

HOME FOOD PRESERVATION

Lesson Plan: Canning Grape Jelly

Time Needed: 1 ½ to 2 hours

Supply List:

Commercially bottled unsweetened grape juice (5 cups)
1 box of regular powdered pectin
7 cups sugar
9 half-pint canning jars with lids and metal rings
Paper towels
Disposable food grade gloves
Small paper plates
Serving spoon
Saltine crackers (for taste testing)

Handouts per participant:

Home Canned Grape Jelly
Grape Jelly Recipe
Boiling Water Canning

Equipment Needs:

Gas/electric stovetop
Ample counterspace per participant
Boiling water canner with rack
Thermometer
Large saucepan
Several medium bowls
Jar lifter
Jar funnel
Headspace tool/bubble freer or narrow plastic spatula or plastic knife
Ladle
Dry and Liquid measuring cups
Measuring spoons
Large wooden spoon
Permanent marker or labels
Potholders
Kitchen Towels
Timer

Optional, but can be handy:

Extra 2-piece canning lids and metal rings
Extra Kitchen Towels
Small pot or kettle, for extra hot water
Cooling Rack
Laminate recipe to use during class

Recipe: Grape Jelly with Powdered Pectin and commercial grape juice

Source: NCHFP website

Learner Objectives:

1. Learn to preserve high-acid foods at home.
2. Understand the importance of canning correctly.
3. Demonstrate the proper steps to successfully preserve jelly at home.
4. Identify problems and solutions for home food preservation.
5. Describe the basic functions of pectin and sugar when making jelly.

Canning Method Used: Boiling Water Canning

- High Acid Foods – pH 4.6 or lower
- Used for
 - ◆ fruit spreads - like jams and jellies
 - ◆ most fruit products
 - ◆ tomatoes
 - ◆ salsas
 - ◆ acidified foods – like pickles
 - ◆ fermented foods – like sauerkraut
- Prevents growth of *Clostridium Botulinum*; yeasts, molds
- Most bacteria are destroyed at boiling temperatures (212°F at sea level)

Hot Pack Method –Heat product to a boil; and simmer according to recipe. Immediately fill canning jars with hot product.

- Preferred method for most foods.
- Food is cooked before packing in jars.
- Fewer jars needed.
- Less floating.
- Better color and flavor retention.



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Teacher Steps to Boiling Water Canning Grape Jelly

There are many ways to organize work environments for canning. If you are familiar with canning, and organizing differently, feel free to adjust to your class. It is a good idea to have everyone wear gloves to this in a class environment.

Work Stations (and supplies needed):

A. Measuring Station

Measuring cups, spoons, bowls, ingredients

B. Canning Jar Preparation Station

9 half-pint canning jars, 9 2-piece canning lids and rings, dish soap, dish pan, paper towels or clean kitchen towel for drying

C. Jelly Preparation Station

Large saucepot, pre-measured ingredients, pectin, large wooden spoon, metal spoon

D. Jar Filling Station and Placement Into Canner

Trivet for hot saucepot, cake pan to catch drips, ladle, clean and hot jars, clean lids and rings, jar funnel, bubble freer/plastic knife, headspace measuring device, clean damp paper towel, jar lifter, boiling water canner with water at 180°F, timer

E. Cooling Station

Jar lifter, clean towel or cake cooling rack

Before Class

1. Wash hands and kitchen counters before starting.
2. Prepare supplies and set up each work station.
3. Add water to boiling water canner and begin to heat on stove.
 - If using the canner to heat jars, put on stove and set heat to medium to medium high. Add jars making sure each jar is under water. Do not boil, heat to 180°F.
 - If not using the canner to heat jars, fill canner about 1/3 full of water and start water heating. Do not boil, heat to 180°F.
4. Either before class or at the beginning of class wash jars, lids and rings.



When Class Starts

- Introductions – teachers and students
Have participants tell if they have ever canned before. If yes, what food?
- Inform students, this will be a guided, hands-on canning experience, encourage them to ask questions along the way. Let them know when the jars are in the canner, we will be reviewing what we did. If time permits, use the canning activities included with this lesson series.

Tasks to Start Class

Have students wash hands.

