

Bubble & Squeak

Grade Level: Third Grade--Math

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Length of Unit: 4 lessons (2 class periods per lesson)

I. ABSTRACT

This unit is designed to provide students a unique, interactive, and historical approach to the mathematical concepts of measurement and fractions. The students will learn math-related vocabulary as they apply these skills to the everyday situation of cooking. Since the cooking activities are designed to be taught in conjunction with a study of the Southern Colonies before the American Revolution, this unit integrates mathematics with the Core Knowledge study of the thirteen colonies. Each lesson will produce a memorable and tasty alternative to the sometimes difficult and uninspiring study of measurement and fractions.

II. OVERVIEW

A. Concept Objectives

1. The students will build an understanding of measurement as it relates to colonial cooking.
2. The students will gain an understanding of fractions through measurement.
3. The students will explore Southern colonial lifestyles through cooking.

B. Content from the *Core Knowledge Sequence*

1. Estimate and measure liquid capacity in cups, pints, quarts, gallons, and liters.
2. Know that 1 quart=2 pints; 1 gallon=4 quarts.
3. Compare U.S. and metric liquid volumes: quart and liter (one liter is a little more than one quart.)
4. Recognize fractions to 1/10.
5. Identify numerator and denominator.
6. Southern colonies: Virginia, Maryland, North Carolina, South Carolina, Georgia.
7. Know how to gather information from basic print sources (such as a children's encyclopedia), and write a short report presenting the information in his or her own words.

C. Skill Objectives

1. To estimate and measure liquid capacity.
2. To compare metric and U.S. measurements.
3. To determine equivalent amounts when measuring capacity.
4. To identify and write proper fractions and mixed numbers.
5. To determine equivalent fractions
6. To compare and contrast Southern colonial foods and cooking methods with those of today.
7. To sequence events in a written document.

III. BACKGROUND KNOWLEDGE

A. For Teachers

1. *Core Knowledge Sequence*
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3. Ichord, Loretta Frances. *Hasty Pudding, Johnnycakes, and Other Good Stuff-Cooking in Colonial America*. Connecticut: The Millbrook Press, 1998, ISBN 0-7613-0369-3.
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IV. RESOURCES

- A. Carlson, Laurie. *Colonial Kids: An Activity Guide to Life in the New World*. Chicago: Chicago Review Press, 1997, ISBN 1-55652-322-X.
- B. Holzschuher, Cynthia. *My Country*. California: Teacher Created Materials, Inc., 1996. ISBN 1-55734-586-4.
- C. Ichord, Loretta Frances. *Hasty Pudding, Johnnycakes, and Other Good Stuff-Cooking in Colonial America*. Connecticut: The Millbrook Press, 1998, ISBN 0-7613-0369-3.
- D. Web Sites: www.history.org/history/teaching/colxmas for gingerbread and wassail recipes. www.yahooligans.com/ (go to Around the World>United States> type in 13 colonies.)

V. LESSONS

Lesson One: Estimating and Measuring Liquid Capacity

- A. *Daily Objectives*
 1. Concept Objectives
 - a. The student will build an understanding of measurement.
 - b. The student will explore Southern colonial lifestyles through cooking.
 2. Lesson Content
 - a. Estimate and measure liquid capacity in cups, pints, quarts, gallons, and liters.
 - b. Know that 1 quart equals 2 pints; 1 gallon equals 4 quarts.
 - c. Compare U.S. and metric liquid volumes: quart/liter (one liter is a little more than one quart.)
 - d. Southern colonies: Virginia, Maryland, North Carolina, South Carolina, Georgia.

