Keep pan handles toward the back of the range.
- Set hot jars on a wooden board or cloth to cool. Do not expose the jars to a sudden draft. Hot jars could break and scald you.

## Canning Instructions

To can food successfully and safely, you must follow certain steps. It is easy to learn how and why you must follow these steps.

All around us—in the air, water, and soil—there are tiny lifeforms called “microorganisms.” Examples include yeast, molds, and bacteria. Microorganisms cause foods to spoil. Fresh food that is not preserved by canning, freezing, or drying will change color, flavor, texture, and eventually spoil. Canning stops this natural spoilage process by heating foods in containers that seal.

Canned foods are divided into two types: acid and low-acid. Acid foods include fruits, tomatoes, sauerkraut, pickles, and relishes.

Since few bacteria thrive in acid foods, sealed jars can be heated in a boiling water-bath canner at 212°F for the recommended time.

Low-acid foods include vegetables and meats. Sealed jars must be heated in a pressure canner at 240°F for the recommended time.

### Check and Wash the Jars

- Use pints and quarts, depending on size of your family.
- Hold the jars to the light, or lightly run a finger around the top to check for nicks and cracks.
- Wash the jars in hot, soapy water.
- Rinse and keep hot water in the jars.
- Keep jars hot until filled with fruit or tomatoes.

### Check the Jar Lids

- Use only new lids.
- Rinse the lids and follow the directions on the box for heating.

### Sort and Wash the Fruit

- Sort out all bruised, decayed, or underripe fruit.
- Wash the fruit before you cut or peel. Lift the fruit from the water. If you drain water from the fruit, dirt will remain on it.
- Drain the fruit in a colander or sieve.

### Pack the Jars

- When you have enough for one jar, start packing the fruit or tomatoes into it.
- Follow specific directions for the fruit or tomatoes.
- Run a plastic spatula or knife between the food and sides of the jar to remove air bubbles.
- Wipe the mouth of the jar with a clean cloth to remove all food particles.
- Take a clean lid from the hot water and place it on top of the jar.
- Adjust the lid according to the manufacturer's directions.

### Process

- Have enough hot water in the canner to allow 2 inches above the top of the jars. Start with a canner about half full of water.
- The rack should hold the jars at least ½ inch above bottom of canner.
- If the fruit is packed raw, have water in the canner hot but not boiling.
- Gently lower the jar into the water-bath canner.
- Fill your next jar.
- Work quickly.
- If needed, add boiling water to keep jars covered.
- Have space between the jars so they do not touch each other.
- Most canners hold seven jars.
- Start timing when the water comes to a rolling boil.
- Use the recommended lengths of time.
- Use a timer or an alarm clock to remind you when to remove the jars from the canner.

### Remove the Jars

- When the processing time is finished, remove the jars from the canner with a jar lifter.
- Place the jars on a dry cloth, board, or rack to cool.
- Always cool jars with the top side up.
- Leave space between the jars so the air can cool them.
- Avoid drafts from open windows or doors.

### Check the Seal

- Wait about 12 hours or overnight before checking the seal. The jar must be cooled to room temperature.
- Remove the screw band to re-use.
- The lids should be slightly snapped down in the center.
- Only jars with a perfect seal will keep.

- If your jars do not seal, look at the jar to determine the cause. Either refrigerate at once to eat or repack in another jar. Use a new lid and reprocess for the same amount of time.

### Label and Store

- Wipe the jars with a damp, clean cloth.
- Label the jars.
- Store the jars in a cool, dry, dark place: 50°F to 70°F is ideal.

## Canning Tomatoes with the Boiling Water-Bath Method

1. Use only firm, ripe tomatoes. One bad spot can spoil them all. Wash the tomatoes.
2. Dip them in boiling water for about 30 seconds or until the peels loosen.
3. Dip the tomatoes quickly into cold water, peel, and remove the core from the stem end.
4. Quarter the tomatoes. Put the tomatoes in a large saucepan and add enough water to cover the tomatoes. Place on burner set on medium heat; bring to a boil, stirring to keep tomatoes from sticking. Boil gently for 5 minutes.
5. Pack the boiling hot tomatoes into jars, within ½ inch of the top; add ½ teaspoon salt to pints and 1 teaspoon to quarts.
6. Tomatoes must be acidified by adding citric acid to each jar canned. Add ¼ teaspoon for pints and ½ teaspoon for quarts.
7. Work out air bubbles with a plastic knife blade or plastic spatula.
8. Wipe the jar rim with a clean, damp cloth. One speck of food or a seed can prevent a perfect seal. Air can then get in and cause the tomatoes to spoil. Adjust lids.
9. Put the jars on a rack in a kettle of hot water. Leave space between the jars. Have water 2 inches above tops. Put lid on canner, and start counting time from when the water boils. Process pints for 40 minutes and quarts for 45 minutes.
10. Remove the jars from the water-bath. Space them apart, top-side up, on a board, dry cloth, or rack. To prevent hot jars from cracking, keep them out of drafts and away from open doors or windows.

