

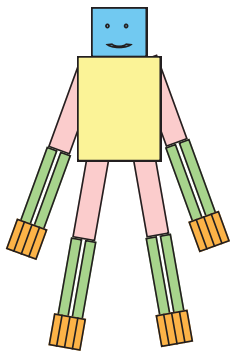
Relating Customary Capacity Units to Fractions

# Gallon Robot to the Rescue

Laura Candler

## Gallon Robot to the Rescue!

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**Gallon Robot to the Rescue** is a comprehensive resource of teaching strategies and printables to help your students remember and convert between the customary units of capacity. After creating a Gallon Robot from paper patterns, students will learn the fractional relationships between cups, pints, quarts, and gallons. This ebook also includes cooperative learning activities, center games, and teacher demonstration pages. Complete directions, printables, and answer keys are provided.

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**Overview of the Gallon Robot Concept**  
 Gallon Robot has appeared in many forms over the years. I've seen it referred to as Mr. Gallon, Gallon Man, and Gallon Gal. No matter what it's called, it's a visual aid to help students remember the relative sizes and relationships between the customary capacity units. Basically, each part of Gallon Robot represents one unit of capacity. Gallon Robot's body represents one whole gallon. Since there are four quarts to a gallon, each of the upper arm and upper leg segments represents one quart. Because there are two pints to each quart, there are two lower arm and lower leg sections attached to each quart piece. Finally, there are two cups to each pint, so each hand is made of four cups. If you want to teach your students about ounces, you can use the pattern on page 14, which has each cup marked off into eight ounces. One reason this system is so effective is that students can relate the pattern pieces to the corresponding body parts on themselves to help them remember which piece represents each unit. You can find a complete, step-by-step explanation on page 6, which is a handout that can be sent home with students.

## Gallon Robot Measurement Teaching Suggestions

**1. Using Models and Hands-on Measurement** - Before your students create a Gallon Robot, they need to see actual models of cups, pints, quarts, and gallons. Bring in some containers and measuring devices of those sizes and demonstrate their relationships to each other. Sometime during the unit, set up stations where students can pour sand, rice, or water into the different containers to see how the sizes relate to each other. Keep the physical containers on hand during the unit so that you can continue to relate the containers to the units of capacity.

**2. Introducing Gallon Robot** - When you first introduce Gallon Robot, tell your students that sometimes it's difficult to remember how many cups in a pint, how many quarts in a gallon, and so on. Explain that Gallon Robot will come to their rescue by helping them to remember these units more easily. If you have time, create a model to show your students prior to the lesson starting. This is also helpful as it will allow you to experiment with different construction methods such as using glue, tape, or staples.

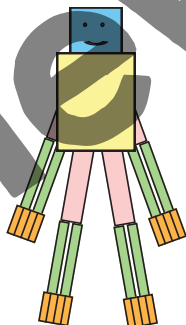
**3. Prepare to Create Gallon Robot Models** - You can have each student create his or her own model, or you can create one visual aid for the class to view. If you don't have time for students to make their own models, make one for the class and duplicate one of the Gallon Robot coloring pages on 19 or 20 to use during the lesson. If you plan to have each student make his or her own Gallon Robot, review pages 7 through 18 to decide which patterns you'll need. Pages 7 through 14 are for large models, but you can save paper by using the patterns on pages 15 - 18 to create mini Gallon Robots. Each student will need one face pattern, one body, and one set of upper arms and legs, lower arms and legs, and hands. Allow plenty of time for students to cut out all their pieces. You may not want them to cut out all the cups individually; I had my students keep each set of four cups together to avoid having to deal with so many small pieces.

**4. Relating Units to Fractions** - After students have cut out all of their pieces, it's time to discuss the fractional relationships between the units. If you feel that this lesson is too advanced for your students, skip this step. Ask your students to begin by spreading the pieces out on their desks, grouping the units together in piles. It's helpful if you have a document camera to demonstrate the process as you work through the steps. You can use pages 22 - 26 in this packet to help reinforce these fraction concepts. Begin by holding up the large rectangle marked "body" and explain that the body represents one whole gallon. Have students place their gallon bodies face up on their desks. Then ask them to take all four of the upper arm and leg sections and tell them that these pieces represent quarts. Place the four pieces on top of the body without overlapping them to show that four quarts are equal to one gallon. Remove those pieces and set them aside. Follow this process with the pints. When your students arrange the eight rectangles on top of the body, they will realize that eight pints really are equal to one gallon. Repeat with the cups to show that one gallon equals sixteen cups.

**5. Assembling and Decorating Gallon Robot** - After the fraction lesson is over, show your students how to assemble their pieces into a robot using glue, tape, or staples. Some students may also enjoy decorating their Gallon Robots by adding facial features (if you use the blank pattern on page 9) or adding yarn for hair. Do not allow students to take their robots home until after you have used the models in several lessons at school. After several days, ask students to take their Gallon Robots home along with the handout on page 6 which explains the math behind what might seem to be an art project.

### Teaching Tip

Duplicate each body part in a different color, but keep the colors consistent for the class. During the construction process, you can refer to the quart piece as the pink one, the pint piece as the green one, and so on.



## 7. Gallon Knowledge Share Around

After students have assembled their robots, it's time to have them share what they know. You can use this cooperative learning activity and the Gallon Robot Knowledge Cards shown on the right to help them verbalize what they've learned. Begin by displaying the Gallon Knowledge Share Around directions on page 21. Demonstrate the activity for the class, and then give each team a set of cards to use for team or partner practice.

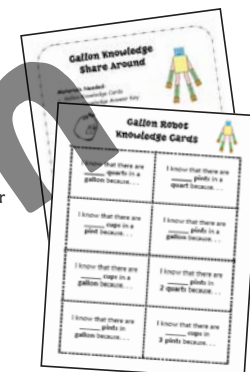
**8. Gallon Fractions Demo** - Gallon Robot is a great tool for reviewing fractions. If you have not used the Gallon Fraction demo pages (24 - 28) show these illustrations to the class one at a time as you explain the fraction relationships. Then use pages 29 and/or 30 to teach students how to solve fraction problems related to capacity units.

**9. Gallon Review Showdown** - Showdown is an excellent strategy for teams of three to five students. Each student will need a dry erase board and a marker. In addition, each team will need a set of task cards such as the Gallon Fraction Cards on pages 32 - 35 or the Fill 'Er Up game cards on pages 40 - 43. Duplicate the answers on the backs of the cards before you cut them apart. Display the Showdown directions on page 31 and explain the steps of the activity, modeling each step with one team as you explain the rules to the whole class. When the students begin to play, walk around and assist as needed.

**10. Who Knows? Units of Capacity** - Who Knows? is a fun active-engagement strategy to get students out of their seats and moving around the room. Give each child a copy of the worksheet on page 36, and remind them to write their names and the date at the top. Tell them that while they may already know the answers to the questions, moving around the room and talking with their classmates will help them review.

