

## **Title: It's All In The Measurements**

### **Brief Overview:**

The purpose of this unit is to provide students the opportunity to develop and apply knowledge of measurement tools for linear and capacity measurement using the customary system. The students will apply their knowledge to convert linear measurements using craft string and standard conversions. The students will use an ice cream recipe to convert customary measurements.

### **NCTM Content Standard/National Science Education Standard:**

Measurement

Understand customary systems of measurements

Understand relationships among units and convert from one unit to another with the same system.

### **Grade/Level:**

6<sup>th</sup> grade

### **Duration/Length:**

3 to 4 days (50 minute lessons)

### **Student Outcomes:**

Students will:

- Measure and convert customary linear units
- Measure and convert customary capacity units
- Convert customary units in a recipe to increase number of servings

### **Materials and Resources:**

Lesson 1

*Cook-A-Doodle-Do!* Janet Stevens and Susan Stevens Crummel

Measurements Everywhere Graphic Organizer

Linear Measurement Tools: 1-inch square, 12-inch ruler, 36-inch yard stick, 60-inch tape measure

Linear Measurements Worksheet

Paper clips, yarn, plastic craft string

### Lesson 2

4 funnels  
2 dull knives or other flat edge  
7 work mats  
Twelve-inch ruler  
Teaspoon  
2 tablespoons  
5 measuring cups  
Pint container  
Quart container  
Half-gallon container  
Gallon container  
Scissors

### Lesson 3

Measuring cups  
Measuring spoons  
Pint-size Ziploc plastic bag  
Gallon-size Ziploc plastic bag  
Ice cubes  
Sugar  
Milk or half & half  
Vanilla  
Timer

## Development/Procedures:

### Lesson 1

**Preassessment** – Write the standard linear equivalence on the board or overhead.

Students will complete the chart 1 foot (ft) = 12 inches (in.), 1 yard (yd) = 3 feet (ft), 1 yard (yd) = 36 inches (in.), 1 mile (mi) = 5,280 feet (ft), 1 mile (mi) = 1,760 yard (yd).

**Launch** – Review the correct measurements for each standard linear equivalence. The students will listen to the story *Cook-A-Doodle-Do!* by **Janet Stevens and Susan Stevens Crummel**. The students will use the graphic organizer, “**Measurements Everywhere,**” to identify the measurements discussed in the story. .

**Teacher Facilitation** – Ask the following questions to motivate the students to think about linear measurements: How tall? How long? How far? How wide? How deep? How high? Display customary linear measurement tools: **1-inch square, 12-inch ruler, 36-inch yard stick**. What type of measurements is used to answer these questions?

- **Demonstrate kinesthetic body motions to the students to represent linear measurement units:**
- An *inch* is approximately the distance between the **tip of the pointer finger and knuckle**. This body motion will be used to represent “small distances.”
- A *foot* is approximately the distance from the **wrist to the elbow**. This body motion will be used to represent “medium distances.”
- A *yard* is approximately the distance between the **tip of the pointer finger to the center of the chest**. This body motion will be used to represent “long distances.”
- Note that when you measure, you can represent the same length using more than one unit (inches, feet, and/or yards). When you measure in more than one unit you **convert** between or among units.
- **Display:** *paper clips, 15 inches of yarn, and 40 inches of plastic craft string*. A paper clip is a “small item” (**tip of pointer to knuckle**); use inches to measure. Demonstrate how to measure. Record the measurement. The yarn is a “medium item” (**wrist to elbow**). It is longer than a paper clip; use *feet and/or inches* to measure the length (1ft 3in or 15in). Craft string is a “longer item” (**pointer to chest**); use yards to measure. Measure and record length in *inches, feet, and yards* (40 inches, 3 feet 4 inches, or 1yard 4 inches). Place tape at each linear unit on the yarn (inch, foot, and yard).
- **Demonstrate how to convert** among the linear measurements numerically.

These are standard measurements:

1 foot = 12 inches

1 yard = 3 feet

1 yard = 36 inches

1 mile = 5,280 ft

1 mile = 1,760 yd

Explain how to multiply to convert from a larger unit to a smaller unit.

Divide to convert from a smaller unit to a larger unit.

**Student Application** – Working in groups, students will use measuring tools to tape the yarn at each foot and at each yard to determine the measurement of 27 and 38 inches of yarn and 46 and 57 inches of craft string. Record measurements on **Linear Measurement Sheet**.

**Embedded Assessment** – Color-coded yarn and craft string will be used to visually identify that the students have correctly measured the yarn and craft string. Monitor students as they measure each item. Review answers to Linear Measurement Sheet.