3. Skill Objectives
 - a. To estimate and measure liquid capacity.
 - b. To compare metric and U.S. measurements.
 - c. To determine equivalent amounts when measuring capacity.
 - d. To compare and contrast Southern colonial foods and cooking methods with those of today.
 - e. To sequence events in a written document.
- B. *Materials*
1. Empty non-standard liquid containers.
 2. Standard U.S. and metric containers for measuring liquid capacity.
 3. Large washtub or bucket of water.
 4. Paper and pencil.
 5. Appendices A, B, C
- C. *Key Vocabulary*
1. Cup (c.) – a customary unit used to measure capacity. One cup equals 8 ounces
 2. Gallon (gal.) – a customary unit used to measure capacity. One gallon equals 4 quarts
 3. Liter (L) – a metric unit used to measure capacity. One liter equals 1,000 milliliters
 4. Equivalent – being of equal value or amount
 5. Pint (pt.) – a customary unit used to measure capacity. One pint equals 2 cups
 6. Half-gallon – a customary unit used to measure capacity. One-half gallon equals 2 quarts
 7. Quart (qt.) – a customary unit used to measure capacity. One quart equals 4 cups or 2 pints
 8. Milliliter (ml) – a metric unit used to measure capacity. One thousand milliliters equals one liter.
 9. Volume – the number of units needed to fill the liquid capacity of an object
 10. Estimate – to give an approximate rather than an exact answer.
- D. *Procedures/Activities*
1. Divide the class into two groups. Explain that the children will be making predictions and measuring liquids.
 2. Provide an appropriate colonial activity or game for one group while the other group works with measurement. This allows each student more opportunities for hands-on learning. **Appendix B**
 3. Establish rules for carrying out the activity. The lesson will be conducted outside to alleviate messy conditions.
 4. At the first station, students will be introduced to standard measuring instruments for determining volume. The students will predict (and record their predictions) which units of measure would be the best choice for filling various non-standard containers (such as detergent bottles, cans, pitchers, etc.) Students will also predict and record how many standard units will be needed to fill each container. Example: "I think it will take 8 cups to fill the yellow bucket." **Appendix A.**
 5. At the second station, students will be introduced to metric units of milliliter and liter. Students will make predictions about filling non-standard containers, using metric units of measurement. Students will record predictions. **Appendix A.**
 6. The third and fourth stations will have water available for testing predictions. Students will fill each container with water using the unit of measurement that was selected for the prediction. Station 3 is U.S. standard measurement and

- Station 4 is the metric measurement. Students will compare actual measure with their predictions and write a summary statement to show results. **Appendix A**
7. At Station 5, students will record information, which will later be used to determine equivalencies. Using a cup and standard units of measuring volume, students will determine the number of cups in each larger unit of measure and record results. (Examples: 2 cups=1 pint, 4 cups=1 quart, 16 cups=1 gallon) **Appendix A**
 8. Upon returning to class, students will summarize learning by making statements regarding observations. Record on class chart.
 9. On the following day, students will participate in making homemade ice cream to practice measuring liquid capacity. **Appendix C**
- E. *Assessment/Evaluation*
1. Students will record the steps of the cooking process in their math notebooks.

Lesson Two: Volume Relay

- A. *Daily Objectives*
1. Concept Objectives
 - a. The students will build an understanding of measurement as it relates to colonial cooking.
 - b. The students will explore Southern colonial lifestyles through cooking.
 2. Lesson Content
 - a. Estimate and measure liquid capacity in cups, pints, quarts, gallons, and liters.
 - b. Know that one-quart equals two pints; one gallon equals four quarts.
 - c. Southern colonies: Virginia, Maryland, North Carolina, South Carolina, Georgia.
 3. Skill Objectives
 - a. To estimate and measure liquid capacity.
 - b. To determine equivalent amounts when measuring capacity.
 - c. To compare and contrast southern colonial foods and cooking methods to those of today.
- B. *Materials*
1. Two sets of standard U.S. containers for measuring liquids
 2. One cup for each team that should hold an equivalent to the standard measure for one cup
 3. Large container of water, such as a washtub or large bucket
 4. Two pencils
 5. Appendices: D, E, G, I
- C. *Key Vocabulary*
(Review cup, gallon, pint, quart, equivalent, and volume from lesson 1)
1. Capacity – the amount a container can hold
- D. *Procedures/Activities*
1. Explain to the children that they will be finding equivalent measures of volume.
 2. Demonstrate equivalency by using cup and pint containers to show that 2 cups equals 1 pint.
 3. Review students' notes from Lesson 1-Station 5. Discuss the students' discoveries about the number of cups needed to fill each container.
 4. Provide a large container of water and liquid measuring devices for an outdoor relay activity. (Resource person maybe Physical Education Teacher)