### Directions for Who Knows?

- On a signal from you, students get up and move around the room looking for classmates who know the answers to the questions. The questions do not have to be answered in order.
- Students pair up to discuss any one of the questions; they must agree on the answer before it's written on their pages. If they do agree, they write the answer on each other's papers and sign their names on the lines below their answer. If they don't agree, they should move on to a different problem. Finally, they leave that partner and move around the room to look for a new one.
- They must find a new partner for every problem; your students should have 10 different names before they are finished. Ask them to return to their seats after all of the questions are answered.
- When everyone is finished, discuss the answers using the answer key shown at right. This assignment is meant as a review and is not meant to be graded. Allow students to correct any answers that are wrong so they can keep the paper as a study guide.



### Who Knows? Answers

- 2 cups
- 8 pints
- 6 cups
- 4 cups
- 4 pints
- 8 quarts
- 8 ounces
- 16 cups
- 4 quarts
- 12 cups

**11. Fill 'Er Up Gallon Fraction Game** - Fill 'Er Up is a game for two players that will work well in a center after you model it for the class. It would be best to laminate the materials before you cut them apart as they will be handled frequently during the game.

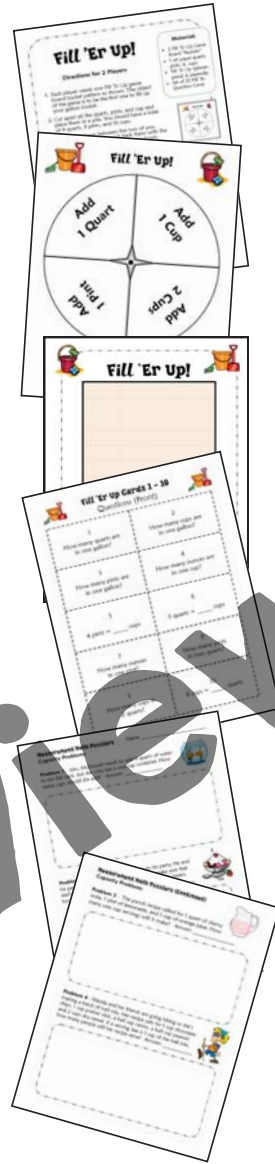
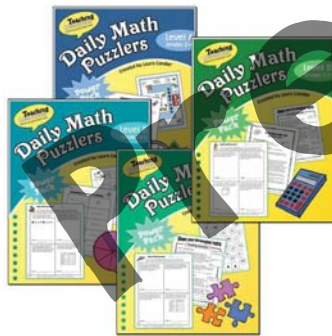
**Materials for Each Pair:**

- 1 copy of the game directions on page 37
- 1 set of the game cards (pages 40 - 43 with answers on backs)
- 1 copy of the spinner pattern on page 38
- 1 pencil or pen
- 1 paperclip
- 2 copies of the “bucket” pattern on page 39
- 2 sets of the unit pieces on page 44 - 46

**Directions:** To introduce Fill 'Er Up, choose a volunteer to play against you and demonstrate the game under a document camera or by having students gather around and watch you play. Follow the directions on the spinner to create a spinner from a pencil and a paperclip. Display the game directions and demonstrate how to play the game in a step-by-step manner. The object of the game is to answer the questions correctly and fill up your own “bucket” before your partner fills up his or hers. Play one full game with your student volunteer to be sure everyone understands all the rules. The winner is the one who fills up his or her bucket first without it overflowing.

**12. Measurement Math Puzzlers** - These math word problems require students to apply what they have learned about customary units of capacity. Duplicate the two pages front to back for each student. Demonstrate what to do by showing students how to solve the first problem. Make sure they understand your expectations for drawing or writing out their solutions in the open area under each problem. You can learn additional strategies for using these word problem pages by checking out the [Daily Math Puzzler](#) series and using the suggestions you'll find there.

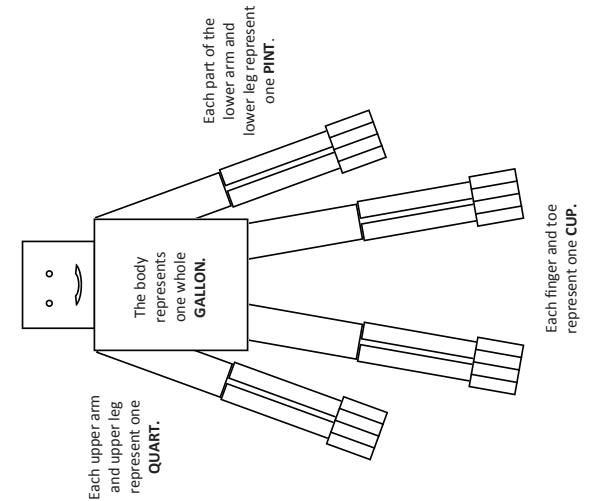
**Answers:** #1 - 16 cups, #2 - 3 quarts, #3 - 7 servings, #4 - 5 people



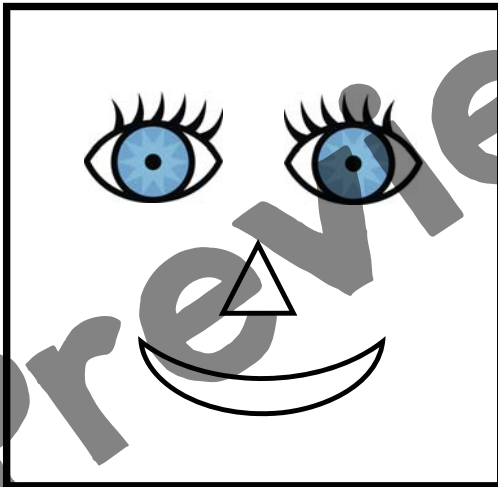
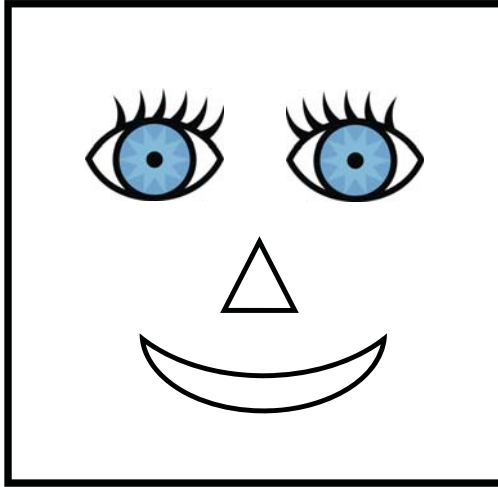
## How Gallon Robot Works

Gallon Robot is a visual aid we use to learn and understand customary capacity units of measurement. By studying our Gallon Robots, we can easily remember the number of each unit that makes up one gallon.