**Reteaching/Extension** –

- **Reteaching:** For those students who do not completely understand, provide additional items to measure, and have them record lengths in inches, feet, and yards, as well as list pre-measured items for them to convert to equivalent units. Allow students to use chart and calculators to assist with conversions.
- **Extension:** For those students who understand, provide them with one yard of plastic craft string to record dimensions before and after they make their own craft, such as a small key chain or bracelet.

## Lesson 2

**Preassessment** – Students will understand how to convert length from one customary unit to another.

**Launch** – During the week before conducting this activity, ask the students to bring in containers from home. They will bring in milk jugs, soda bottles, water bottles, jelly jars, empty vitamin containers, containers from trial sizes, and various other containers.

Set up mats on a large table. On one mat place a twelve-inch ruler. On a second mat place a teaspoon and a tablespoon. On the third mat place a measuring cup. On the remaining mats, place containers that hold a pint, a quart, a half-gallon, and a gallon.

Students will work in groups to place their bottles and containers on the mat next to the container which has approximately the same capacity.

After all the containers are placed, one mat will be empty except for the twelve-inch ruler. The students will have placed containers on all the other mats. Ask the students if this is correct, and why none of the containers belonged on the mat with the ruler. Discuss the difference between capacity and linear measurements and how to tell which is the appropriate measurement for the situation.

As an extension, the teacher might discuss the metric system. The capacities of the liter and two-liter bottles are slightly greater than the capacities of the quart and half-gallon containers.

**Teacher Facilitation** – Next the students will investigate the relationships between various units of measurement. Using rice for small measurements and water for measurements larger than one cup, students will investigate the relationships between teaspoons, tablespoons, cups, pints, quarts, half gallons, and gallons.

Set up the following work mats:

**Work mat 1:** a teaspoon, a tablespoon, a dull knife or flat level, rice

**Work mat 2:** a tablespoon, a measuring cup, a dull knife or flat level, rice

**Work mat 3:** a measuring cup, a pint container, a funnel, water

**Work mat 4:** a measuring cup, a quart container, a funnel, water

**Work mat 5:** a measuring cup, a half-gallon container, a funnel, water

**Work mat 6:** a measuring cup, a gallon container, a funnel, water

Using the sheets labeled “**How many of this makes one of that?**” (See Day 2 Capacity Conversion pages), ask the students to find the conversion factors, and discuss the results.

**Student Application** – Students will create foldables to reinforce the results of their investigation and to use as a reference tool. (See Day 2 Capacity Conversion pages.) A foldable is a study organizer that displays the information in such a manner that students can easily understand the material.

During this unit, the students will make two foldables as reinforcement and as a reference for converting liquid units. The first foldable they make is included in this unit in more detail. They need only fold, cut and staple or punch holes in it. Once they understand what a foldable is and how to use it, the students will construct a foldable on their own.

To make the foldables for this unit, paper is stacked and then arranged so that the sheets of paper overlap with equal increments measuring  $\frac{3}{4}$  to 1 inch. The stack is then folded in half. One can dab glue near the top center of the pages so they stay in place when folding. Distribute copies of the sheets labeled “FOLDABLE 1”, “FOLDABLE 2”, “FOLDABLE 3”, and “FOLDABLE 4” and “Foldable for Small Measurements”. . (See

Day 2 Capacity Conversion pages.) Follow the instructions to assemble the foldables. Show the student how they can lift up the flap that lists ounces to notice that one ounce contains two tablespoons and six teaspoons.

Once the students are familiar with the foldable for small measurements, hand out five sheets of blank paper per student and the instructions for Foldable for Larger Measurements. The students will follow the instructions to assemble a foldable. They will then practice using it.

**Embedded Assessment** – Teacher will observe the students as they place the containers on the mats and ask questions. Teacher will monitor the students as they discover the relationships between units. Teacher will ask questions as the class constructs their foldables. Using the unit conversions they discovered in class and the foldables that they created, students will answer questions on a worksheet.

**Reteaching/Extension** –

This lesson can be extended to include unit conversions within the metric system and conversions between the metric system and the customary system.

## IT'S AN ICE CREAM SOCIAL

**Development/Procedures:**

### Lesson 3

**Preassessment** – Prior to this lesson, students will have knowledge of how to convert units of capacity from one unit to another. Students must be able to tell the amount of ingredients needed to make 25 servings of ice cream from a standard single serving recipe. (See Cup Capacity Foldable and Gallon Capacity Foldable.)

