

Student Activity Book

**Converting Standard Volume Units
(SAB pp. 543–544)**

Questions 1–10

1. **A.** 2 cups
B. 4 cups
C. 16 cups
2. **A.** 2 pints
B. 8 pints
3. **A.** 4 quarts
- 4.*

Converting Standard Volume Units

	cup	pint	quart	gallon
number of cups in a	1	2	4	16
number of pints in a		1	2	8
number of quarts in a			1	4
number of gallons in a				1

- 5.* 4 cups
- 6.* 8 pints
7. **A.*** 12 quarts
B.* Possible response: There are 4 quarts in one gallon so I multiplied
 $4 \text{ quarts} \times 3 \text{ gallons} = 12 \text{ quarts.}$
8. **A.*** 20 cups
B.* Possible response: There are 4 cups in each quart so I added 4 cups + 4 cups + 4 cups + 4 cups + 4 cups = 20 cups.
9. Possible response: I do not agree with Sara. A quart will hold only 4 cups. Sara will have to use a 2-quart pitcher for her lemonade.
10. Possible response: No, Sam will not fill the gallon pitcher. He will have to add more. If you change all the containers to cups and add, you will have 7 cups, and a gallon holds 16 cups.
 $1 \text{ cup} + 1 \text{ pint} + 1 \text{ quart} = ?$
 $1 \text{ cup} + 2 \text{ cups} + 4 \text{ cups} = 7 \text{ cups}$

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Name _____ Date _____

Converting Standard Volume Units



1. Your smallest container is 1 cup. Use this container to answer the following questions.
A. How many cups are in a pint? _____
B. How many cups are in a quart? _____
C. How many cups are in a gallon? _____
2. Use your pint container to answer the following questions.
A. How many pints are in a quart? _____
B. How many pints are in a gallon? _____
3. Use your quart container. How many quarts are in a gallon? _____
4. Use your answers to Questions 1–3 to fill in the boxes that are not shaded in the table.

Converting Standard Volume Units

	cup	pint	quart	gallon
number of cups in a				
number of pints in a				
number of quarts in a				
number of gallons in a				

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Use the table to help you answer the following questions.

5. How many cups are in 2 pints? _____
6. How many pints are in 4 quarts? _____

Measuring Volume of Containers

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7. **A.** How many quarts are in 3 gallons? _____
B. Show or tell how you found your answer.
8. **A.** How many cups are in 5 quarts? _____
B. Write a number sentence to show how you found your answer.

✓ Check-In: Questions 9-10

9. Sara is making lemonade. Her recipe is for 8 cups of lemonade. She decided to use a quart pitcher. Do you agree with Sara? Why or why not?
10. Sam wanted to fill a gallon container with water using different containers. First he poured in 1 cup of water. Then he poured in 1 pint of water, and finally he added 1 quart of water. Did he fill the gallon container with water? Show or tell how you know.

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*Answers and/or discussion are included in the lesson.

Answer Key • Lesson 7: Measuring Volume of Containers

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Use what you have learned about converting U.S. customary units of volume to solve these problems.

2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon

1. Ms. Alfonso is making lemonade in a 5-gallon container for the class picnic. She is using a recipe that makes a 2-quart pitcher of lemonade. Fill in the table below to show how the volume of the lemonade changed each time Ms. Alfonso added a 2-quart pitcher to the 5-gallon container.

Volume of Lemonade

Number of Recipes	Quarts	Gallons
1	2	$\frac{1}{2}$
2		1
3	6	
4		2
5		$2\frac{1}{2}$
6	12	
7		
8		4
10		
12	24	

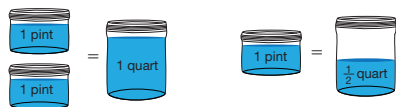
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2. Nisha drew a picture to show that there were 2 pints in a quart. She used her picture to show Fern that there is $\frac{1}{2}$ of a quart in 1 pint. Use Nisha's strategy to show the number of gallons in 1 quart. Your answer will be a fraction.



3. Romesh was helping his mom in the kitchen. She asked him to measure 1 cup of sugar for a recipe. Romesh could find only a pint container. Show or tell how Romesh can use the pint container to measure 1 cup of sugar.

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Homework (SAB pp. 545–546) Questions 1–3

1.

Number of Recipes	Quarts	Gallons
1	2	$\frac{1}{2}$
2	4	1
3	6	$1\frac{1}{2}$
4	8	2
5	10	$2\frac{1}{2}$
6	12	3
7	14	$3\frac{1}{2}$
8	16	4
9	18	$4\frac{1}{2}$
10	20	5

2. Possible response: There will be $\frac{1}{4}$ of a gallon in one quart.
3. Possible response: Romesh can fill one half of the pint container, and that will be the same as 1 cup.

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