

Evidence in the Leaves

Use data to support and critique a scientific conclusion.

5.1.d.i “constructing and critiquing conclusions and explanations construct and/or support arguments with evidence, data, and/or a model”

NAME _____ DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline Maya's conclusion in paragraph 3, then circle the two table values that best support it to connect her claim with evidence.

Maya Tests Light

- ① Maya investigated how light affects young radish plants. She put 12 radish seeds in each of two boxes with the same soil. Both boxes received the same amount of water each day. One box stood near a sunny window, and the other stayed in a dark closet. After ten days, Maya counted the sprouts and examined their leaves.
- ② Maya recorded her results in the table. The window box had 11 sprouts, and 10 of those sprouts had green leaves. The closet box had 10 sprouts, but only 1 sprout had green leaves. The closet sprouts had long, pale stems. Maya used these observations as evidence when she wrote her explanation.

MAYA'S RESULTS AFTER 10 DAYS

Box location	Seeds planted	Sprouts	Sprouts with green leaves
Sunny window	12	11	10
Dark closet	12	10	1

- ③ Maya concluded, “Light helped the radish seedlings grow green leaves. My results do not show that light caused more seeds to sprout, because the two boxes had nearly the same number of sprouts.” Her conclusion uses the leaf data. However, she changed two things at once: light and location. The window and closet may have had different temperatures.

2 ANSWER WITH EVIDENCE Use the passage

1 What is Maya's main conclusion about light? Write it in your own words.

2 Which two table values are the strongest evidence for Maya's conclusion about green leaves?

3 A classmate says that light caused more seeds to sprout. Does the sprout data support this claim? Explain using the table.

4 What part of Maya's investigation could make her conclusion about light less certain?

3 YOUR TURN Your own words

A student puts 200 mL of water into each of two identical cups of soil. One cup has mulch covering the soil, and one cup has bare soil. Both cups stay in the same place. After three days, 160 mL remains in the mulched cup and 120 mL remains in the bare cup. Write a two-sentence argument: state a conclusion, then use both data values as evidence.

PART 1 • READ AND MARK

Underline Maya's conclusion in paragraph 3, then circle the two table values that best support it to connect her claim with evidence. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What is Maya's main conclusion about light? Write it in your own words.	Light helped the radish seedlings grow green leaves.
2	Which two table values are the strongest evidence for Maya's conclusion about green leaves?	10 sprouts with green leaves in the window box and 1 sprout with green leaves in the closet box.
3	A classmate says that light caused more seeds to sprout. Does the sprout data support this claim? Explain using the table.	No. The window box had 11 sprouts and the closet box had 10 sprouts, so the numbers were nearly the same.
4	What part of Maya's investigation could make her conclusion about light less certain?	She changed both the light and the location. The window and closet may have had different temperatures.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Mulch reduced water evaporation from the soil in this test. The mulched cup had 160 mL left, while the bare cup had 120 mL left, so the mulched cup lost less water.

Accept conclusions that mulch helped the soil keep water, if they cite both remaining-water values or correctly compare water lost. For the critique question, accept that location may have changed temperature or another condition besides light.