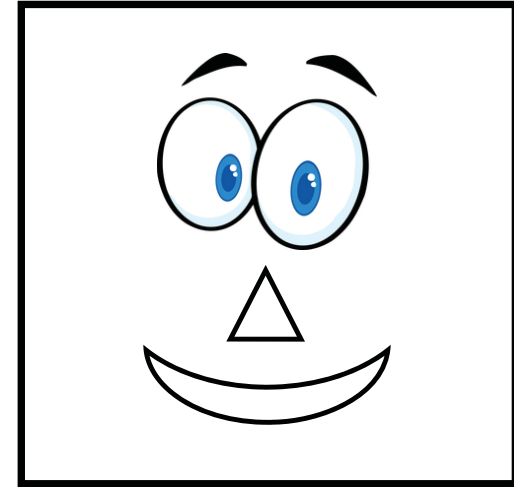
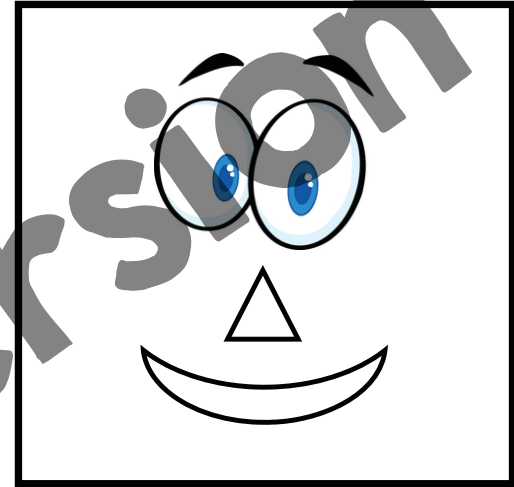
- As you can see in the diagram, Gallon Robot is put together like a human body. Each portion of its body represents a unit of measurement, except his head.
- The torso represents one gallon which is the biggest part of the body and unit of capacity, and to which everything is connected.
- Connected directly to the gallon are 4 quarts symbolizing the upper arms and legs. This shows that 4 quarts equal one gallon.
- In a human body, the bottom portion of your arms and legs have two separate bones, and so does our Gallon Robot. Two pints are connected to each quart. Therefore, there are 2 pints in each quart and 8 pints in a gallon.
- Our Gallon Robot's fingers and toes represent cups. Two cups are attached to each pint so there are 4 cups on each arm or leg. Therefore, there are 16 cups in a gallon, 4 cups in a quart, and 2 cups in a pint.
- It may help some students to actually point to their own arms and legs as they learn the corresponding parts of the Gallon Robot. That way they will be able to remember the units even when they aren't looking at this visual aid.



