

Grade 2 • Unit 1 • Assessment Guide

Adding, Subtracting, and Working with Data

For the Parent or Teacher — What to look for

This guide is for the adult assessing the worksheet. For each question, look for evidence of the underlying principle, not just a correct numerical answer. A student can be right for the wrong reason and wrong for the right reason — both matter.

Part A — Quick Facts (8 facts)

- Watch HOW they got the answer, not whether they got it right. Three modes to look for:
- Recalled (no scribbles): fact is fluent. ✓
- Made a ten (e.g., $7+5 \rightarrow 7+3+2 \rightarrow 10+2$): this is the Unit 1 target strategy. ★ Strong signal of understanding.
- Counted on fingers / by ones: still in grade 1 strategy. Needs more practice with make-a-ten.
- Note any errors on subtraction across 10 (e.g., $13-6$) — this is exactly what the unit aims to build fluency for.

Problem 1 — Find $8 + 6$ two different ways

- THIS is the most diagnostic single question of Part B.
- Strong: TWO genuinely different strategies (e.g., make-a-ten $8+2+4$ AND doubles $7+7$).
- Weak: same strategy twice; one blank; just writes 14 twice.
- Flexibility is the signal — one-trick students cannot answer this honestly.

Problem 2 — Addition/subtraction relationship

- Numerical blanks correct? Necessary but not sufficient.
- The explanation is what matters: look for the idea that subtraction is finding a missing part / + and – are inverse operations.
- Weak answer: "you just do it backwards" with no reasoning about parts/wholes.
- Strong answer: any version of "if I know the whole and one part, I know the other part."

Problem 3 — Picture graph (a, b, c, d)

- (a) Pure reading — 3. Anyone gets this.
- (b) Comparison — should be $8-6=2$. WATCH HOW: did they subtract, or count up on the graph?
- (c) Combine — $8+5=13$.
- (d) THE diagnostic — graph totals 22 students. If they answer "yes" without checking, they don't see data as representing a total. The strong answer is "No, only 22 answered; 3 didn't."

Problem 4 — Build a bar graph + write 2 questions

- Check: bar heights match data (4, 7, 2, 5); y-axis numbered; categories labeled; title given.
- The student-written questions are a huge tell. Are they ANSWERABLE from the graph?
- Strong: "How many more dogs than cats?" / "Which pet is least common?"
- Weak: "How many pets does Marco have?" (not visible) / "What's your favorite pet?" (not in the data).

Problems 5, 6, 7 — The three Compare types (KEY section)

- These cover the three Compare structures of Unit 1.

- Problem 5 (Difference Unknown): $27-14=13$. Most kids get this.
- Problem 6 (Bigger Unknown): $18+9=27$. "More" → add works here; keyword matchers also get it right.
- Problem 7 (Smaller Unknown): $32-15=17$. THE critical question. A keyword matcher subtracts because they see "fewer" → right answer for wrong reason.
- The real test: did they DRAW a tape diagram? A student who draws matching tape diagrams across all three is reasoning structurally, not pattern-matching.

Problem 8 — Circle ALL equations that work

- The single most diagnostic question on the worksheet.
- Correct equations: (a), (b), (d). (c) is wrong.
- Only circled (a): keyword matcher.
- Circled (a), (b), and (d): genuine understanding of the part-part-whole structure.
- Circled (c): they're using both numbers without reasoning about meaning.
- Their explanation of why a non-circled equation doesn't work should mention that the structure of the situation doesn't match.

Problem 9 — Error analysis (Maya)

- Maya is wrong (right answer: $13-8=5$).
- Identifying it as wrong is easy. The DIAGNOSTIC is the explanation.
- Strong: reasons about reasonableness — "Andre has FEWER, so the answer should be less than 13, not more."
- Weak: "she should subtract" without saying why.

Problem 10 — Write your own story from a tape diagram

- Diagram shows 23 total = $15 + ?$.
- Strong: a coherent Compare or Put-Together story matching the structure (e.g., "Mia picked 23 apples in all. She picked 15 in the morning. How many in the afternoon?")
- Weak: numbers don't match; not actually a story; just writes " $23 - 15$ ".
- This is the inverse direction — from representation back to situation — the deepest test of understanding.

— end —