



***SOUTH CAROLINA FAMILY AND COMMUNITY LEADERS***  
Affiliated with National Volunteer Outreach Network, Country Women's Council, U.S.A., Associated  
Country Women of the World and in partnership with Clemson University Cooperative Extension Service  
SCFCL website: <http://www.scfcl.com>

## **Leader Training Guide**

### **PUT IT UP! A Food Preservation Curriculum for Youth**

#### **Objectives:**

Become familiar with the new curriculum for teaching food preservation to youth.  
Learn how to obtain the free curriculum.  
Be aware of requirements for volunteers who work with youth.

#### **Lesson Overview/Introduction:**

Many South Carolina Family and Community Leaders have long experience in preserving foods at home and enjoy sharing that knowledge with their grandchildren, 4-H'ers and other youth. The "PUT IT UP! Food Preservation for Youth" curriculum is a series of lessons that SCFCL members can use with their families or, in partnership with Extension agents, can use with 4-H'ers to help them explore, understand and enjoy the science of safe food preservation.

#### **Lesson:**

The "PUT IT UP! Food Preservation for Youth" curriculum contains a leader guide and a series of six different food preservation lessons that make it easy to teach food preservation skills. Each lesson covers a different food preservation method and is divided into beginning and advanced activities. Activities may stand alone or may be completed in sequence for additional learning. Each activity contains step-by-step procedures for a hands-on experience, questions to inspire reflection, and a packet of additional exercises: a science-based fill-in-the-blank challenge, a history-based word search, equipment identification, a glossary, a list of resources, a knowledge test, and ideas for field trips and other experiences. Lessons are most appropriate for ages ranging from middle-school to slightly older youth.

The Leader Guide includes a number of helpful tools. Those tools include suggestions for planning the flow of instruction, a checklist of facility needs for specific lessons (stoves, refrigerators, dehydrators), sources for purchasing food preservation equipment and supplies, teaching tips from experienced Extension agents, suggestions for introductory icebreakers and for closers when the class is over, ideas for activities during wait-time (e.g., as jars are heat-processed), canner and jar anatomy I.D. games, Get Moving! tag games, answer keys to questions in the exercises, activity record sheets and Certificates of Completion.

Each of the six lessons is structured similarly. Each is written and illustrated to appeal to younger readers. Each lesson includes both beginner and advanced activities that list all required materials

and ingredients and describe step-by-step preparation. Both activities in each lesson include precautions for hazardous activities, fun facts, questions for reflection, suggestions for further experimentation and resources for additional information. Each lesson also includes an “Additional Activities” section that contains science-based information about microorganisms and the applicable preservation method presented in kid-friendly language. The “Additional Activities” section also includes fill-in-the-blank games, word search puzzles, glossaries of unfamiliar terms, and true-false knowledge tests. Foods prepared in the six lessons are listed in the following table.

<b>Lesson</b>	<b>Beginner</b>	<b>Advanced</b>
Boiling Water Canning	Crushed Tomatoes	Salsa
Jam Making	Freezer Strawberry Jam	Strawberry Jam with Regular Pectin
Pickling	Refrigerator Dill Pickles	Dill Pickles
Freezing	Berries	Corn-on-the-Cob
Dehydration	Applesauce Leather	Fresh Apple Leather
Pressure Canning	Green Beans	Tomato Veggie Soup

The “PUT IT UP! Food Preservation for Youth” curriculum is authored by Kasey Christian (University of Georgia), Dr. Susan Barefoot (Clemson University Cooperative Extension) and Dr. Elizabeth Andress (University of Georgia). The curriculum was piloted in 24 sessions by 13 Cooperative Extension educators; 12 programs were led by Georgia agents and 12 by Clemson agents. The final curriculum reflects the input and suggestions of those educators. The curriculum is a free download from the National Center for Home Food Preservation website at <http://nchfp.uga.edu/>. A companion book of additional recipes by Dr. Judy Harrison is expected in 2015.

Please note that there are special requirements for SCFCL members who volunteer to work with children. 4-H has a responsibility to provide a safe and healthy environment for youth. Therefore, all 4-H volunteers complete a screening and orientation process before being appointed.