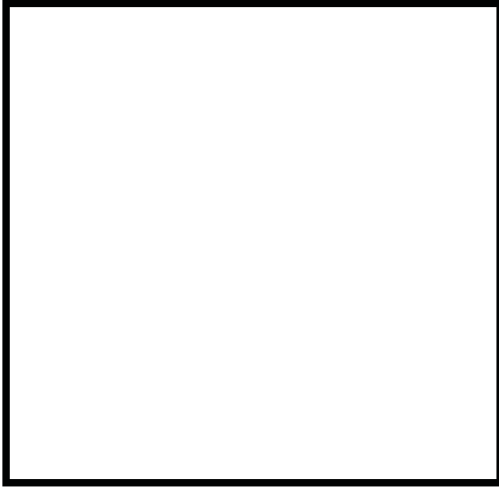
**Gallon Robot Head Patterns**



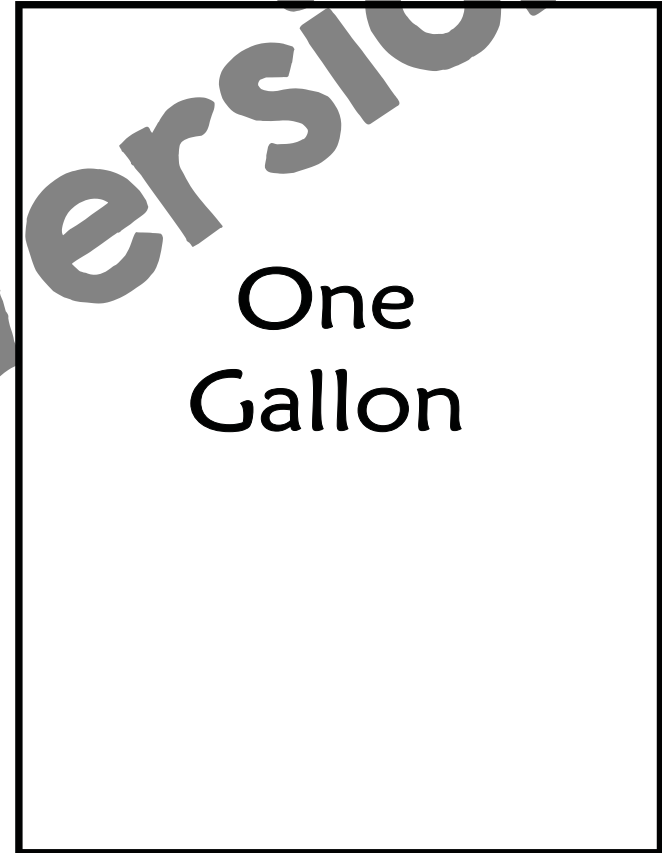
**Gallon Robot Head Patterns**



**Gallon Robot Head Patterns**

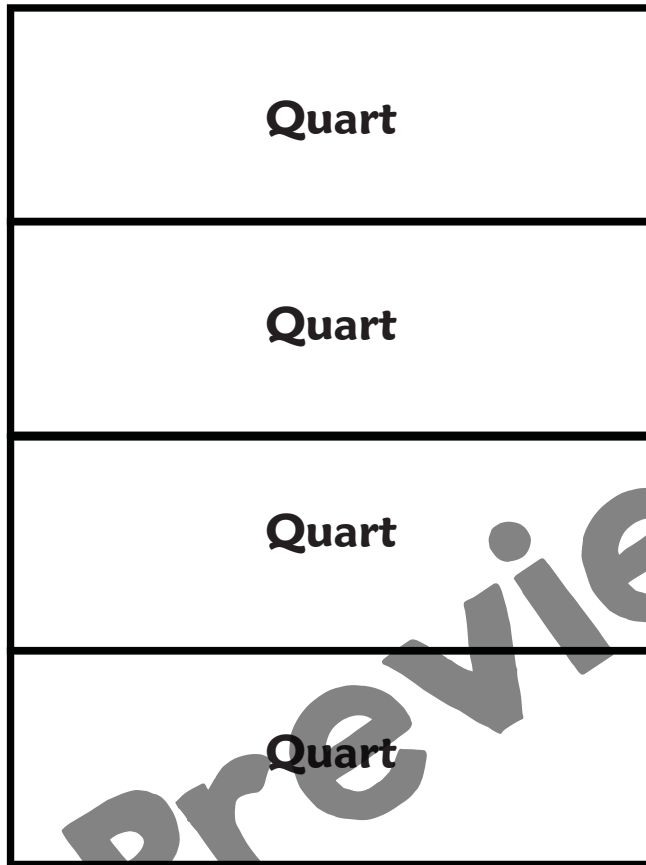


**Gallon Robot Body**

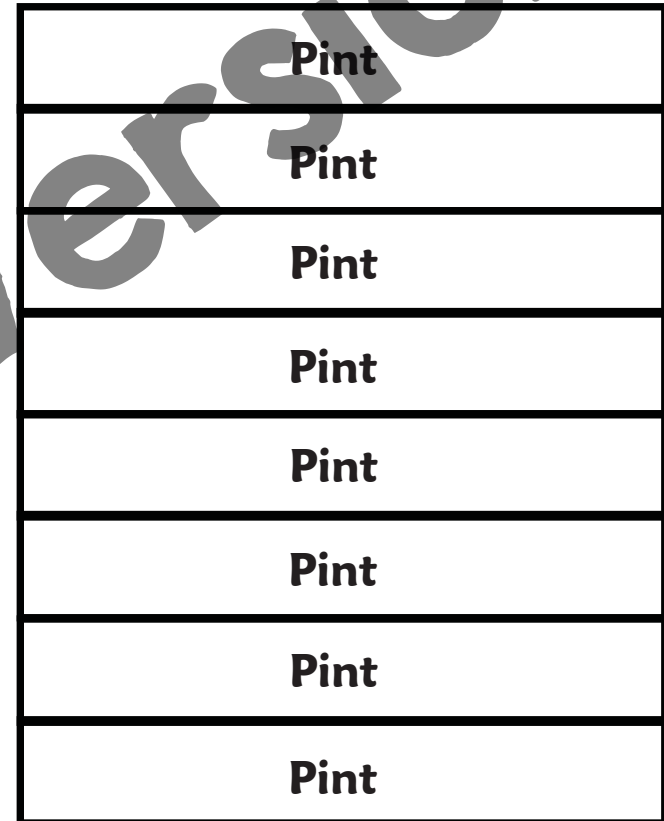


One  
Gallon

## Gallon Upper Arms & Legs



## Gallon Lower Arms & Legs



## Gallon Robot Fingers

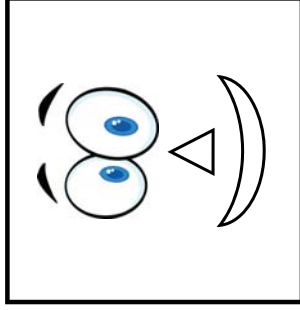
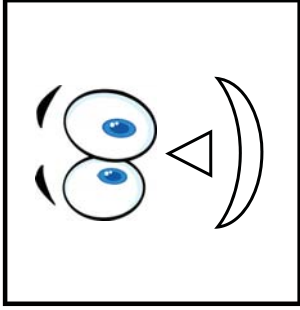
Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup

Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup

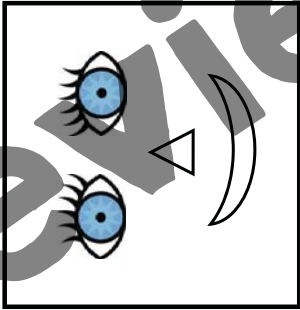
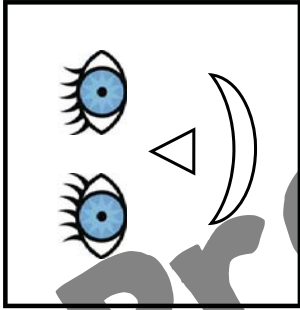
## Gallon Robot Fingers (Showing Ounces)

	Cup		Cup	
	Cup		Cup	
	Cup		Cup	
	Cup		Cup	

	Cup		Cup	
	Cup		Cup	
	Cup		Cup	
	Cup		Cup	

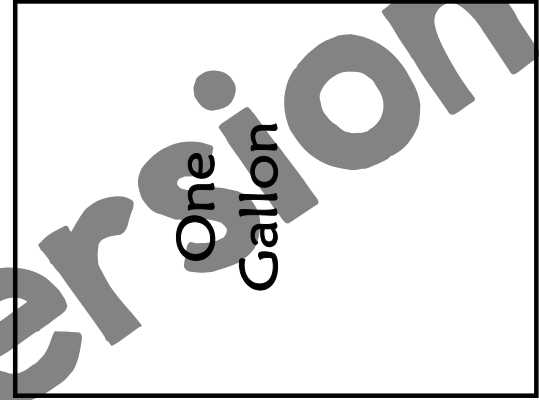


Mini Gallon Robot Head Patterns

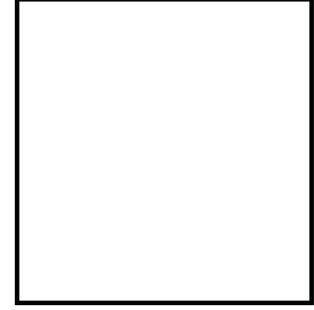
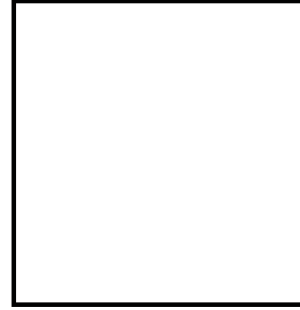


