






Liquid Volume and Weight and Mass

Math Focus Points

- ◆ Understanding measures of liquid volume and weight and mass
- ◆ Estimating and measuring liquid volumes and weight and mass
- ◆ Solving story problems involving liquid volumes and weight and mass

Today's Plan	Materials
<p>1 <small>DISCUSSION</small> Liquid Volume and Weight and Mass</p> <p> </p>	
<p>2 <small>ACTIVITY</small> Measurement Story Problems</p> <p> </p>	
<p>3 <small>MATH WORKSHOP</small> Liquid Volume and Weight and Mass</p> <p>3A More Measurement Story Problems 3B Measuring Weight and Mass 3C Measuring Liquid Volume</p> <p></p>	<p>3A • <i>Student Activity Book</i>, p. 41 or C68, Measurement Story Problems Make copies. (as needed)</p> <p>3B • Materials from Session 4A.2, p. CC77</p> <p>3C • Materials from Session 4A.1, p. CC73</p>
<p>4 <small>SESSION FOLLOW-UP</small> Daily Practice</p>	<p>• <i>Student Activity Book</i>, p. 42 or C69, Liquid Volume and Weight and Mass Make copies. (as needed)</p>

Ten-Minute Math

Practicing Place Value Write 246 on the board and have students practice saying it to a partner. Ask students:

- What would 246 look like written in expanded form?
- What if we wanted to round 246 to the nearest ten? To the nearest hundred?
- How many groups of 10 are in 246? (24). How many 1s would be left? (6)
- If I wanted to break up 246 so that there were some 10s and 16 1s, how many 10s would there be? (23)
- What if I wanted 26 1s? (22)
- What if I wanted 20 10s? How many ones would there be? (46) Does anyone notice a pattern?

If time remains, pose additional similar problems using these numbers: 207 and 191.

1

DISCUSSION



15 MIN



CLASS

Liquid Volume and Weight and Mass

Math Focus Points for Discussion

- ◆ Understanding measures of liquid volume and weight and mass

We've been talking about volume and weight and mass. Liquid volume is the amount of space a liquid takes up. What did you learn about liquid volume?

Students might say:

"Liquid volume can be measured in liters or milliliters."



"A milliliter is smaller than a liter. There are 1,000 milliliters in 1 liter."



"A measuring cylinder can be used to measure liquid volume."

Ask students to suggest objects whose liquid volume they would measure in milliliters. Then do the same for liters.

What did you learn about weight and mass?**Students might say:**

"You can use grams or kilograms to measure weight."



"There are 1,000 grams in 1 kilogram. Kilograms are bigger."



"You can use a pan balance to measure weight."

Ask students to suggest objects whose weight and mass they would measure in grams. Then do the same for kilograms.

2

ACTIVITY



15 MIN



CLASS

Measurement Story Problems

Write the following problem on the board and read it aloud.

Gil needs to buy 2,000 grams of ground beef, 200 grams of onions, and 800 grams of tomatoes. Find the total weight and mass of the three items.

Ask students to talk through the problem and discuss what it's asking. Then ask students to suggest an equation that represents the problem.

Write " $2,000 + 200 + 800 = \underline{\quad}$ " on the board and discuss students' strategies for solving it.

Be sure to include the units in your answer. Since the problem was about grams of ground beef, onions, and tomatoes, our answer is 3,000 grams.

Repeat the process with another story problem.

Dwayne has a jar with 200 milliliters of water in it. He then adds 365 milliliters of water to the jar. How many milliliters are in his jar in all?

Name _____ Date _____
Solids and Boxes

Measurement Story Problems

Solve each problem. Show your work. Be sure to include the units in your answer.

1. Bridget bought 2 cans of soup. Each can was marked 305 grams. How many grams of soup did she buy?
2. A baby elephant weighed 130 kilograms at the start of May. At the end of May, it weighed 182 kilograms. How many kilograms did the elephant gain during May?
3. Kim bought 950 milliliters of orange juice and 600 milliliters of pineapple juice. How many milliliters of juice did she buy?
4. A bakery had 4 bins of flour. There were 6 kilograms of flour in each bin. How much flour did the bakery have?

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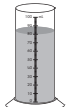
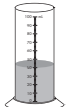
▲ Student Activity Book, Unit 9, p. 41; Resource Masters, C68

Name _____ Date _____
Solids and Boxes Daily Practice



Liquid Volume and Weight and Mass

Write the volume of liquid in each measuring cylinder shown.



NOTE: Students find the liquid volume of measuring cylinders and choose appropriate units of liquid volume and weight and mass.

1. 
2. 

Tell what unit of liquid volume you would use to measure the liquid in each container. Write *milliliter* or *liter*.

3. Pitcher 
4. Cup 

Tell what unit of weight and mass you would use to measure each object. Write *gram* or *kilogram*.

5. Feather 
6. Car 

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▲ Student Activity Book, Unit 9, p. 42; Resource Masters, C69

3 MATH WORKSHOP

Liquid Volume and Weight and Mass

30 MIN

The Math Workshop activities in this session give students more time to work on measuring liquid volume and weight and mass and to solve measurement story problems.

3A More Measurement Story Problems

INDIVIDUALS

Students solve story problems on *Student Activity Book* page 41 or C68.

ONGOING ASSESSMENT: Observing Students at Work

Students solve story problems involving liquid volume and weight and mass.

- How do students solve the problems?
- Do students label their answers with the correct units?

3B Measuring Weight and Mass

GROUPS

For complete details about this activity, see Session 4A.2, page CC79.

3C Measuring Liquid Volume

GROUPS

For complete details about this activity, see Session 4A.1, page CC75.

4 SESSION FOLLOW-UP

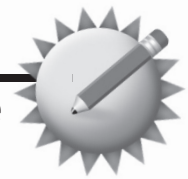
Daily Practice

Daily Practice: For reinforcement of this unit's content, have students complete *Student Activity Book* page 42 or C69.

Measurement Story Problems

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- 4.** A bakery had 4 bins of flour. There were 6 kilograms of flour in each bin. How much flour did the bakery have?

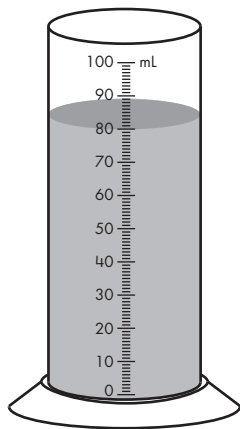


Liquid Volume and Weight and Mass

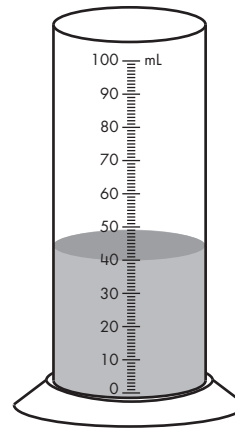
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