## Canning Tomato Juice

1. Select firm, ripe tomatoes.
2. Wash, remove core, and cut the tomatoes into quarters.
3. Heat only to a simmer in a covered kettle until the juice flows freely.

4. Strain quickly by placing the tomatoes through a food mill or sieve.
5. Reheat tomato juice to boiling and pour into clean, hot jars, leaving a ½ inch headspace.
6. Add ¼ teaspoon citric acid to each pint and ½ teaspoon to each quart. You may also add salt for flavor: ½ teaspoon per pint or 1 teaspoon per quart.
7. Wipe the tops of the jars with clean, damp cloth.
8. Adjust the lids.
9. Process in a boiling water-bath, 35 minutes for pints and 40 minutes for quarts.
10. Can the tomato juice as quickly as possible to avoid losing vitamin C.

## Canning Berries and Fruits

1. Sort and use only good berries.
2. Wash the berries gently. Lift them out of the water.
3. Drain in colander or sieve.
4. Make a medium syrup (see the “How to Make Syrup” section).
5. Pack the berries in hot jars. Gently shake the berries down as you fill the jars.
6. Cover with boiling syrup to within ½ inch of the top of the jars.
7. Remove air bubbles gently with a plastic knife or thin rubber spatula.
8. Wipe the top of the jars with clean, damp cloth.
9. Adjust lids.
10. Process for the recommended length of time.
11. Remove the jars and place them on dry cloth to cool.
12. Cool for 12 hours or overnight and then check the seal.

## Canning Applesauce

1. Wash cooking apples well. Remove core, using a sharp paring knife. Cut into small pieces.
2. Dip the sliced apples into about 1 gallon of water that contains 2 tablespoons salt and 2 tablespoons vinegar.
3. Drain apples and place them in a saucepan. Add just enough water to cover the bottom of the pan. Stir often with a wooden spoon to keep the apples from sticking. Cook until tender.
4. Press the apples through a sieve or food mill.
5. Sweeten apples to taste (about ¼ cup sugar for every four medium apples). Add cinnamon and other spices, if desired.
6. Pour the strained applesauce into a saucepan. Heat to a boil. Stir constantly.
7. Pour the hot applesauce into clean canning jars. Leave a ½ inch headspace.
8. Wipe the rim of each jar with a clean, damp cloth. Using tongs, place the lids on jars. Screw on the metal rings according to package directions.

- 9. Place the jars in a boiling water-bath canner. Be sure there are 2 inches of water above the tops of the jars. Place the lid on the canner. When water returns to a boil, start counting the time. Process pints for 15 minutes and quarts for 20 minutes.
- 10. When the processing time is up, use a jar lifter to lift the jars out of the canner. Place the jars on a wire rack or folded towel 2 to 3 inches apart. Cool for at least 12 hours.
- 11. Check to see if all the jars are sealed. If they are, remove the metal rings. Wipe the jars off with clean cloth. Label each jar.
- 12. Store the canned applesauce in a dark, dry, cool place.

## Canning Peaches

- 1. Select peaches that are ripe but not soft.
- 2. Wash the peaches.
- 3. Heat a large pan of water to boiling.
- 4. Place the peaches in a wire basket, lower the peaches into the boiling water for about 30 seconds or until the peels slip off easily, and cool by dipping the peaches into a pan of cold water.
- 5. Remove peel, cut into halves, and remove pits.
- 6. Slice directly into the jar or have a large pan of salt and vinegar water in which to place the peeled peaches (2 tablespoons salt and 2 tablespoons vinegar to 1 gallon cold water).
- 7. Place the fruit in colander and run under cold water to rinse off the salt and vinegar.
- 8. Pack in jars as quickly as possible.
- 9. Make medium syrup (see the “How to Make Syrup” section).

## Raw or Cold Pack

- 1. Pack fruit in a hot jar using fork and spoon.
- 2. Have the round side of the fruit facing the outside of jar.
- 3. Cover with boiling syrup to within a ½ inch of the top of jar.
- 4. Remove air bubbles with plastic knife or spatula.
- 5. Wipe the tops of the jars.
- 6. Adjust lids.
- 7. Process the pints for 25 minutes and quarts for 30 minutes in a boiling water-bath.
- 8. Remove from the canner and cool.
- 9. Check the seal the next day.

## Hot Pack

- 1. Simmer the peeled peach halves in medium syrup 3 to 5 minutes.

- 2. Pack fruit in the hot jars. Add the syrup in which peaches are cooked.
- 3. Remove air bubbles with a plastic knife or plastic spatula.
- 4. Wipe top of jar with a clean, damp cloth.
- 5. Adjust lids.
- 6. Process pints for 20 minutes and quarts for 25 minutes in a boiling water-bath.
- 7. Remove from canner and cool.
- 8. Check seal next day.