5. Divide the class into 2 teams. Establish rules for the relay. Appoint a recorder for each team. **Appendix D**
 6. Outside, students will form two lines. The first student in each line will be given a cup.
 7. Pint, quart, and gallon containers for each team will be placed in order of size about 10 yards away. A large container of water should be placed between the two teams.
 8. The relay should be walked through. If possible, an adult should help each recorder to insure accuracy. **Appendix D**
 9. After discussion, allow students to repeat the relay for fun and to reinforce the concepts.
 10. Students may record equivalencies on a bar graph. **Appendix E**
 11. On the following day, students will prepare wassail to reinforce the skills of measuring liquid capacity. **Appendix I.**
- F. *Assessment/Evaluation*
1. Worksheet, **Appendix G**

Lesson Three: Equivalent Parts of a Whole

- A. *Daily Objectives*
1. Concept Objectives
 - a. The student will gain an understanding of fractions through measurement.
 - b. The students will explore southern colonial lifestyles through cooking.
 2. Lesson Content
 - a. Recognize fractions to 1/10
 - b. Identify numerator and denominator
 - c. Southern colonies: Virginia, Maryland, North and South Carolina, Georgia
 3. Skill Objectives
 - a. To identify and write proper fractions and mixed numbers.
 - b. To determine equivalent fractions.
 - c. To compare and contrast Southern colonial foods and cooking methods with those of today.
- B. *Materials*
1. Nine inch squares for each child (each square a different color)
 2. Ziploc bag for each child
 3. Scissors
 4. Appendices H, N
- C. *Key Vocabulary*
1. Fraction – a number that names part of a region or part of a group
 2. Numerator – a number above the fraction bar in a fraction. It represents the part of the whole or set that is being examined.
 3. Denominator – the number below the fraction bar in a fraction. It denotes the total number of parts that the whole is divided into or the total in the set.
 4. Equivalent/congruent - equal
 5. Whole – all the fractional parts of a region or set that makes it complete

D. *Procedures/Activities*

1. Instruct the children to pretend that the shapes are cakes of gingerbread, (which they will be making on the following day). Distribute bags of 4 circles to each child.
2. Demonstrate and have students fold and cut the “cakes” so that one remains whole, one is cut in half, one into fourths and one into eighths. Each piece should be labeled with the correct fraction.
3. Explain that the pieces of the cake get smaller as the number of people sharing the cake increases. Relate this to the fraction—as the denominator gets larger the size of the piece decreases.
4. Work with the students to complete a worksheet to examine equivalencies. Store all pieces in Ziploc bags for future reference. **Appendix H**
5. On the following day, students will measure out the dry ingredients for making gingerbread cakes at home. These ingredients will be placed in Ziploc bags. Previously prepared gingerbread cakes will be sliced into fractional parts and served to the children. **Appendix N**

E. *Assessment/Evaluation*

1. Before the gingerbread cakes are eaten, students will demonstrate their mastery of the lesson by slicing the cakes into the stated fractional parts. Teacher will observe the children doing this.

Lesson Four: Fractional Parts of a Set

A. *Daily Objectives*

1. Concept Objectives
 - a. The students will gain an understanding of fractions through measurement.
 - b. The students will explore Southern colonial lifestyles through cooking.
2. Lesson Content
 - a. Recognize fractions to 1/10
 - b. Identify numerator and denominator
 - c. Southern Colonies: Virginia, Maryland, North and South Carolina, Georgia
3. Skill Objectives
 - a. To identify and write proper fractions and mixed numbers.
 - b. To determine equivalent fractions.
 - c. To compare and contrast Southern colonial foods and cooking methods with those of today.

B. *Materials*

1. Set of 12 construction paper circles for each pair of students.

C. *Key Vocabulary*

(Review numerator and denominator from lesson 3)

1. Set – a group of objects
2. Equivalent fractions – fractions that name the same number or amount.
Example: $\frac{1}{2}$ and $\frac{2}{4}$
3. Proper fractions – fractions that represent less than one whole.

D. *Procedures/Activities*

1. Explain to children that fractions can also represent a part of a set of objects.
2. Demonstrate this concept by using a group of 4 children, making comparisons among the group, and having representative fractions written on the board.

(Example: What fractional part of the group is wearing glasses? 3 of the 4 children are wearing glasses— $\frac{3}{4}$.)