1. Unless a 4-H Extension agent (or teacher) will be present at all times during a youth food preservation class, SCFCL members and other volunteers who lead a class on their own must become certified volunteers (the process listed below).
2. Becoming a certified volunteer:
  - a. All prospective volunteers complete a 4-H Volunteer Registration Form and a Clemson Extension Volunteer Status Form, which includes an authorization for a background check and a request for references.
  - b. All volunteers then participate in an orientation using the Leader Training Series.
  - c. When all requirements are satisfied, volunteers are appointed to their roles by the county 4-H agent.

### **Lesson Summary:**

SCFCL members can use the “PUT IT UP! Food Preservation for Youth” curriculum as a kid-friendly tool to share their expertise in food preservation with children. The tested curriculum is available as a free download from the National Center for Home Food Preservation at <http://nchfp.uga.edu/>. Clemson volunteers who work with youth must meet special requirements.

**Suggested Activities:**

1. Ask audience members to share their experiences with teaching food preservation to youth.
2. Circulate a copy of one of the six lessons from the “PUT IT UP! Food Preservation for Youth” curriculum among the members of your audience.
3. Ask members to complete the word search puzzle included on page 4.
4. Share contact information for the local 4-H agent and/or Food Safety & Nutrition Extension agent.

**Suggested Materials:**

1. One copy of any one of the lessons (downloadable from <http://nchfp.uga.edu/>)
2. A copy of the word search puzzle (page 4) for each person in the audience.
3. Name and contact information for the local 4-H agent and/or Food Safety & Nutrition Extension agent.

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**Sources/References:**

1. Kasey Christian, Susan Barefoot and Elizabeth Andress. 2014. *PUT IT UP! Food Preservation for Youth*. National Center for Home Food Preservation, the University of Georgia.
2. 4-H Volunteer Information Flier Template (<http://www.clemson.edu/extension/4h/staff/resources.html>)
3. So Easy to Preserve. 5th ed. Revised by Drs. E.L. Andress and J.A. Harrison. Cooperative Extension, The University of Georgia, Athens, GA. 2006. (<http://setp.uga.edu>)

(Lesson – Put It Up! Food Preservation for Youth)

# What's the Story of Boiling Water Canning?

Search the puzzle for the 14 UPPERCASE, UNDERLINED words from the history notes below and circle the words!



J A E T W S W W J X Z Y A R P  
W C D E C N D F O H F X I U R  
M I C R O O R G A N I S M S O  
S D Q V H I M N S X D B V O C  
Y W X T T T B M M E L L J O E  
H U E A C A R X E B M D M Z S  
L M Z V O D K Q V R W Y A N S  
M H W U V N L S U L C C Z U E  
S O F F S E A L E D I I B N S  
T T L A E M O H R D D F A V E  
S B U D U M D P I I Q Z C L V  
A B Y S S O W F Z Q P D T V L  
E V D H X C I E G A L I O P S  
Y A Y B H E E J J T Z M S E V  
J G F K D R P V C B O G H K E

- Boiling water canning PROCESSES for preserving foods were developed at the end of the 1700's.
- In boiling water canning, ACID foods or ACIDIFIED foods such as fruits, tomatoes, salsas, pickles, jams, jellies or preserves are put in jars, lowered into a canner full of hot water, and then that water is brought to a boil (212°F at sea level).
- This METHOD of preserving food is also called “water bath process” and “boiling water bath canning”, but we’ll use the term “boiling water canning”.
- Have you ever discovered something new without understanding how it works? In the 1790's, Nicolas Appert discovered that heating foods in SEALED glass jars prevents SPOILAGE, though he did not understand why.
- Louis Pasteur investigated Appert's question “why?”. In 1864 Pasteur discovered important relationships: MICROORGANISMS cause food to spoil and heat kills microorganisms, preventing them from being able to spoil food.
- The heat from the boiling water prevents food spoilage by killing the microorganisms MOLDS and YEASTS and also destroying molecules called ENZYMES which cause chemical change.
- In the late 1800's and early 1900's much work was done to develop COMMERCIAL processes (in big factories) for canning foods. Little attention was paid to home canning.
- It was not until 1917 that the United States Department of Agriculture (USDA) made the first RECOMMENDATIONS using a boiling water process in HOME canners for fruits and tomatoes.

Puzzle source: *PUT IT UP! Can My Tomatoes. Additional Activities*, page 6. PUT IT UP! Food Preservation for Youth. Kasey Christian, Susan Barefoot, Elizabeth Andress. 2014. National Center for Home Food Preservation, the University of Georgia.