Mini Gallon Robot Head Patterns

Mini Gallon Robot Body



One  
Gallon



Mini Gallon Robot Head Patterns



**Mini Gallon  
Upper Arms & Legs**

Quart
Quart
Quart
Quart

**Mini Gallon  
Lower Arms & Legs**

Pint
Pint
Pint
Pint
Pint
Pint
Pint
Pint

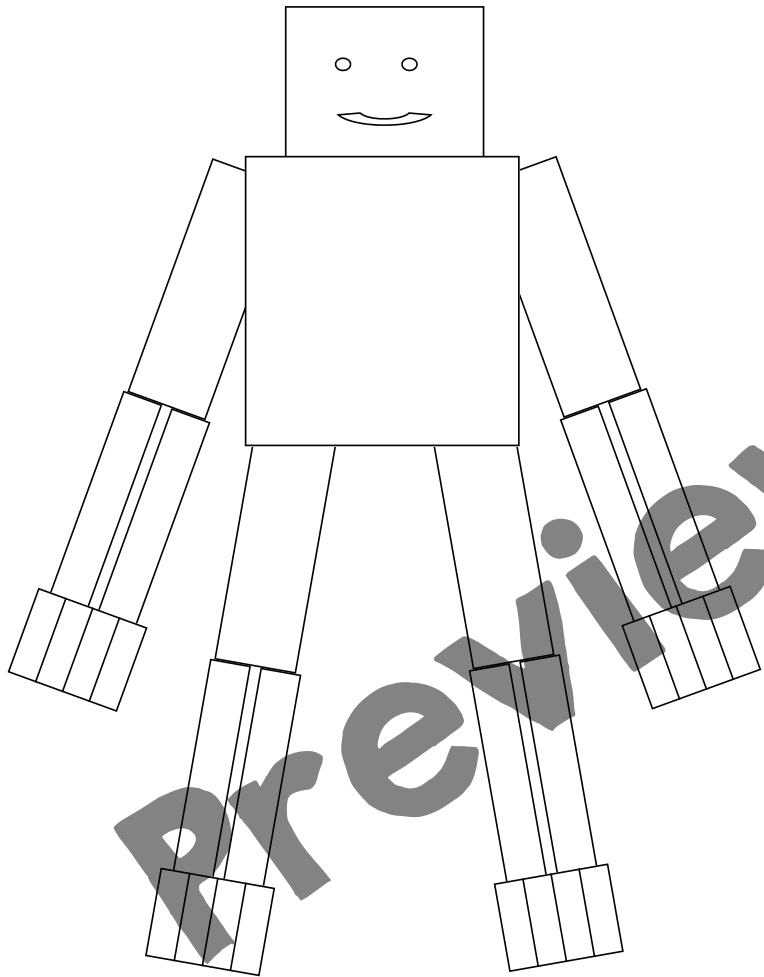
**Mini Gallon Robot Fingers**

Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup

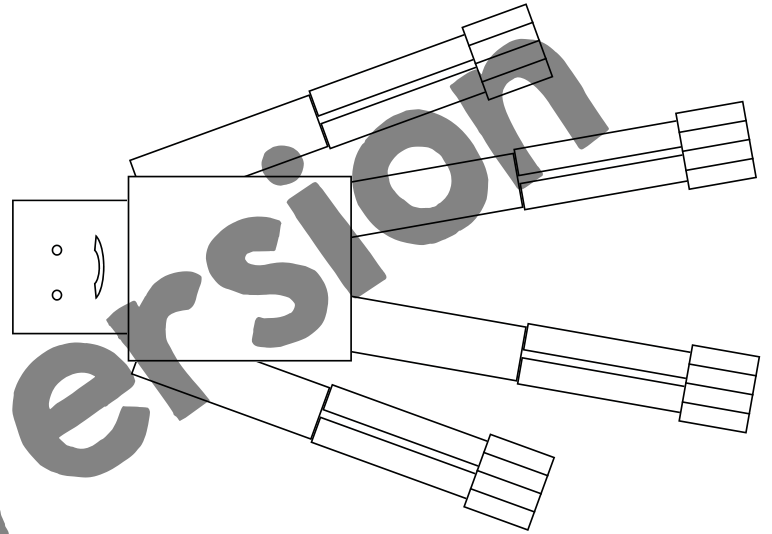
**Mini Gallon Robot Fingers**  
(Showing Ounces)

Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup

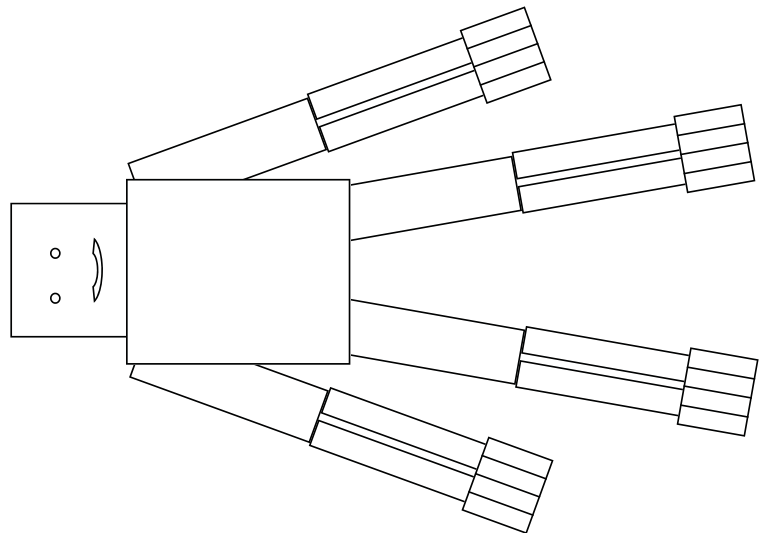
# Gallon Robot



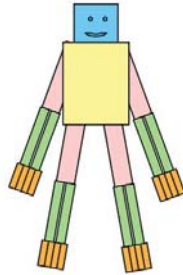
# Gallon Robot



# Gallon Robot



## Gallon Knowledge Share Around



### Materials Needed:

- Gallon Knowledge Cards
- Gallon Knowledge Answer Key
- Gallon Robot

### Directions:

1. Cut the Gallon Knowledge Cards apart, shuffle them, and place them face down in a pile. Place the answer key face down nearby.
2. The first player turns over the top card and reads it aloud, filling in the blank. For example, "I know there are four quarts in a gallon because Gallon Robot has four large rectangles attached to the body that show me the number of quarts." He or she may point to a model of Gallon Robot to demonstrate.
3. The remaining team members give a thumbs up if they agree. If they don't agree, they open it up for discussion. If necessary, they may check the answer key for the correct answer.
4. The card is placed in a discard pile, and the next player turns over the next card. Play continues around the team until all the cards have been used.



## Gallon Robot Knowledge Cards



#1 I know there are _____ <b>quarts</b> in a <b>gallon</b> because. . .	#2 I know there are _____ <b>pints</b> in a <b>quart</b> because. . .
#3 I know there are _____ <b>cups</b> in a <b>pint</b> because. . .	#4 I know there are _____ <b>pints</b> in a <b>gallon</b> because. . .
#5 I know there are _____ <b>cups</b> in a <b>gallon</b> because. . .	#6 I know there are _____ <b>pints</b> in <b>2 quarts</b> because. . .
#7 I know there are _____ <b>cups</b> in <b>3 quarts</b> because. . .	#8 I know there are _____ <b>cups</b> in <b>3 pints</b> because. . .



## Gallon Robot Knowledge Card Answer Key



1. I know there are **4 quarts** in a **gallon** . . .
2. I know there are **2 pints** in a **quart** . . .
3. I know there are **2 cups** in a **pint** . . .
4. I know there are **8 pints** in a **gallon** . . .
5. I know there are **16 cups** in a **gallon** . . .
6. I know there are **4 pints** in **2 quarts** . . .
7. I know there are **12 cups** in **3 quarts** . . .
8. I know there are **6 cups** in **3 pints** . . .