**Launch** – As the students arrive, the “Warm-Up” for reviewing units of measurement is on overhead transparency or the bulletin board. The objective is that the “students will convert customary measurement within same unit and use information in recipe to make homemade ice cream”. (See day 3 student resource sheet #1.)

**Teacher Facilitation** – Teacher will explain/assist students in making homemade ice cream for a single serving before having to increase the size of the recipe to a serving of 25. (See Day 3 Student Resource Sheet #2, Ice Cream in a Bag recipe for one.)

**Student Application** – Students will work together in groups of 2 to 3 to convert all the ingredients needed to make 25 serving of ice cream. (This should take about 10 minutes) Each student will then use what he or she knows to write a new recipe to serve 25 people.

**Embedded Assessment** – Teacher will observe students as they convert measurements and ask questions about converting from one unit to another (whether he/she must multiply or divide to change from a larger unit to a smaller unit or vice versa).

**Reteaching/Extension** –

- For those students who have not completely understood the lesson, teacher will review lesson concepts rules. Teacher will assist students in using containers/measuring utensils to actually convert from one unit to another.
- For those who have understood the lesson, teacher will give out recipe for 6 servings of trail mix (See Day 3 Student Resource sheet #3.), and have student write recipe for a serving to feed 35 people.

**Summative Assessment** –

The students will answer selected response, and brief constructed response questions related to customary linear and capacity measurements.

BCR

Jan is making friendship bracelets for her friends. She buys two different colored spools of gimp (plastic string). Each spool contains 2 yards of gimp. The bracelets require 16 inches of each color of gimp. How many two colored friendship bracelets can Jan make with the 2 spools of gimp?

Jan can make \_\_\_\_\_ bracelets.

Use what you know about converting measurements to explain how you know your answer is correct. Use words, numbers, and symbols in your explanation.

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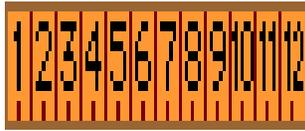
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## Measurements Everywhere Graphic Organizer

Directions: Place the measurements in the correct category as they are described in *Cook-A-Doodle-Do!* By Janet Stevens and Susan Stevens Crummel



Linear

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_



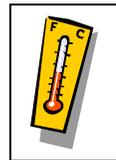
Time

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_



Capacity

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_



Temperature

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_



Weight

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

Name \_\_\_\_\_ Answer Key

## Measurements Everywhere Graphic Organizer

Directions: Place the measurements in the correct category as they are described in *Cook-A-Doodle-Do!* By Janet Stevens and Susan Stevens Crummel



### Linear

1. 4 inches (flour)
- 2.
- 3.
- 4.
- 5.
- 6.



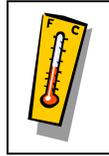
### Time

1. 14-18 minutes
2. 900 seconds
- 3.
- 4.
- 5.
- 6.



### Capacity

- 2 cups (flour)
- 2 Tbs (sugar)
- 1 Tbs (baking powder)
- $\frac{1}{2}$  tsp (salt)
- 1 stick (butter)
- $\frac{2}{3}$  cup (milk)



### Temperature

1. 450 degrees



### Weight

- 1 egg
- 1 lb strawberries

## Linear Measurements

**Directions:** Record each measurement and its equivalence.

**There are standard linear measurements**  
**1 foot = 12 inches**                      **1 mile = 5,280 ft**  
**1 yard = 3 feet**                         **1 mile = 1,760 yd**  
**1 yard = 36 inches**

1. 27 inches yarn = \_\_\_\_\_ ft \_\_\_\_\_ in. or \_\_\_\_\_ yards
2. 38 inches yarn = \_\_\_\_\_ yd \_\_\_\_\_ in. or \_\_\_\_\_ ft \_\_\_\_\_ in.
3. 1 yd 10 in. craft string = \_\_\_\_\_ ft \_\_\_\_\_ in or \_\_\_\_\_ in.
4. 1 yd 17 in craft string = \_\_\_\_\_ ft \_\_\_\_\_ in or \_\_\_\_\_ in.
5. 6 ft = \_\_\_\_\_ in. or \_\_\_\_\_ yd
6. 82 in = \_\_\_\_\_ yd \_\_\_\_\_ in or \_\_\_\_\_ ft \_\_\_\_\_ in
7. 2 ft 6 in = \_\_\_\_\_ in or \_\_\_\_\_ yd
8. 5,280 ft = \_\_\_\_\_ mi or \_\_\_\_\_ yd
9. 2,640 ft = \_\_\_\_\_ yd or \_\_\_\_\_ mi
10.  $\frac{1}{4}$  mi = \_\_\_\_\_ ft or \_\_\_\_\_ yd

