LESSON MAKER PRO

Measure It Right

Use real tools to find weight and capacity.

GRADE 3 · TEKS 3.7.E

3.7.E "determine liquid volume (capacity) or weight using appropriate units and tools."

NAME _____ DATE _____

Work with a partner at a prepared station. Take turns using each tool. Record a number AND a unit for every measurement. Ask for help if a reading is between marks or water spills.

Materials and setup

Per pair: digital kitchen scale that reads whole grams; clear measuring cup of at least 250 mL with labeled mL marks including 100, 150, and 250; water, tray, towel, pencil, eraser, two small plastic cups A and B (each under 200 mL), and an empty bottle holding at least 200 mL.

Teacher: check that objects register on the scale. Set tools on a level surface. Put water work over the tray away from the scale. Demonstrate the units and readings; no extra data sheet is needed.

Choose a tool, then read it

A scale in grams (g) measures weight. A graduated measuring cup in milliliters (mL) measures liquid volume. Capacity is how much a container holds when full. Keep the scale at zero before weighing; keep the measuring cup level and read at eye level.

Try it together

An example team weighs a book on a scale, then measures some water in a graduated cup. Read their recorded results.

Example team results

What they measured	Reading
Book on scale	250 g
Water in graduated cup	120 mL

250 g tells the weight of the book. 120 mL tells the volume of this water sample. These are example observations. Your own objects and water samples may have different measurements.

1. Weigh two objects

Choose the scale and set its unit to grams (g). With the empty platform at zero, weigh a pencil, then an eraser separately. Record each reading in the table with g. Tell why a measuring cup would not measure their weight.

Record your observations

Object or trial	Weight (g)
Pencil	
Eraser	

2. Measure two pours

Choose the marked measuring cup. Pour some water below its 250 mL mark. Set it level; look at the water surface at eye level. Record the reading to the nearest marked line. Add a little more water, staying below 250 mL, and record the new reading.

Record your observations

Object or trial	Volume (mL)
First pour	
After adding water	

3. Make a target volume

Empty the measuring cup. Pour water and adjust it until the bottom of the curved water surface meets the 100 mL mark at eye level. Have your partner check. Record the volume and the tool you used.

4. Find a cup's capacity

Fill plastic cup A to the brim over the tray. Carefully pour all its water into the empty measuring cup without losing any. Record its capacity to the nearest marked line. Empty it and repeat for cup B.

Record your observations

Object or trial	Capacity (mL)
Cup A	
Cup B	

5. Prepare a water sample

A class needs 150 mL of water. Use the marked measuring cup to prepare that amount, then pour it into the empty bottle. Name the tool and unit you chose, and explain how you checked the amount before pouring.

6. Weigh a supply kit

A kit contains your pencil and eraser. Predict its weight by adding your two recorded weights. Then weigh both together on the zeroed scale. Write the predicted and measured weights in g. Explain any small difference.

7. Choose, measure, and verify

Choose cup A or B. Find its capacity again using the measuring cup. Weigh the same cup EMPTY and dry on the scale. Record both results, naming each tool and unit. Explain why the two numbers answer different questions.

Measure It Right

Teacher notes

This is a hands-on investigation. Prepare each station with the listed tools before students start; students must physically measure, not copy the worked example. Use cups small enough that a full cup fits in the measuring tool. Demonstrate zeroing the scale and reading the bottom of the water surface at eye level. Judge results against observed readings, allowing one marked interval for approximate readings. Targets 100 mL and 150 mL must be physically checked. Keep the scale dry and wipe empty cups before weighing.

Task 1

Actual weights vary. Each row must match the scale reading in g. A measuring cup measures liquid volume, not the objects' weight.

Task 2

Readings vary; both must match observed liquid levels in mL to the nearest marked line. The actual volume increases; rounded readings may stay equal if the change is smaller than one marked interval.

Task 3

100 mL, checked on the marked measuring cup. Verify the physical water level rather than accepting the written target alone.

Task 4

Capacities vary with the cups. Both recorded mL values must agree with the transferred water levels. Repeat if water spills.

Task 5

Marked measuring cup; 150 mL. The cup sits level and the bottom of the water surface meets the 150 mL mark at eye level.

Check the actual tool use and recorded observation. An unsupported fixed example is not a measurement.

Task 6

Prediction is the student's pencil weight plus eraser weight. Measured total must match the scale in g. Small differences may result from rounding; a large difference calls for re-zeroing and remeasuring.

Check the actual tool use and recorded observation. An unsupported fixed example is not a measurement.

Task 7

Actual results vary: capacity is the water it holds in mL, measured with a graduated cup; empty weight is in g, measured with a scale. Require both physical measurements and the two distinct meanings.