

Science Answer Key: Weeks 17–20

Answers for objective items. For open items, look for the listed points. Accept reasonable answers that show the idea.

Week 17: Comparing Solutions

Part A: Answers depend on the child's designs. Look for: a name and material for each; one real difference (shape, size, material).

Part B: Check: the same 8 crayons, the same book for the tilt, the same table. No check: the same design (the design is the one thing that changes).

Part C: Answers depend on the child's tests. Look for: a number or yes/no in every box; the better result circled (more crayons that fit, fewer that fell out, yes for fits, fewer loose pieces).

1–2. Look for: each design gets a strength that matches the table.

3. Look for: names A or B; says how many rows it won or points to a number from the table.

Scoring: Developing / Approaching / Proficient / Exemplary. *Proficient: fills the comparison table, marks a fair test correctly, and recommends a design using a number from the data.*

Week 18: Engineering Design Review

Part A order: Ask 1, Imagine 2, Plan 3, Create 4, Improve 5.

Part A meaning: Plan: e. Ask: c. Improve: b. Imagine: a. Create: d.

Part B: Answers depend on the child's project. Look for: Ask names the crayon problem; Imagine lists sketches or ideas; Plan names the chosen sketch or materials; Create tells about building and testing; Improve tells a change, such as Design C.

1. Look for: names a step; gives a sensible result, such as skipping Plan means wasted materials, or skipping Improve means the problems stay.

Scoring: Developing / Approaching / Proficient / Exemplary. *Proficient: orders and matches all five steps and describes at least four steps with real details from the project.*

Week 19: Earth's Land & Water

Part A: Answers depend on the toss. Expect about 14 water and 6 land out of 20.

1. water.

Part B: Land: mountain, hill, plain, island, valley. Water: river, lake, ocean, pond.

Part C: Look for: mountain, river, and lake labeled; arrows pointing from the mountain down to the lake.

2. downhill (down); low.

Scoring: Developing / Approaching / Proficient / Exemplary. *Proficient: records the tally, sorts all nine features correctly, and shows water flowing downhill in the drawing.*

Week 20: Weathering & Erosion

Part A: Look for: cubes with sharp corners before; rounder, smaller pieces and crumbs after 3 shakes.

Part B: river carving a canyon: Slow. landslide: Fast. rock getting smooth: Slow. flood washing away a road: Fast.

Part C: Prediction: any answer. What happened: usually the bare side lost more sand.

1. Look for: breaking rock into smaller pieces.

2. Look for: wind or water moving the small pieces to a new place.

3. Look for: roots and leaves hold soil in place or slow the water.

Scoring: Developing / Approaching / Proficient / Exemplary. *Proficient: sorts all four changes correctly, records the hill test, and tells the difference between weathering and erosion.*

Weeks 17–20: Vocabulary and Big Ideas

Fill in the blank: 1. engineer 2. fair test 3. compare 4. improve 5. ocean 6. river 7. weathering 8. erosion. (Not used: design, mountain.)

9. Look for: only one thing changed (bare or covered); keeping the rest the same makes the test fair; so we know what made the difference.

Scoring: Developing / Approaching / Proficient / Exemplary. *Proficient: gets at least 7 of 8 blanks and explains that a fair test changes only one thing.*

Weeks 17–20: My Reflection

No right or wrong answers. Look for: honest checks; a drawing tied to one of the four weeks; two sentences that name what was learned.

Scoring: Developing / Approaching / Proficient / Exemplary. *Proficient: the drawing and sentences name a real idea from these weeks, such as a design test, a land or water feature, or erosion.*