Wash jars, lids and rings, if not done ahead of class. Keep jars hot by using one of the following methods:

1. Jars can be immersed into the canner water or other pot with hot water.
2. Jars can be held in a clean sink in very hot water.
3. Jars can be run through a dishwasher and held in the hot dishwasher.

Cooking Jelly

Combine grape juice and powdered pectin in large saucepan. Bring mixture to a boil over high heat, stirring to blend in pectin. Add sugar, stirring until sugar is dissolved.

Bring mixture back to a boil that cannot be stirred down. Boil hard for 1 minute, stirring constantly. TIP: Do Not overcook.

Remove from heat. Skim off foam if necessary.



Should I sterilize my jars??



If the processing time is less than 10 minutes it is recommended you sterilize the jars first.

To pre-sterilize jars, place the cleaned jars right-side-up on a rack in a canner and fill the jars and canner with water to 1-inch above the tops of the jars. Bring the water to a boil and then boil for 10 minutes. Reduce temperature of stove top to maintain jars at 180°F.

When you are ready to fill the jars, remove the jars one at a time, carefully emptying the water from them back into the canner. This will keep the hot water in the canner for processing filled jars.

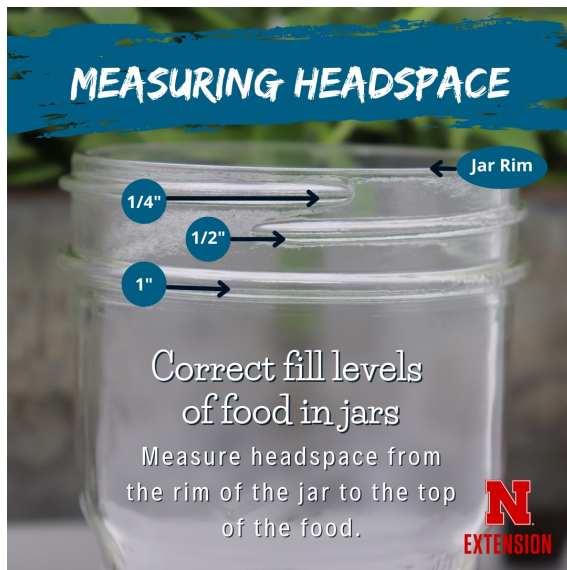
Tested recipes have specific instructions for cooking - follow them. Your goal is to develop an adequate gel structure. Best results occur when you use a wide diameter saucepan with a flat, heavy bottom and high sides. The additional surface space helps with evaporation resulting in improved gelling.

Additional points to remember when cooking jellies:

1. Prepare only a single batch at a time. Doubling the recipe can cause your spread to be soft and not gel.
2. Overcooking or undercooking can affect the set.
3. Pectin recipes have been developed for a specific boil time, always follow the recipe.
4. While cooking your jelly, foam will form on the top. Use a large metal spoon to skim the foam off the spread prior to filling jars.
5. Use only jar size specified in your tested recipe. It is not safe to use larger jars as this can affect processing temperature and time.
6. Measure the full amount of sugar listed in the recipe. If you wish to use less sugar, use a recipe specifically developed to get the taste you want.

Getting Ready

To fill jars, line up an assembly. If there is not enough room to do this by the stove, try to do it near the stove.



- A. **Start with** – Cooked jelly in saucepot on trivet or potholder
- B. Cake pan (optional) with jar funnel, ladle, plastic bubble freer, and headspace tool
- C. Damp paper towel
- D. Washed lids and rings (following manufacturers instructions)
- E. Jar lifter
- F. Boiling water canner with water at 180°F on the stove

How to Fill a Jar

Demonstrate filling a jar. Then have all students fill a jar.

1. Start with a hot jar.
2. Use jar funnel, fill the jar with jelly using a ladle, leaving the recommended headspace (1/4 inch).
3. Run a plastic bubble freer around the inside of the jar to release any air bubbles.
4. Use headspace measurer or jar measurements to check for the correct headspace (1/4 inch).
5. Wipe the rim of the jar using a clean damp cloth or paper towel.
6. Center lid on the mouth of the jar and adjust screw band to finger tight.
7. Using a jar lifter, place the filled jar on the rack in the canner, being careful not to tip the filled canning jar.

Repeat until all jars are filled or product is all used.