**Linear Measurements****Directions:** Record each measurement and its equivalence.**There are standard measurements****1 foot = 12 inches****1 mile = 5,280 ft****1 yard = 3 feet****1 mile = 1,760 yd****1 yard = 36 inches**

1. 27 inches yarn =   2   ft   3   in. or   3/4   or   0.75   yards
2. 38 inches yarn =   1   yd   2   in. or   3   ft   2   in.
3. 1 yd 10 in. craft string =   3   ft   10   in or   46   in.
4. 1 yd 17 in craft string =   4   ft   5   in or   53   in.
5. 6 ft =   72   in. or   2   yd
6. 82 in =   2   yd 10 in. or 6ft 10 in
7. 2 ft 6 in =   30   in or   5/6   or   0.83   yd
8. 5,280 ft =   1   mi or   1760   yd
9. 2,640 ft =   880   yd or   1/2   or   0.5   mi
10.  $\frac{1}{4}$  mi =   1320   ft or   440   yd

## How many of this makes one of that?

Work in groups. There will be six stations.

**Station 1.** How many teaspoons are in a tablespoon?



Scoop some of the rice into a teaspoon.

Use the flat edge to level the top.

How many teaspoons are needed to fill one level tablespoon?

1 Tablespoon = \_\_\_\_\_ teaspoons

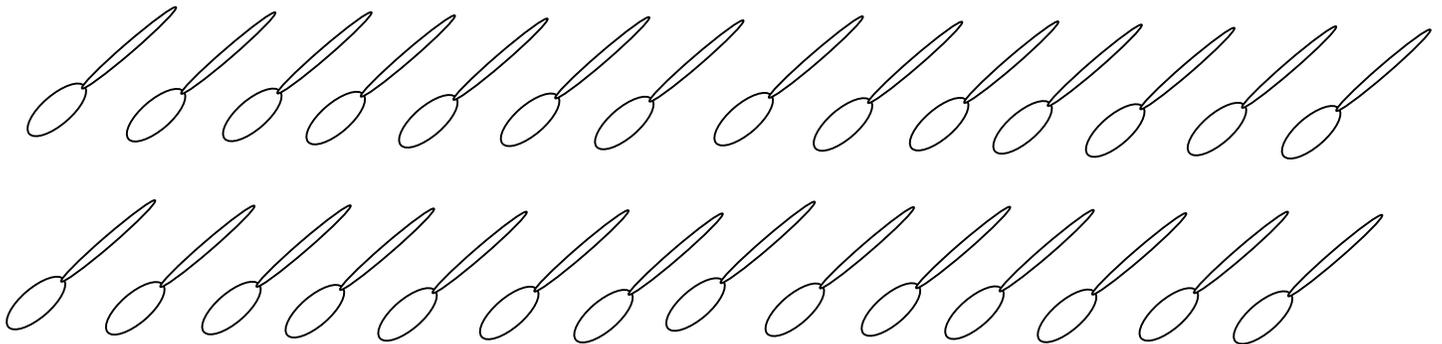
**Station 2.** How many tablespoons are needed to fill a measuring cup?

Scoop some of the rice into a tablespoon.

Use the flat edge to level the top.

How many tablespoons are needed to fill one level cup?

To help keep count, color in a tablespoon as you add rice.



1 cup = \_\_\_\_\_ tablespoons

## How many of this makes one of that? (continued)

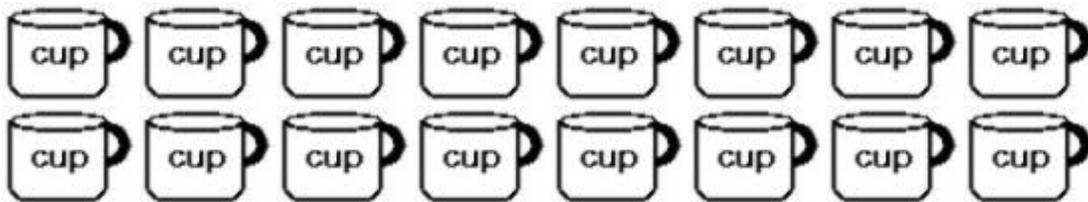
**Station 3.** How many cups are in a pint?

Pour some water into the measuring cup.

How many cups are needed to fill a one-pint container?

(Use the funnel to pour the water from the cup to the container.)

To help keep count, color in a cup as you add water.