## Gallon Robot Fractions

1 Gallon

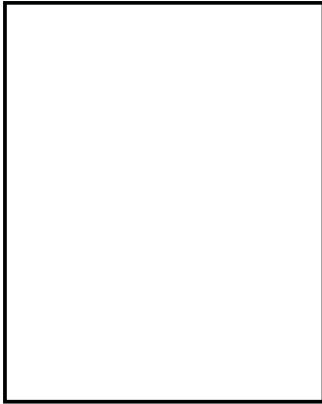

4 Quarts


8 Pints


16 Cups

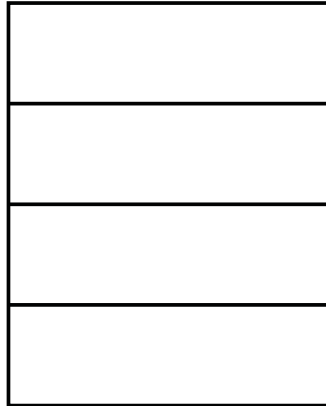

## Gallons and Quarts

1 Gallon

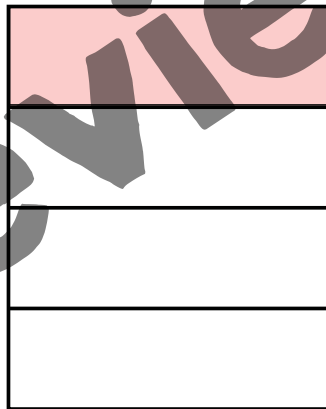
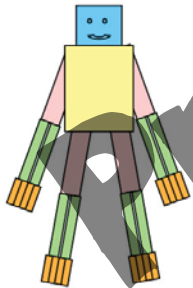


4 Quarts

=



1 quart =  
 $\frac{1}{4}$  of a gallon



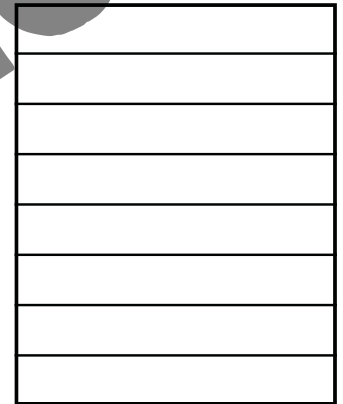
## Gallon and Pints

1 Gallon

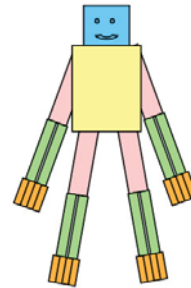


8 Pints

=

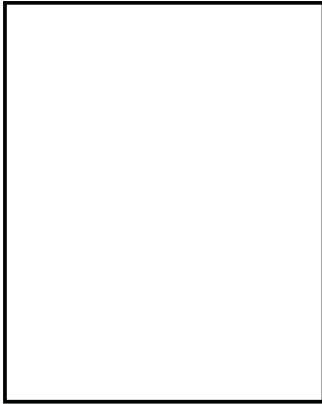


1 pint =  
 $\frac{1}{8}$  of a gallon



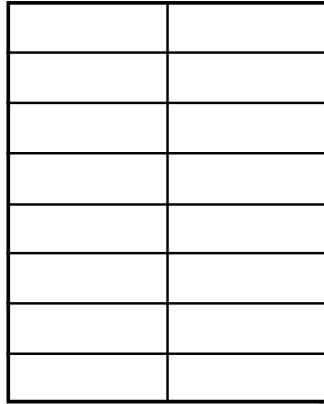
## Gallon and Cups

1 Gallon

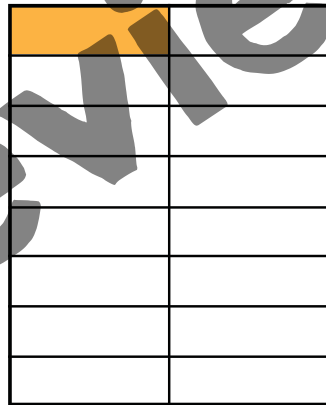
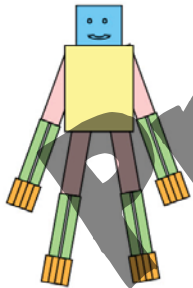


=

16 Cups



1 cup =  
 $\frac{1}{16}$  of a gallon



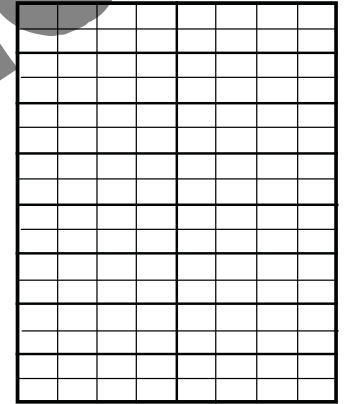
## Gallons and Ounces

1 Gallon

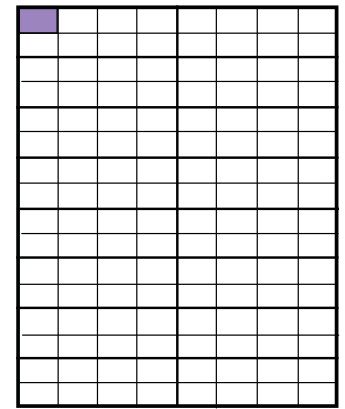
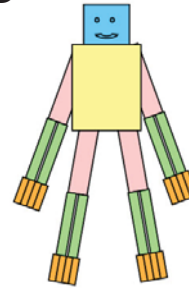


=

128 Ounces



1 ounce =  
 $\frac{1}{128}$  of a gallon





## Solving Gallon Fraction 1 Problems



How to Solve Level 1 Problems (Single Units)

Practice Problem:

1 cup =      of a quart

Which Means:

1 cup is what fraction of 1 quart?

Think: How many cups in one quart?

Answer: 4

So: 1 cup =  $\frac{1}{4}$  of a quart

You Try It:

1 cup =      of a pint

Which Means:

Think:

So:



## Solving Gallon Fraction 2 Problems



How to Solve Level 2 Problems (Multiple Units)

Practice Problem:

2 cups =      of a quart

Which Means:

2 cups are what fraction of 1 quart?

Think: How many cups in one quart? Answer: 4

So: 2 cups =  $\frac{2}{4}$  of a quart which can be simplified to  $\frac{1}{2}$

You Try It:

4 ounces =      of a pint

Which Means:

Think:

So:

# Showdown

## Materials Needed:

- Individual dry erase boards
- Dry erase markers
- Task Cards



## Directions:

1. Stack the task cards face down in the center of the team. (If the answers are on the backs of the cards, stack them face up.)
2. The first Leader takes the top card and reads the problem or question aloud.
3. Everyone solves the problem or answers the question without talking. Place dry erase boards face down when finished.
4. The Leader says "Showdown!"
5. Everyone flips over their boards to show and compare answers.
6. Be sure to discuss answers that are different. Check an answer key or ask for help if you can't agree on the answer.
7. Rotate Leaders for each round and continue working as time allows.



## Gallon Fraction 1 Problems

Level 1 - Single Units



#1 1 pint = ____ of a quart	#2 1 cup = ____ of a quart
#3 1 ounce = ____ of a cup	#4 1 pint = ____ of a gallon
#5 1 cup = ____ of a pint	#6 1 ounce = ____ of a quart
#7 1 cup = ____ of a gallon	#8 1 quart = ____ of a gallon
#9 1 ounce = ____ of a pint	#10 1 ounce = ____ of a gallon





## Gallon Fraction 1 Answers

Print answers on backs of cards.



