

Measure Real Things

Estimate, measure and compare with real tools.

GRADE 2 • 2.MG.1

2.MG.1 “The student will reason mathematically using standard units (U.S. Customary) with appropriate tools to estimate, measure, and compare objects by length, weight, and liquid volume to the nearest whole unit. Explain the purpose of various measurement tools and how to use them appropriately by: identifying a ruler as an instrument to measure length; identifying different types of scales as instruments to measure weight; and identifying different types of measuring cups as instruments to measure liquid volume. Use U.S. Customary units to estimate, measure, and compare the two for reasonableness: the length of an object to the nearest inch, using a ruler; the weight of an object to the nearest pound, using a scale; and the liquid volume of a container to the nearest cup, using a measuring cup.”

NAME _____

DATE _____

Before each new kind of measurement, choose the right tool. Tell its name and what it measures. Guess first, then measure. Write numbers or short answers; explain aloud.

Materials and setup

Teacher: supply inch rulers, two straight strips under 12 inches, a pound scale and two sealed bags weighing 1–5 pounds. Label each pair A and B.

Supply a jug marked in U.S. cups, a tray and two containers with 1–4 cups of water, labeled A and B. Choose values away from halfway points that round to different whole numbers.

Read aloud as needed. Help zero the empty scale and pour water. Read the level jug at eye level. Measure real objects, not this page.

Estimate first. Then measure.

Estimate means make a careful guess. Then measure to the nearest whole unit.

Try it together

Watch your teacher measure a practice strip from 0 to the nearest inch.

Example only

What was recorded	Inches
Estimate	4
Measured length	5

The estimate was 4 inches. The ruler showed about 5 inches: 1 inch more. Your strip may be different. Use your ruler.

1. Estimate two lengths

Look at strips A and B. Guess each length in inches before using the ruler. Write your estimates.

Estimate two lengths record

What to record	Record your result
Strip A: estimate in inches	
Strip B: estimate in inches	

2. Measure and compare lengths

Line up each strip with 0 on the inch ruler. Write its length to the nearest inch. On the line, write A or B to name the longer strip.

Measure and compare lengths record

What to record	Record your result
Strip A: measured inches	
Strip B: measured inches	

3. Estimate and measure weight

Guess each bag's weight in pounds. Write both guesses first. Then use the scale to weigh each bag to the nearest pound.

Estimate and measure weight record

What to record	Record your result
Bag A: estimate in pounds	
Bag B: estimate in pounds	
Bag A: measured pounds	
Bag B: measured pounds	

4. Compare weights

Use your measured weights. Which bag is heavier: A or B? Write its letter. Tell your partner how the numbers help you know.

5. Estimate and measure water

Guess how many cups of water are in A and B. Write both guesses first. With help, pour each amount into the measuring jug. Record the nearest whole cup.

Estimate and measure water record

What to record	Record your result
Water A: estimate in cups	
Water B: estimate in cups	
Water A: measured cups	
Water B: measured cups	

6. Compare amounts

Which container held more water: A or B? Write its letter. Tell your partner how your measured numbers prove it.

7. Check an estimate

Choose one item you measured. Write its name, your estimate and your measurement. Tell your partner whether your estimate was more than, less than or equal to the measurement.

Check an estimate record

What to record	Record your result
Item name	
My estimate, with unit	
My measurement, with unit	

Teacher notes

Before each measurement type, check the chosen tool, its name and purpose: inch ruler for length, pound scale for weight, measuring jug or cup for liquid volume. Follow the supplied setup; read aloud and model nearest units. Check estimates were made first and judge measurements against the real objects. The example is illustrative; printed drawings are not measured. Students explain comparisons orally. Task 7 uses earlier records.

Task 1

Estimates vary. Check that both are plausible whole-inch guesses recorded before measuring.

Task 2

Check each measurement against the physical ruler, with one end at 0. The longer strip has the greater measured length.

Task 3

Estimates vary. Check a zeroed empty scale, pound units and measured values against the actual bags.

Task 4

The bag with the greater measured weight is heavier. Accept the matching letter and an oral numerical comparison.

Task 5

Estimates vary. Measure each container separately in the empty jug, placed level and read at eye level. Check the nearest whole U.S. cup.

Compare each jug reading with its two neighboring whole-cup marks.

Task 6

The container with the greater measured number of cups held more. Judge the letter and oral explanation against the actual results.

Compare the two recorded whole-cup measurements.

Task 7

Accept any recorded item with its original estimate and checked measurement. The oral comparison must match those numbers.