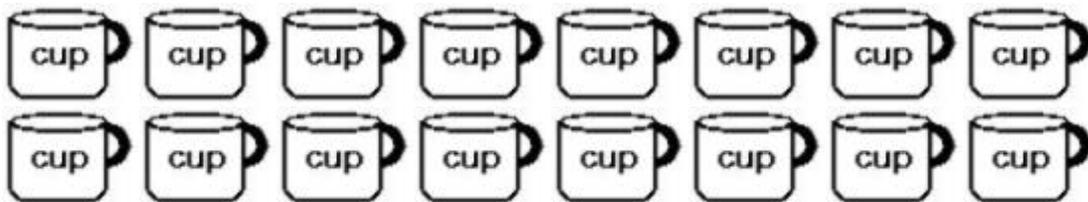
1 pint = \_\_\_\_\_ cups

**Station 4.** How many cups are in a quart?

Pour some water into the measuring cup.

How many cups are needed to fill a one-quart container?

To help keep count, color in a cup as you add water.



1 quart = \_\_\_\_\_ cups

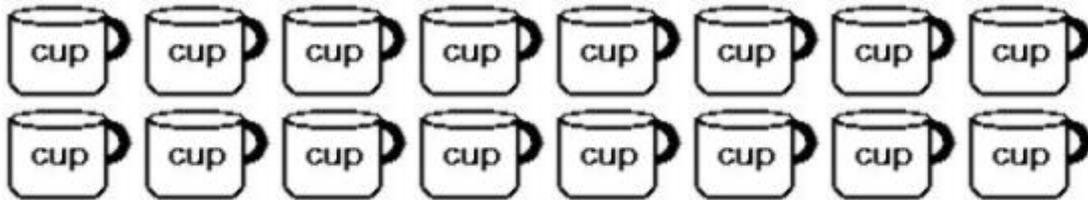
## How many of this makes one of that? (continued)

**Station 5.** How many cups are in a half gallon?

Pour some water into the measuring cup.

How many cups are needed to fill a half-gallon container?

To help keep count, color in a cup as you add water.



1 half gallon = \_\_\_\_\_ cups

**Station 6.** How many cups are in a gallon?

Pour some water into the measuring cup.

How many cups are needed to fill a gallon container?

To help keep count, color in a cup as you add water.



1 gallon = \_\_\_\_\_ cups

## How many of this makes one of that?

Work in groups. There will be six stations.

**Station 1.** How many teaspoons are in a tablespoon?



Scoop some of the rice into a teaspoon.

Use the flat edge to level the top.

How many teaspoons are needed to fill one level tablespoon?

1 Tablespoon =   3   teaspoons

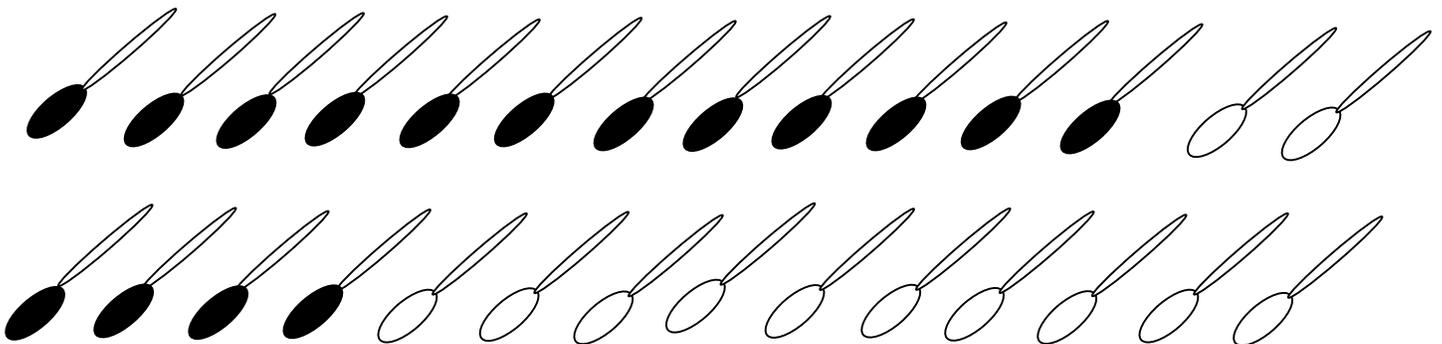
**Station 2.** How many tablespoons are needed to fill a measuring cup?

Scoop some of the rice into a tablespoon.

Use the flat edge to level the top.

How many tablespoons are needed to fill one level cup?

