

Seed Clue Detectives

Use observations and data to make careful science ideas.

2.1.d “constructing and critiquing conclusions and explanations make simple conclusions based on data or observations distinguish between opinion and evidence recognize unusual or unexpected results”

NAME _____ DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline data or observations in the passage and table. Circle a statement that goes beyond what this test shows, then write a small 1 by the result that is most different from the others.

Bean Seed Test

- ① In science club, five groups of ten bean seeds were placed in wet paper towels. Each group had the same kind of seed and the same amount of water. Four groups sat in different places. One warm group used a cup that had held soapy water. After five days, students counted the sprouts.

BEAN SEED SPROUTS AFTER FIVE DAYS

Place	Cup Used	Sprouts
Sunny table	Clean cup	8
Dark cabinet	Clean cup	7
Warm windowsill	Clean cup	9
Cool room	Clean cup	8
Warm shelf	Cup that held soapy water	0

- ② Niko pointed to the nine sprouts on the warm windowsill. He said, “Warmth may help bean seeds sprout.” Ava said, “The sunny table is the best place for every kind of plant.” The class could check Niko's idea by testing more bean seeds. Ava's words reached beyond this small test.
- ③ The group in the soapy-water cup had zero sprouts. Every other group had seven, eight, or nine sprouts. The cup may have had soap left inside, but the test did not prove that. The students could use clean and soapy cups again, with the same seeds and water, to find out.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What is one careful conclusion you can make from the sprout counts?

2 Which statement is an opinion that goes beyond the test? Explain why.

3 Which result is most different from the other results? What could the students test next to learn more?

3 YOUR TURN _____ Your own words

Plan a fair test of two paper towels that get the same amount of water. Write two observations you could record, one careful conclusion, and one result that would be unusual and need another test.

PART 1 • READ AND MARK

Underline data or observations in the passage and table. Circle a statement that goes beyond what this test shows, then write a small 1 by the result that is most different from the others. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What is one careful conclusion you can make from the sprout counts?	In this test, the warm windowsill group had the most sprouts, with 9.
2	Which statement is an opinion that goes beyond the test? Explain why.	Ava's statement is the opinion. The test used bean seeds, not every kind of plant, and it did not show which place is best for all plants.
3	Which result is most different from the other results? What could the students test next to learn more?	The soapy-water cup had 0 sprouts, while the other groups had 7 to 9. Students could test clean and soapy cups again with the same seeds and water.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Towel A stayed wet for 30 seconds. Towel B stayed wet for 10 seconds. In this test, Towel A held water longer. If Towel A stayed wet for only 5 seconds in a second trial, that result would need another test.

Accept careful conclusions that stay limited to the test data. For the open task, accept any fair comparison with two observable results, a conclusion supported by those results, and a clearly different result that calls for more testing.