

# Grade 2 • Unit 3 • Assessment Guide

## Measuring Length

For the Parent or Teacher — What to look for

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Unit 3 builds the core idea that measurement is iterating equal units from 0. Watch for whether the student understands a ruler as marking lengths from 0, not just numbered ticks.

### Problem 1 — Read pencil length

- Pencil shown going from 0 to 5 inches. Answer: 5 inches.
- Strong: straight answer.
- Weak: confused by tick marks, says 6 (counting tick marks) or 4 (off-by-one).

### Problem 2 — Torn-tape crayon (2 to 9)

- Answer: 7 inches. This is the KEY diagnostic — does the student understand a measurement is a length (a difference), not just "where the object ends"?
- Strong: answers 7 and explains  $9-2=7$  OR "I counted from 2 to 9: that's 7 jumps."
- Weak: says 9 inches (thinks measurement = ending number) OR doesn't see why this matters.

### Problem 3 — Choose a unit

- (a) cm or in — paperclip (small)
- (b) m or ft — soccer field (large)
- (c) ft or m — doorway
- (d) cm or in — pinky finger
- (e) ft or m — school bus
- Strong: chooses appropriately and could explain why.
- Weak: picks the same unit for every item, OR picks cm for huge things / m for tiny things.

### Problem 4 — Why same desk is both 5 ft and 60 in

- Strong answer: "Inches are smaller, so you need more of them. 12 inches makes 1 foot, so 5 feet  $\times$  12 = 60 inches."
- Weak: "different rulers" (true but vague), or "they're the same" (misses the unit relationship).

### Problem 5 — Bigger Unknown Compare (47 + 28)

- Answer: 75 cm.
- Watch: does the student recognize this as a Compare problem? Look for a tape diagram.

### Problem 6 — Two-step (100 – 35 – 22)

- Answer: 43 cm.
- Look for two-step work. Some students stop after one step (giving 65 or 78).

### Problem 7 — Line plot

- Tallies: 3 fours, 3 fives, 3 sixes, 1 seven. Most common: 4, 5, or 6 (tie).
- Check that they put one X (or dot) per data point above the correct number on the line.
- Common error: writes the number at each tick instead of stacking X's, OR uses bars (confusing line plot with bar graph).

### Problem 8 — Han's measurement error

- Han measured from 3 to 13 and said the book is 10 inches. He's actually CORRECT ( $13-3=10$ ). This is a trick — most students will assume he's wrong because he didn't start at 0.
- Strong: "Yes — even though he didn't start at 0, the distance from 3 to 13 is 10, so the book IS 10 inches." Sophisticated reasoning.
- Less strong but acceptable: "No, he should start at 0" — shows they know the convention but haven't yet generalized that measurement = difference.
- This is the deepest question on the worksheet.

### Problem 9 — Why different units?

- Strong: "You'd need huge numbers in inches for a room — like 200 inches. Feet are easier to picture."
- Weak: "because rooms are bigger" without saying anything about scale or usability.

### Problem 10 — Estimate and measure shoe

- Real diagnostic: did they actually estimate first or peek at the ruler?
- Strong: reflects on what helped them estimate ("I know my pinky is about 2 inches").
- Estimate within 1-2 inches of measurement = solid number sense.

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