To help keep count, color in a tablespoon as you add rice.



1 cup =   16   tablespoons

## How many of this makes one of that? (continued)

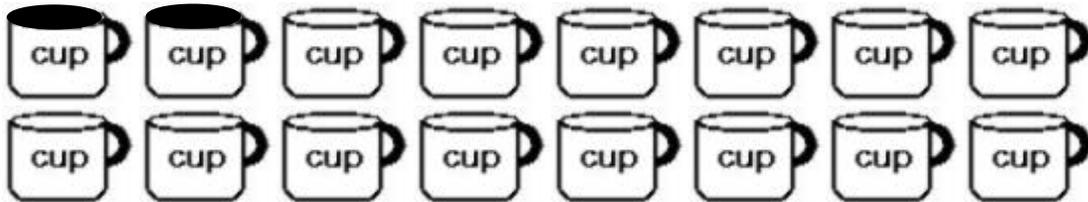
**Station 3.** How many cups are in a pint?

Pour some water into the measuring cup.

How many cups are needed to fill a one-pint container?

(Use the funnel to pour the water from the cup to the container.)

To help keep count, color in a cup as you add water.



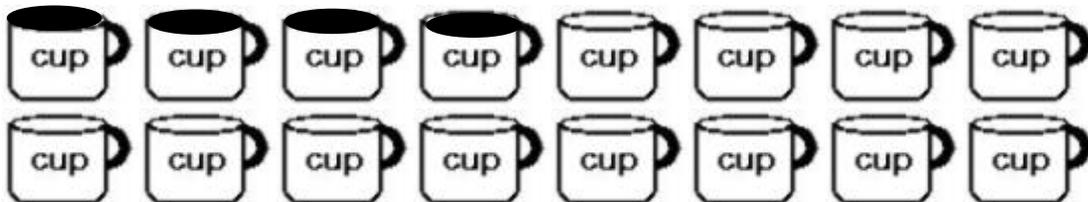
1 pint =   2   cups

**Station 4.** How many cups are in a quart?

Pour some water into the measuring cup.

How many cups are needed to fill a one-quart container?

To help keep count, color in a cup as you add water.



1 quart =   4   cups

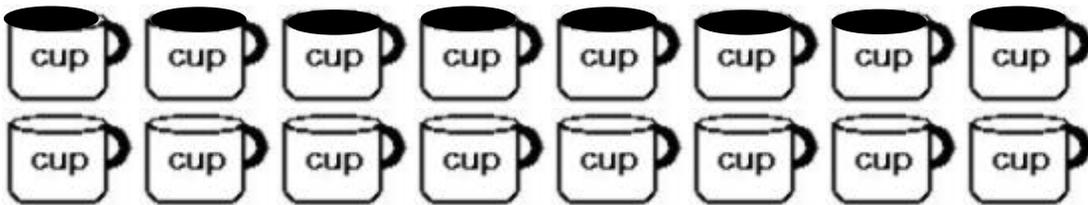
## How many of this makes one of that? (continued)

**Station 5.** How many cups are in a half gallon?

Pour some water into the measuring cup.

How many cups are needed to fill a half-gallon container?

To help keep count, color in a cup as you add water.



1 half gallon = 8 cups

**Station 6.** How many cups are in a gallon?

Pour some water into the measuring cup.

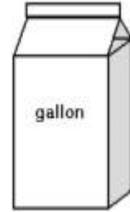
How many cups are needed to fill a gallon container?

To help keep count, color in a cup as you add water.



1 gallon = 16 cups

Name: \_\_\_\_\_



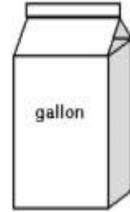
## Customary Conversions



**Directions:** Record each measurement and its equivalents. You may use your foldables.

1. 1 gallon milk = \_\_\_\_\_ quarts = \_\_\_\_\_ cups
2. 1 cup water = \_\_\_\_\_ ounces
3. 8 cups = \_\_\_\_\_ quarts = \_\_\_\_\_ pints
4. 3 ounces = \_\_\_\_\_ teaspoons
5.  $\frac{1}{2}$  qt = \_\_\_\_\_ c
6. 5 gallons = \_\_\_\_\_ cups = \_\_\_\_\_ Tbs = \_\_\_\_\_ teaspoons
7. 10 t = \_\_\_\_\_ T
8. 1 half gallon 2 cups = \_\_\_\_\_ c = \_\_\_\_\_ oz
9.  $\frac{1}{3}$  c = \_\_\_\_\_ oz = \_\_\_\_\_ T \_\_\_\_\_ t
10.  $\frac{3}{4}$  pint = \_\_\_\_\_ c = \_\_\_\_\_ oz