#2

$$1 \text{ cup} = \frac{1}{4} \text{ of a quart}$$

#1

$$1 \text{ pint} = \frac{1}{2} \text{ of a quart}$$

#4

$$1 \text{ pint} = \frac{1}{8} \text{ of a gallon}$$

#3

$$1 \text{ ounce} = \frac{1}{8} \text{ of a cup}$$

#6

$$1 \text{ ounce} = \frac{1}{32} \text{ of a quart}$$

#5

$$1 \text{ cup} = \frac{1}{2} \text{ of a pint}$$

#8

$$1 \text{ quart} = \frac{1}{4} \text{ of a gallon}$$

#7

$$1 \text{ cup} = \frac{1}{16} \text{ of a gallon}$$

#10

$$1 \text{ ounce} = \frac{1}{128} \text{ of a gallon}$$

#9

$$1 \text{ ounce} = \frac{1}{16} \text{ of a pint}$$



## Gallon Fraction 2 Problems

Level 2 - Multiple Units



#1

$$2 \text{ pints} = \underline{\hspace{1cm}} \text{ of a gallon}$$

#2

$$3 \text{ cups} = \underline{\hspace{1cm}} \text{ of a quart}$$

#3

$$4 \text{ ounces} = \underline{\hspace{1cm}} \text{ of a cup}$$

#4

$$2 \text{ cups} = \underline{\hspace{1cm}} \text{ of a quart}$$

#5

$$6 \text{ ounces} = \underline{\hspace{1cm}} \text{ of a pint}$$

#6

$$4 \text{ cups} = \underline{\hspace{1cm}} \text{ of a gallon}$$

#7

$$8 \text{ ounces} = \underline{\hspace{1cm}} \text{ of a quart}$$

#8

$$7 \text{ cups} = \underline{\hspace{1cm}} \text{ of a gallon}$$

#9

$$12 \text{ cups} = \underline{\hspace{1cm}} \text{ of a gallon}$$

#10

$$5 \text{ pints} = \underline{\hspace{1cm}} \text{ of a gallon}$$



## Gallon Fraction 2 Answers

Print answers on backs of cards.



#2

$$3 \text{ cups} = \frac{3}{4} \text{ of a quart}$$

#1

$$2 \text{ pints} = \frac{1}{4} \text{ of a gallon}$$

#4

$$2 \text{ cups} = \frac{1}{2} \text{ of a quart}$$

#3

$$4 \text{ ounces} = \frac{1}{2} \text{ of a cup}$$

#6

$$4 \text{ cups} = \frac{1}{4} \text{ of a gallon}$$

#5

$$6 \text{ ounces} = \frac{3}{8} \text{ of a pint}$$

#8

$$7 \text{ cups} = \frac{7}{16} \text{ of a gallon}$$

#7

$$8 \text{ ounces} = \frac{1}{4} \text{ of a quart}$$

#10

$$5 \text{ pints} = \frac{5}{8} \text{ of a gallon}$$

#9

$$12 \text{ cups} = \frac{3}{4} \text{ of a gallon}$$



## Who Knows? Units of Capacity

Name \_\_\_\_\_

Date \_\_\_\_\_

1. How many cups are in a pint?

Name \_\_\_\_\_

2. How many pints are in a gallon?

Name \_\_\_\_\_

3. How many cups are in 3 pints?

Name \_\_\_\_\_

4. How many cups are in a quart?

Name \_\_\_\_\_

5. How many pints are in a half gallon?

Name \_\_\_\_\_

6. How many quarts are in 2 gallons?

Name \_\_\_\_\_

7. How many ounces are in a cup?

Name \_\_\_\_\_

8. How many cups are in a gallon?

Name \_\_\_\_\_

9. How many quarts are in a gallon?

Name \_\_\_\_\_

10. How many cups are in 3 quarts?

Name \_\_\_\_\_



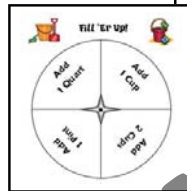
# Fill 'Er Up!

## Directions for 2 Players

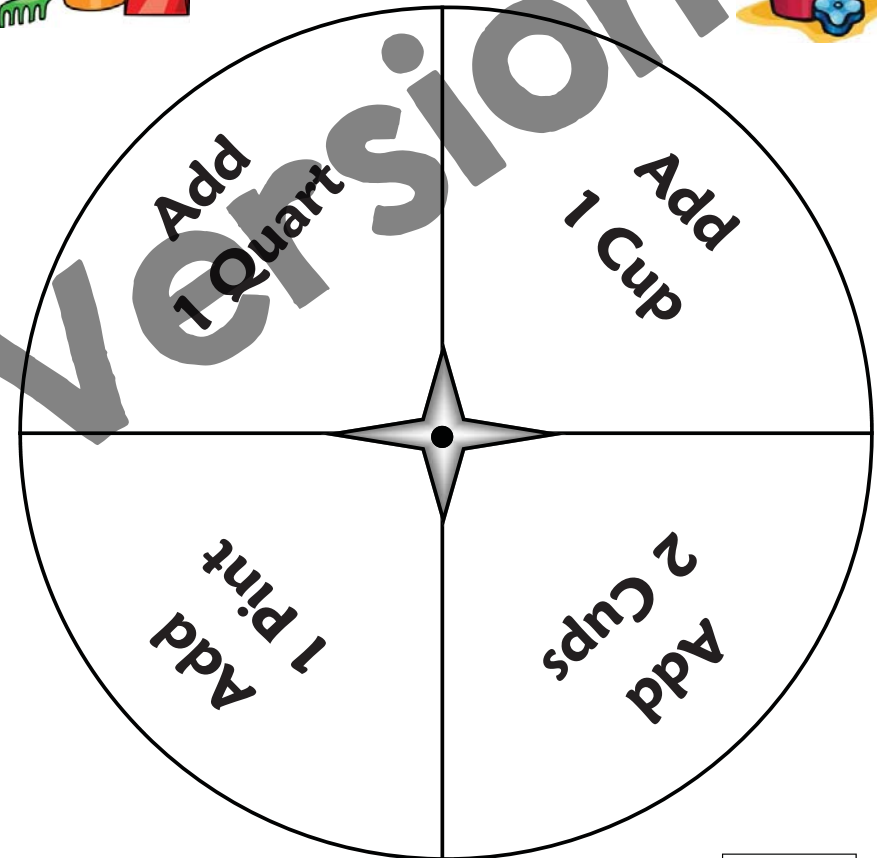
1. Each player needs one Fill 'Er Up game board bucket pattern as shown. The object of the game is to be the first one to fill up your gallon bucket.
2. Cut apart all the quarts, pints, and cups and place them in a pile. You should have a total of 4 quarts, 8 pints, and 16 cups.
3. Place the spinner between the two of you. Shuffle the game cards and stack them with the questions facing up and the answers down.
4. Spin to see who goes first. The person who spins the larger quantity is Player 1.
5. Player 1 reads the question on the top of the deck aloud and gives the answer.
6. Player 2 turns over the card to check it. If correct, Player 2 says, "Fill 'er up!" Player 1 then spins the spinner, takes the amount indicated by the pointer, and places it on his or her own gameboard. Note: Player 1 may take any number of pieces that are equivalent to the amount shown on the pointer. Player 1 loses a turn if the problem is not answered correctly.
7. Player 2 takes a turn and completes steps 5 and 6.
8. Both players alternately spin and place pieces in their buckets without overlapping them. The object is to be the first to fill up the bucket without it overflowing.