3. Label and discuss vocabulary as fractions are written.
4. Provide practice with other sets of objects as needed.
5. Distribute sets of 12 circles for each pair of students.
6. Read from *Hasty Pudding, Johnnycakes, and other Good Stuff* for information about johnnycakes.
7. Read the story “Mary’s Johnnycakes”. Have children demonstrate how johnnycakes will be divided. **Appendix J**
8. On the following day, students will participate in making johnnycakes and butter.

Appendix K

E. *Assessment/Evaluation*

Students will complete a worksheet to show equivalent parts of a set of 12 johnnycakes.

Appendix L

VI. CULMINATING ACTIVITY (Optional)

- A. Field trip to Explore Park (on the Blueridge Parkway near Roanoke, Virginia) or Selah Historical Society (Danville, Virginia). These are colonial reenactment learning centers that are located in our area.
- B. Students will gather information from basic print sources (such as a children’s encyclopedia), and write a short report presenting the information in his or her own words. Students may use a graphic organizer. **Appendix M**

VII. HANDOUTS/WORKSHEETS –

Appendices: A-E, & G-N (Appendix F will be given out at the conference only)

VIII. BIBLIOGRAPHY

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- M. Perl, Lila. *Slumps, Grunts and Snickerdoodles: What Colonial America Ate and Why*. New York: Houghton-Mifflin, 1975, ISBN 0-395-28923-8.
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Appendix A
Bubble & Squeak Unit
Lesson 1-Exploring Liquid Capacity

Exploring Liquid Capacity

Container	Unit of Measurement	Prediction Station 1	Prediction Station 2 (Metric)	Actual Measurement Station 3	Actual Measurement Station 4 (Metric)
1.					
2.					
3.					
4.					
5.					

Station 5

_____ cups = 1 pint

_____ pints = 1 quart

_____ quarts = $\frac{1}{2}$ gallon

_____ quarts = 1 gallon

_____ $\frac{1}{2}$ gallons = 1 gallon

_____ milliliters = 1 liter

Appendix B
Bubble & Squeak Unit
Lesson 1

These are list of games that can by used while part of the class is involved in the Prediction/Actual Measurement of Liquid Capacity.

“Bowls”: Similar to bowling without pins where players roll balls to hit a target.

Checkers: Called “draughts” in colonial times, play regular rules for checkers using corn for playing Pieces.

Fox & Geese: This is a version of tag. The fox is “it.”

Hoop & Stick: Favorite toys of the colonial children. Using a stick, children practice rolling a large hoop.

Hopscotch: Play by similar rules of today. The colonial children called it “Scotch Hoppers.”

Jackstones: Same as modern game of jacks except use pebbles instead of jacks.

Jump Rope: Skip rope to rhymes such as “Ring Around the Rosy” or “London Bridge”

Marbles: Known as “ringers”, played as children do today.

Quoits: Like a ring toss or horseshoes, where rings are tossed at a stake.

String Games: Resource book *Cat’s Cradle: A Book of String Figures* by Anne Akers Johnson, Kluts Press, 1993.

Dances: Virginia Reel, and jigs.

Appendix C
Bubble & Squeak Unit
Lesson 1

The day before, have the class compute the amount of milk needed for this activity.

Making homemade ice cream:

Materials:

1 sandwich-size Ziploc bag (per child)
1 tennis can with cover or one-quart plastic bowl with lid (per child)
Plenty of ice
1 paper cup of rock salt (per child)
Measuring cups and spoons

Ice Cream ingredients:

1 cup whole milk
2 tablespoons sugar
½ teaspoon vanilla
Chocolate syrup (optional)

Procedure: Place the ice cream ingredients in the Ziploc bag, seal with as little air as possible and mix well. (*Note: Children had a difficult time with removing air and not spilling contents. It would be helpful to have extra adult supervision.*) Place some ice and half of the salt in the can or bowl. Put filled Ziploc bag in next. Fill to the top with ice and add the rest of your salt. Shake or roll your can to mix the ice and salt. You may need to add more ice. You will need to shake or roll can for about 15 to 18 minutes. It was helpful for the children to bring a towel from home. The can becomes very cold to hold.