Name: \_\_\_\_\_ Answer Key



## Customary Conversions

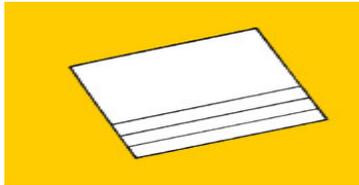


**Directions:** Record each measurement and its equivalents. You may use your foldables.

- 1 gallon milk = 4 quarts = 16 cups
- 1 cup water = 8 ounces
- 8 cups = 2 quarts = 4 pints
- 3 ounces = 18 teaspoons
- $\frac{1}{2}$  qt = 2 c
- 2.5 gallons = 40 cups = 640 Tbs = 1920 teaspoons
- 10 t =  $\frac{10}{3}$  T or 3.33 T
- 1 half gallon 2 cups = 10 c = 80 oz
- $\frac{1}{3}$  c =  $\frac{8}{3}$  oz or 2.67 oz = 5 T 1 t
- $\frac{3}{4}$  pint =  $\frac{3}{2}$  c or 1.5 c = 12 oz

## Foldable for Small Measurements

1. Fold, crease, and unfold the sheets marked "FOLDABLE 1", "FOLDABLE 2", "FOLDABLE 3", and "FOLDABLE 4" along the dotted fold line.
2. Stack the sheets in order with FOLDABLE 1 on top and FOLDABLE 4 on the bottom. Move the top three sheets up a little so that the folds are on top of each other and the sides are aligned. Fold the sheets again. The paper should look like the diagram below:



3. Cut tabs along the bottom of the bottom three sheets, making one cut for each of the seven vertical lines.
4. Cut tabs on the bottom of the bottom two sheets, making one cut for each of the eight additional vertical lines.
5. Cut tabs on the bottom of the bottom sheet, making one cut for each of the thirty-two additional vertical lines.
6. Using your foldable, can you tell how many tablespoons are in three ounces? Make up some questions of your own.
7. Lift the top flap of the foldable. The word "ounces" and its abbreviation "oz" are written in the upper left hand corner.

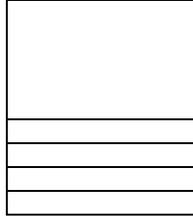
What else do you know about ounces? Write the information on this flap.

8. Lift the next flap, and write information about tablespoons on this flap.
9. Lift this flap, and write information about teaspoons on this flap.
10. Punch holes along the folded side, so you can store the foldable in your binder.

## Foldable for Larger Measurements

For this activity, you will make your own foldable. You will need five sheets of  $8\frac{1}{2}$ -inch by 11-inch paper.

1. Stack the sheets and then move each sheet so that the papers overlap with equal increments measuring  $\frac{3}{4}$  to 1 inch and the long (11 inch) sides of the sheets line up with each other.
2. Fold the stack in half along the width. It may be helpful to dab some glue near the center of the pages so that the papers don't move around while you are folding them. The paper should look like the diagram below:



3. On the top write your equivalencies for a gallon, i.e., 1 gallon = 2 half gallons = 4 quarts = 8 pints = 16 cups.
4. Cut a tab in the next four sheets along the center. Write "1 half gallon" on the top two tabs.

1 half gallon	1 half gallon

5. Cut two more tabs in the next three sheets so that the tabs are equally spaced. Write "1 quart" on the four tabs.

1 half gallon		1 half gallon	
1 qt	1 qt	1 qt	1 qt

6. Cut four more tabs through the next two sheets so that the tabs are equally spaced. Write "1 pint" on the eight tabs.

1 half gallon				1 half gallon			
1 qt		1 qt		1 qt		1 qt	

7. Last, cut eight more tabs through the next sheet so that the tabs are equally spaced. Write "1 cup" on the sixteen tabs.
8. Lift the top flap of the foldable. Write the word "half gallon". On the left, give examples of products that are sold in half-gallon sizes. On the right, draw pictures.

9. Repeat step 8 for pints and cups.
10. Punch holes along the folded side, so you can store the foldable in your binder.

FOLD

FOLD

FOLD

---

1 CUP (c)  
= 8 OUNCES (oz)  
= 16 TABLESPOONS (T/Tbs)  
= 48 TEASPOONS (t/tsp)

FOLD

FOLD

FOLD

ounces (oz)

1 oz.





Day 3 Student Resource Sheet #1.

**WARM-UP:**

Convert and complete.