## Materials

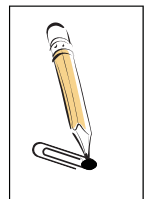
- 2 Fill 'Er Up Game Board "Buckets"
- 1 set paper quarts, pints, & cups
- Fill 'Er Up Spinner, pencil & paperclip
- Set of 20 Fill 'Er Up Question Cards



# Fill 'Er Up!

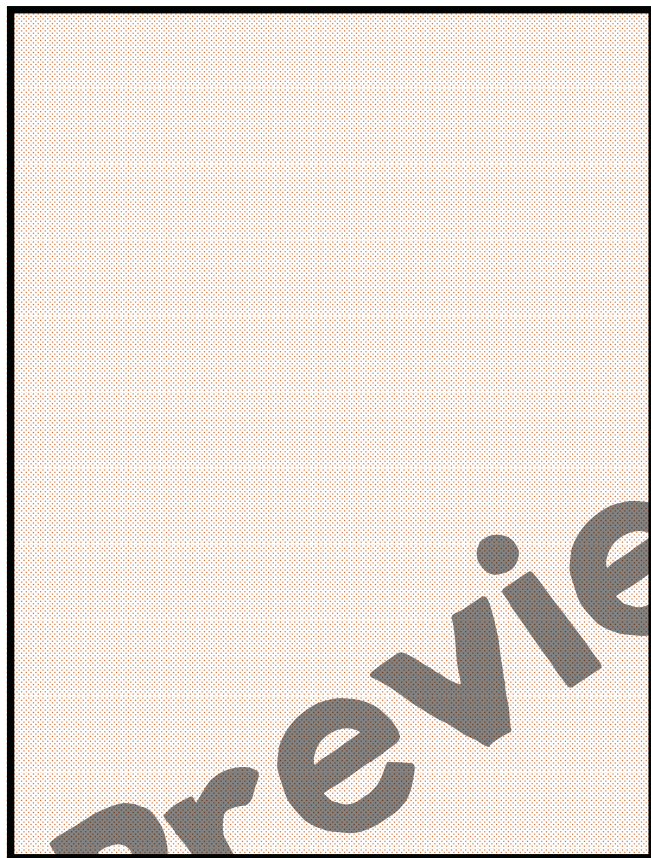


**Directions:** To use the spinner, you'll need a paper clip and a pencil. Put the paperclip down with one end over the center dot. Put the pencil point down inside the paper clip and hold the pencil in place. Thump the paper clip. It will spin around the pencil point and point to one section on the spinner.





# Fill 'Er Up!



## 1 Gallon Bucket



## Fill 'Er Up Cards 1 - 10 Questions (Front)



1 How many quarts are in one gallon?	2 How many cups are in one gallon?
3 How many pints are in one gallon?	4 How many ounces are in one cup?
5 4 pints = ____ cups	6 3 quarts = ____ cups
7 How many ounces in one pint?	8 How many pints in two quarts?
9 How many cups in 2 quarts?	10 8 cups = ____ quarts



## Fill 'Er Up Cards 1 - 10

Answers (Back)



2

**16 cups**

4

**8 ounces**

6

**12 cups**

8

**4 pints**

10

**2 quarts**

1

**4 quarts**

3

**8 pints**

5

**8 cups**

7

**16 ounces**

9

**8 cups**



## Fill 'Er Up Cards 11 - 20

Questions (Front)



11

2 gallons = \_\_\_\_ quarts

12

How many ounces are in one gallon?

13

5 pints = \_\_\_\_ cups

14

1/2 gallon = \_\_\_\_ quarts

15

3 quarts = \_\_\_\_ pints

16

2 gallons = \_\_\_\_ pints

17

32 ounces = \_\_\_\_ cups

18

8 cups = \_\_\_\_ quarts

19

How many cups are in one quart?

20

How many cups are in 6 pints?



## Fill 'Er Up Cards 11 - 20

Answers (Back)



12	11
<b>128 ounces</b>	<b>8 quarts</b>
14	13
<b>2 quarts</b>	<b>10 cups</b>
16	15
<b>16 pints</b>	<b>6 pints</b>
18	17
<b>2 quarts</b>	<b>4 cups</b>
20	19
<b>12 cups</b>	<b>4 cups</b>



## Fill 'Er Up Quarts



Version

Quart
Quart
Quart
Quart



## Fill 'Er Up Pints



Pint
Pint
Pint
Pint
Pint
Pint
Pint
Pint



## Fill 'Er Up Cups



Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup
Cup	Cup

**Measurement Math Puzzlers**  
**Capacity Problems**

Name \_\_\_\_\_

**Problem 1** - Mrs. McDowell needs to add 4 quarts of water to her fish tank, but she only has a one-cup container. How many cups should she add? Answer: \_\_\_\_\_



Blank dashed-line box for writing the answer to Problem 1.

**Problem 2** - Ronald is inviting 9 guests to his party. He and his parents will be there as well. If he wants to make sure that each person who attends may have one cup of ice cream, how many quarts should he buy? Answer: \_\_\_\_\_



Blank dashed-line box for writing the answer to Problem 2.

**Measurement Math Puzzlers (Continued)**  
**Capacity Problems**

**Problem 3** - The punch recipe called for 1 quart of cherry soda, 1 pint of lemonade, and 1 cup of orange juice. How many one-cup servings will it make? Answer: \_\_\_\_\_



Blank dashed-line box for writing the answer to Problem 3.

**Problem 4** - Wanda and her friends are going hiking so she's making a batch of trail mix. Her recipe calls for 1 cup of chocolate chips, 1 cup of pretzel stick, a half cup of raisins, a half cup of peanuts, and 2 cups of dry cereal. If a serving size is one cup of the trail mix, how many people will her recipe serve? Answer: \_\_\_\_\_



Blank dashed-line box for writing the answer to Problem 4.



## Common Core Standards

*Gallon Robot to the Rescue* is aligned with these Common Core Standards

- 4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.
- 5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.



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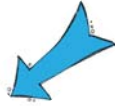
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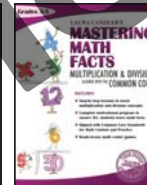
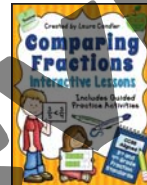
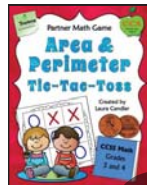
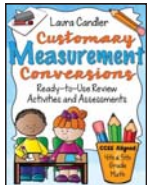
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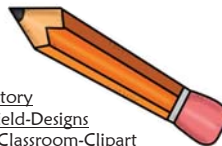
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