Open can and remove the bag of ice cream. Rinse it carefully with cold tap water before opening. Enjoy your ice cream. Children can eat from the rinsed bag or place the ice cream in a bowl.

Variation: *You may use chocolate milk or add chocolate syrup to the milk mixture.*

For children who have a milk allergy, you may use crushed fresh fruit with the sugar or sugars substitutes and make a fruit smoothie. Follow procedures used for milk mixture.

Suggestions:

If you do this, you will need two large coolers of ice (we used crushed ice), 3 boxes of rock salt, and plastic spoons. (*Bowls are optional.*) It is helpful to have extra adults to help with this activity.

Appendix D
Bubble & Squeak Unit
Lesson 2: Volume Relay

The relay goes as follows: The first player fills his cup with water and empties it into the pint container, walking back to give the cup to the next player. Then the steps are repeated. The second player will empty his cup into the pint container and also empty the pint into the quart container. This will continue with refilling of the pint, then the quart, until the gallon is filled. If the recorders are accurate, the tally marks should show equivalencies for one gallon. Recorders for each team will use tally marks each time a container is emptied into another.

Recorder for Team

Directions: Make a tally mark each time a container is emptied.

Cup
Pint
Quart

Total Cups: _____ **Total Pints:** _____ **Total**
Quarts: _____

Recorder for Team

Directions: Make a tally mark each time a container is emptied.

Cup
Pint
Quart

Total cups: _____ **Total pints:** _____ **Total Quarts:** _____

Appendix E
Bubble & Squeak
Lesson 2 Volume

Bar Graph: How Many Cups

17					
16					
15					
14					
13					
12					
11					
10					
9					
8					
7					
6					
5					
4					
3					
2					
1					
Unit	C.	PT.	QT.	$\frac{1}{2}$ GAL.	GAL.

KEY: EACH EQUALS 2 CUPS.

Appendix G
Bubble & Squeak Unit
Lesson 2: Assessment

Explore: Using Customary Capacity

Circle the best estimate.

- | | |
|------------------------------|-----------------------------------|
| 1. full tank of gas in a car | 2. Water to fill an ice cube tray |
| 10 cups or 10 gallons | 2 cups or 2 quarts |

What measure would you use to tell about each item below?

- | | |
|---------------------------------|------------------------|
| 3. the milk in a bowl of cereal | 4. a large milk carton |
| 1 cup or 1 quart | 1 cup or 1 gallon |

Complete: Use your graph to help you.

- | | |
|------------------------|-------------------------|
| 5. 1 pint=_____cups | 6. 1 gallon=_____quarts |
| 7. 2 pints=_____quarts | 8. 3 pints=_____cups |
| 9. 1 gallon=_____pints | 10. 4 cups=_____quarts |

Solve:

11. Maria needs to fill her dog's bathtub. Should she pour water from a cup or a gallon jug? Why?

12. Ms. Wells told Lizzy to bring at least 2 quarts of juice for the party. Lizzy brought 5 pints of juice. Did she bring enough? Explain.

Appendix H
Bubble & Squeak Unit
Lesson 3: Equivalent Parts of a Whole

GINGERBREAD PUZZLERS QUESTION SHEET

Compare the slices. Answer the questions.

1. Which is the biggest piece? _____
2. Which is the smallest piece? _____
3. Which is more: $\frac{1}{4}$ or $\frac{1}{2}$? _____
4. Which is less: $\frac{1}{4}$ or $\frac{1}{8}$? _____
5. How many $\frac{1}{4}$ slices would it take to make a whole gingerbread? _____
6. Name the slices that are larger than $\frac{1}{8}$? _____
7. How many $\frac{1}{4}$ pieces will fit on a $\frac{1}{2}$ slice? _____
8. How many $\frac{1}{8}$ pieces will fit on a $\frac{1}{2}$ slice? _____
9. Jan, Pat, Bobby, and Sam made a gingerbread cake. They cut it into equal pieces. Each ate a piece. What fractional part did each one of them eat? _____
10. Draw a gingerbread cake on the back. Divide it into eight equal slices. Label each slice. Color it to show 3 pieces eaten and 5 pieces are left. Write the fraction for the eaten part. Write the fraction for the part that is left. Eaten: _____ Not Eaten: _____

Appendix I
Bubble & Squeak Unit
Lesson 3

The recipe for wassail is found at the following web site:

www.history.org/history/teaching/colxmas.htm. This site is about a colonial Christmas in Williamsburg, Virginia.