## Directions for Canning Other Fruit

Follow these instructions for processing other fruits in the boiling water-bath.

Fruit	Processing Time
Apples (hot pack)	Pints: 20 minutes Quarts: 20 minutes
Applesauce (hot pack)	Pints: 15 minutes Quarts: 20 minutes
Cherries (cold pack)	Pints: 25 minutes Quarts: 25 minutes
Cherries (hot pack)	Pints: 15 minutes Quarts: 20 minutes
Pears (cold pack)	Pints: 25 minutes Quarts: 30 minutes
Pears (hot pack)	Pints: 20 minutes Quarts: 25 minutes
Plums (cold pack)	Pints: 20 minutes Quarts: 25 minutes
Plums (hot pack)	Pints: 20 minutes Quarts: 25 minutes

## How to Make Syrup

Type	Sugar	Water or Juice
Light	1 cup	4 cups
Medium	1¾ cup	4 cups
Heavy	2¾ cups	4 cups

- 1. Mix sugar and water, and slowly bring to a boil.
- 2. Boil 5 minutes.

### Types of Syrup

**Light:** Best for very sweet fruit

**Medium:** Suitable for sweet apples, sweet cherries, berries, and grapes

**Heavy:** Ideal for tart apples, apricots, sour cherries, gooseberries, nectarines, peaches, pears, and plums

# Canning Fruit Juices

1. Sort, wash, and crush fruit.
2. Add 1 cup water to 8 cups crushed fruit.
3. Simmer (boil very gently) until juices flow freely.
4. Strain through several thicknesses of clean cheesecloth.
5. Add ½ cup sugar to 8 cups juice.
6. Reheat just to simmering.
7. Fill hot jars to within ¼ inch of the top with hot juice.
8. Wipe tops and put on lids.
9. Process pints or quarts 5 minutes in a water-bath canner.
10. Remove the jars from canner and cool.
11. Check seal next day.

# Exhibits

As you select your jars to exhibit at the fair, here are some questions to ask yourself:

- Is the fruit ripe and free from defects?
- Are all pieces of fruit or berries uniform in size?
- Is the fruit packed neatly in the jar?
- Does the liquid completely cover the fruit?
- Is the syrup or liquid clear and bubble-free?
- Are the jars filled appropriately but not overcrowded?
- Are the jars standard canning jars?
- Are the jars clean and properly sealed?
- Are the labels accurate and correctly completed?

# Visual Presentations

You may want to share the information you have learned with others. Below are some topics to consider for visual presentations:

- Canning Equipment for Fruits and Tomatoes
- Selecting Fruits and Tomatoes for Canning
- Preventing Cut Fruit from Browning
- Steps in Canning Tomatoes
- Safety Tips on Canning Tomatoes
- Choosing Jars and Lids for Canning
- How to Fill and Seal Jars

# Score for Canned Food

Category	Description	Points	Score
Color	Food is similar to the natural color of raw food.	20	
Condition	Food is free of blemishes and/or insect bites and cooked to the right state (not over- or under-cooked). Fruits are firm, yet evenly ripe.	30	
Clearness of liquid or syrup	Liquid or syrup is clear, free of dregs and foreign material. Syrup is bright.	20	
Uniformity	All pieces of food in the container are uniform in color, shape, and size.	20	
Pack	Food is packed to ½ inch to the top of the container, and the syrup or liquid covers the food.	10	

Total possible score of 100

## 4-H Project Record for Canning Fruits and Tomatoes—Unit 3

Name \_\_\_\_\_ Date \_\_\_\_\_

Name of 4-H club or project group \_\_\_\_\_

Age \_\_\_\_\_ Grade in school \_\_\_\_\_

What are the most important things you learned in this project?

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How many food preservation project group meetings did you attend? \_\_\_\_\_

List any assistance you have given to other 4-H'ers with their food preservation projects.

Number Helped	Kind of Assistance Given
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

List any exhibits made in this project.

What Was Exhibited	Number of Jars (Indicate Level*)
_____	_____
_____	_____
_____	_____
_____	_____

\***Levels:** Local (L), County (C), District (D), State (S).

List any talks and visual presentations that relate to this project. (Include radio and TV appearances).

Topic	Number in Audience	Number of Times on Each Level*

\*Levels: Local (L), County (C), District (D), State (S)

List any awards and recognition received in this project.

Type of Award	Indicate Level*

\*Levels: Local (L), County (C), District (D), State (S)

List the fruits and tomatoes canned.

Date	Name of the Fruit Preserved	Number of Jars	Size of Jars

List other foods you preserved this year

Date	Name of the Food Preserved	Number of Jars	Size of Jars

[illegible]

Extension Agent's Signature