Finger Tight

As the jars are heating in the boiling water canner, air is forced out of the jar, called venting. At the end of the processing time and the jar comes out of the canner, it wants to equalize the pressure and have the air back. The lid pulls tight to the jar and forms a seal, not letting the air back in. That is how the vacuum forms. If a lid is on too tight when you put it in the canner, the lids may buckle or not seal properly. If the lid is too loose, it won't form a tight bond to the jar.



8. If rack is resting on the rim, lower into canner. Water must cover the jars by 1 to 2 inches. Adjust heat to medium-high, place lid on canner, and bring water to a rolling boil.
9. Process jars for the amount of time indicated in the recipe when water is at full boil. Keep the canner covered for the process time. The heat setting may be lowered as long as a gentle but complete boil is maintained for the entire process time.

Discuss elevation and how it can make a difference in processing your products.

Continue watching the timer on the boiling water canner and review procedures.



10. Once the timer goes off, if the water has remained at a steady boil the entire time:

- ◆ turn off the burner
- ◆ remove canner lid
- ◆ leave jars in the canner undisturbed for **5 minutes**

11. Lift jars straight out of the canner without tilting. Place on a towel or a rack, leaving at least a 1-inch space between jars during cooling. Avoid placing the jars on a cold surface or in a cold draft. Do NOT tighten bands if loose. Do NOT push down on or wipe off excess water on the center of the flat lid.
12. Make sure you have a place where the jars can be set undisturbed for at least 12 hours. Let the students know that jars will need to sit for 12-24 hours before moving.



Elevation Adjustments

At sea level, water boils at 212 °F. As the elevation increases, water will boil at a lower temperature. For elevations above sea level, it is necessary to add additional time when processing. Canning directions for each food will give proper processing times for elevation adjustments. To find your elevation go to: <http://whatismyelevation.com>

Your Elevation # _____

If the students do not want to return to pick up a jar, you can let them take them home hot. These hot jars must be put in the fridge and used quickly as the seal will not have set and cooled to be shelf-stable.

Before Storing Canned Jelly

In a home environment, follow these final steps to produce a shelf-stable product.

- After jars have set 12-24 hours.
- Remove screw bands from sealed jars. Screw bands can be washed and dried and put away for use another time. Put any unsealed jars in the refrigerator and use them first.
- Wipe down sealed jars with sudsy water to remove any residue.
- Label jars, with product name and date.
- Store in a cool, dry place out of direct light.
- Best if used within 1 year.

Grape Jelly

with powdered pectin

5 cups grape juice (about 3½ pounds Concord grapes and 1 cup water)

1 package powdered pectin

7 cups sugar

Yield: About 8 or 9 half-pint jars

Procedure: Wash and prepare canning jars with two-piece canning lids according to manufacturer's directions.

During class this step is already done by using commercial grape juice.

To prepare juice. Sort, wash, and remove stems from fully ripe grapes. Crush grapes, add water, cover, bring to boil on high heat. Reduce heat and simmer for 10 minutes. Extract juice. To prevent formation of tartrate crystals in the jelly, let juice stand in a cool place overnight, then strain through two thicknesses of damp cheesecloth to remove crystals that have formed.

To make jelly. Measure juice into a kettle. Add pectin and stir well. Place on high heat and, stirring constantly, bring quickly to a full rolling boil that cannot be stirred down. Add sugar, continue stirring, and heat again to a full rolling boil. Boil hard for 1 minute. Remove from heat; skim off foam quickly. Pour hot jelly immediately into hot, sterile jars, leaving ¼ inch headspace. Wipe rims of jars with a dampened clean paper towel; adjust two-piece metal canning lids. Process in a Boiling Water Canner or Steam Canner.

		Process Time at Elevations of		
Style of Pack	Jar Size	0 - 1,000 ft	1,001 - 6,000 ft	Above 6,000 ft
Hot	Half-pints or Pints	5 min	10 min	15 min

This document was adapted from "How to Make Jellies, Jams and Preserves at Home." Home and Garden Bulletin No. 56. Extension Service, United States Department of Agriculture. 1982 reprint. National Center for Home Food Preservation, June 2005.

Have patience and give yourself time to learn. Realize that canning is a lot like other kitchen tasks, it gets easier every time you do it.