(Recipe from the Colonial Williamsburg Foundation, Abby Aldrich Folk Art Museum, Williamsburg, VA)

Appendix J
Bubble & Squeak Unit
Lesson 4

Mary’s Johnnycakes (based on the book “The Doorbell Rang” by Pat Hutchins)

After working in the vegetable garden all morning, Mary and Jonathan were very hungry.

“We’re starving!” they said to Ma.

“I just made a big batch of your favorites—johnnycakes!” said Ma. “Share them between yourselves.”

(Teacher gives each student 12 circles that represent the johnnycakes. Students divide them into two equal groups and records the appropriate fractions (6/12 or ½).

“That’s six each,” said Mary and Jonathan. “We each get ½ of the johnnycakes.

“They smell delicious! Let’s dig in,” said Jonathan.

“Nobody makes johnnycakes like Ma,” said Mary as the door to the cabin swung open.

In walked two tall and serious Indians! Mary and Jonathan were frightened, but Ma said, “Come on, you can share the johnnycakes.”

(Teacher has the students divide the cakes into four equal groups and write appropriate fractions for groups.)

“That’s three each,” said Mary and Jonathan. “We each get 3/12 or ¼ of the johnnycakes.”

“They smell delicious,” said Jonathan. “Let’s dig in!”

“Nobody makes johnnycakes like Ma,” said Mary as the door to the cabin swung open.

In walked two more tall and serious Indians. Mary and Jonathan were even more frightened, but Ma said, “Come on in, you can share the johnnycakes.”

(Have the students divide the cakes into six equal groups and write appropriate fractions.)

“That’s two each,” said Mary. “We each get 2/12 or 1/6 of the johnnycakes.”

“They smell delicious,” said Jonathan. Let’s dig in!”

“Nobody makes johnnycakes like Ma,” said Mary as the door to the cabin swung open.

In walked six more tall, serious Indians. Mary and Jonathan were terrified, but Ma said, “Come on you can share our johnnycakes.”

(Have the class divide the cakes into twelve equal groups and write the appropriate fraction.)

“We each get one johnnycake,” said Mary. We get 1/12 of all the johnnycakes!”

“They smell delicious. Let’s dig in!” said Jonathan.

“Nobody makes johnnycakes like Ma,” said Mary. Everyone turned to the door and waited...and waited...and waited.

But nothing happened. Ma put some butter and molasses on the johnnycakes and everyone took a bite. Suddenly, all the serious Indians smiled big wide smiles. Ma’s johnnycakes had saved the day!

The next day, Ma decided to make another batch of johnnycakes. Just as she began to gather her ingredients, the door to the cabin swung open. In walked 10 smiling Indians carrying a big basket of corn. “Come on,” said Ma. “You can help me make johnnycakes. I’ll make a **BIG** batch!”

Appendix K
Bubble & Squeak Unit
Lesson 4

Recipes for Johnnycakes and Butter.

Butter

Ingredients: ½ pint of whipping cream (Let the whipping cream set out of the refrigerator until it reaches room temperature.)

Salt (optional)

Utensils: Glass jar with tight fitting lid (2 pint-size jars)
Strainer

Directions: Fill the jar a half or a third full of cream. (You may use baby food jars and divide the cream into three jars.) Screw the lid on tight and begin to shake the jar. Keep shaking back and forth until the cream thickens, and then turns into butter. You will have a solid yellow ball and thin buttermilk. Use the strainer to remove the buttermilk. You may add a dash of salt to taste. This will take less than 10 minutes.

Shape the butter into a round ball or press into a cookie cutter. Store leftovers in refrigerator.