(1) 2 gal = \_\_\_\_\_ quart

(2) 14 c = \_\_\_\_\_ pt

(3) 64 oz = \_\_\_\_\_ lb

(4) 8 Tbs = \_\_\_\_\_ oz

(5) 4 ½ pt = \_\_\_\_\_ c

(6) 6 tsp = \_\_\_\_\_ Tbs

Day 3 Answer Sheet for Student Resource Sheet #1

**WARM-UP:**

(1) 2 gal = \_\_\_\_\_ quart  
 $2 \times 4 = 8$   
2 gal = 8 qt

(2) 14 c = \_\_\_\_\_ pt  
14 divided by 2 = 7  
14 c = 7 pt

(3) 64 oz = \_\_\_\_\_ lb  
64 divided by 16 = 4  
64 oz = 4 lb

(4) 8 Tbs = \_\_\_\_\_ oz  
8 divided by 2 = 4  
8 Tbs = 4 oz or  $\frac{1}{2}$  cup

(5)  $4 \frac{1}{2}$  pt = \_\_\_\_\_ c  
 $4 \frac{1}{2} \times 2 = 9$   
 $4 \frac{1}{2}$  pt = 9 c

(6) 6 tsp = \_\_\_\_\_ Tbs  
6 divided 3 = 2  
6 tsp = 2 Tbs

## Common Customary Measurements

<b>WEIGHT</b>	<b>LENGTH</b>	<b>CAPACITY</b>
1 pound = 16 ounces	1 foot = 12 inches	1 cup = 8 fluid ounces
1 ton = 2000 pounds	1 yard = 36 inches	1 pint = 2 cups
	1 yard = 3 feet	1 quart = 2 pints
	1 mile = 5,280 feet	1 quart = 4 cups
	1 mile = 1,760 yards	1 gallon = 4 quarts
		1 gallon = 16 cups

## Day 3 Student Resource Sheet #2



### Ice Cream in a Bag

Note: *As in all recipes, results can vary depending on humidity, conditions, etc. Please try any recipe out before attempting in a group setting.* (Serving for one)

**This project is rated VERY EASY to do.**

#### What You Need

- 1 tablespoon Sugar
- 1/2 cup Milk or half & half
- 1/4 teaspoon Vanilla
- 6 tablespoons Rock salt
- 1 pint-size Ziploc plastic bag
- 1 gallon-size Ziploc plastic bag
- Ice cubes

#### How To Make It

1. Fill the large bag half full of ice, and add the rock salt. Seal the bag so the contents do not fall out..
2. Put milk, vanilla, and sugar into the small bag, and seal it.
3. Unseal the large bag and place the small bag inside. Reseal and make sure both bags are tightly sealed.
4. Shake until mixture is ice cream, about 5 minutes.
5. Wipe off top of small bag, then open carefully and enjoy!

## Teacher Resource 1

### Ice Cream Recipe for 25 servings

1 ½ C + 1Tbs Sugar

½ gal + 1 qt + 1 pint Milk or Half & Half

2 Tbs + ¼ tsp Vanilla

1-gallon size bag of Rock salt (Actually 1 pint + 1cup + 6 Tbs.)

Substitute pint-size Ziploc bag for 2-gallon size freezer or storage bag.

Substitute gallon-size Ziploc plastic bag for a large pail or plastic bin.

### **How to Make It**

Follow original recipe from this point.

Instead of shaking the mixture, knead the mixture until mixture is solid.

### Day 3 Student Resource Sheet #3

#### BBQ CHEX Party Mix

3 c Rice Chex cereal  
3 c Corn Chex cereal  
1½ c pretzel twists  
1½ c bite-size cheese crackers  
¾ c honey-roasted peanuts  
½ c BBQ Sauce  
1 tablespoon vegetable oil  
¾ teaspoon onion powder  
¾ teaspoon garlic powder

#### Directions:

1. In large microwavable bowl, mix cereal, pretzels, crackers, and peanuts. In small bowl, stir together remaining ingredients. Pour over cereal mixture, stirring until evenly coated.
2. Heat oven to 250 degrees. Melt margarine in large roasting pan in oven. Stir in seasonings. Gradually stir in remaining ingredients until evenly coated. Bake for about 1 hour, stirring every 15 minutes. Spread on towels to cool. Store in airtight container. Microwave directions: Melt margarine in large microwaveable bowl on high. Stir in seasonings. Gradually stir in remaining ingredients until evenly coated. Microwave uncovered on high 7 minutes, stirring every 2 minutes. Spread on waxed paper to cool. Store in airtight container.