Johnnycakes

Ingredients:

2 cups white corn meal

2 cups milk

2 Tablespoons sugar

2 ¼ teaspoons salt

Cooking oil

Utensils:

Electric griddle or skillet

Mixing bowl

Spatula/large spoon

Measuring spoons

Measuring cup

Platter

Directions:

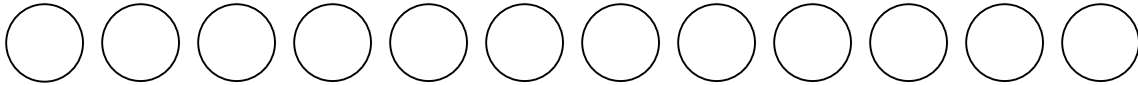
Mix dry ingredients in a bowl. Make a well in the center and pour in the milk. Beat until smooth and well mixed. Preheat skillet. It is hot enough when drops of water sprinkled on it dance in small beads. Lightly grease the griddle or skillet. Drop batter by tablespoonfuls onto heated griddle or skillet. Cook until browned on one side; turn with spatula and brown the other side. Serve hot with butter and molasses.

Note: An adult should do the cooking part. Serve the johnnycakes with the butter and molasses.

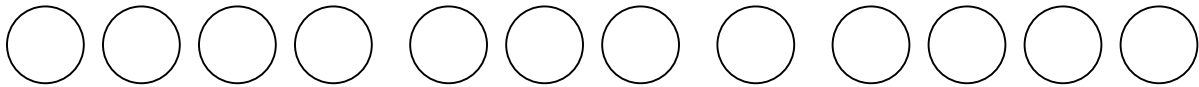
Appendix L
Bubble & Squeak Unit
Lesson 4

Sets of Johnnycakes

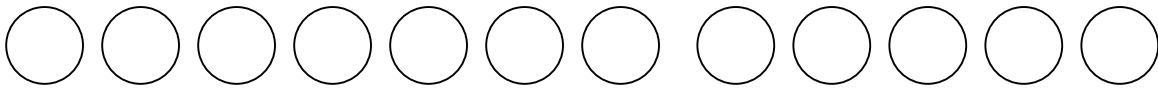
1. Shade $\frac{1}{2}$ of the Johnnycakes. Write a number sentence that expresses this.



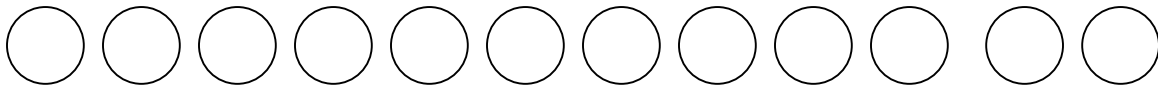
2. Shade $\frac{1}{4}$ of the Johnnycakes. Write a number sentence that expresses this.



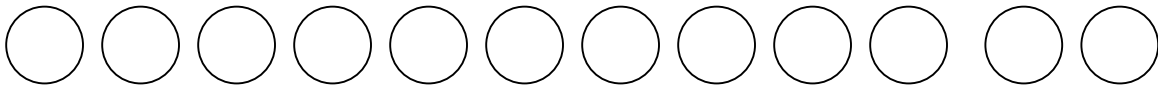
3. Shade $\frac{1}{6}$ of the Johnnycakes. Write a number sentence that expresses this.



4. Shade $\frac{1}{8}$ of the Johnnycakes. Write a number sentence that expresses this.



5. Shade $\frac{1}{12}$ of the Johnnycakes. Write a number sentence that expresses this.



Appendix M
Bubble & Squeak Unit
Lesson 4 Graphic Organizer

Cooking	Then	Now

Appendix N
Bubble & Squeak Unit
Lesson 3

Gingerbread

(Recipe from the Colonial Williamsburg Foundation, Abby Aldrich Folk Art Museum, Williamsburg, VA)

1/2 cup Crisco	2 teaspoons baking powder
1/2 cup sugar	1/2 teaspoon baking soda
1 cup molasses	1 teaspoon ginger
2 eggs	2 teaspoons cinnamon
2 1/2 cups all-purpose flour	1/2 teaspoon ground cloves
1 teaspoon salt	1 cup hot water

Cream shortening and sugar, add molasses, eggs. Beat well. Sift dry ingredients, add alternately with water. Bake in greased 9" square pan about 50 minutes at 300 degrees.

Have cake squares prepared by parents. For class of 25, (4 students per group) you may need 5 cakes. You will also need Ziploc bags for students to measure the dry ingredients to take home to prepare a gingerbread cake for their family.