Evidence in the Garden

Use scientific explanations and data to make and evaluate a claim.

6.3.C "engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each claim, circle each measured result, and write a number beside each respectful challenge or reply so you can trace how evidence shapes the argument.

Should the Garden Use Wood Chips?

1 At Riverbend Middle School, students debated whether the courtyard garden should receive a layer of wood chips. Maya claimed that wood chips would help the garden use less water. She explained that mulch covers soil, slowing evaporation when sunlight warms the ground. Her claim was not based only on the explanation. During two dry weeks, the garden team measured how much water two similar beds needed. One bed had wood chips, and one bed had bare soil. The team recorded each watering in liters.

2 Results supported Maya's claim. The mulched bed received 18 liters of water, while the bare-soil bed received 30 liters. Luis disagreed with deciding too quickly. He said, "I see that the mulched bed needed less water, but we should test more than two weeks. Rainfall, temperature, or soil type might affect the results." Maya replied, "That is a useful concern. Our measurements show a difference, yet they do not prove wood chips will work the same way in every season." The group agreed that evidence can support a claim while still having limits.

3 After the meeting, the team planned a fairer investigation. They would use four garden beds with the same plants and similar amounts of sunlight. Two beds would receive wood chips, and two would remain bare. For six weeks, students would measure every liter added to each bed and record weekly rainfall. Maya revised her argument: "Based on our first measurements and the science of evaporation, I think wood chips may reduce watering. We need repeated tests before recommending them for every garden." Luis supported this plan because it addressed his concern with more evidence.

2 ANSWER WITH EVIDENCE

Use the passage

1. What is Maya's claim, and what scientific explanation does she use to support it?

2. What measured evidence supports Maya's claim? Include both water amounts.

3. What concern does Luis raise about using the first results to make a decision?

4. How does Maya respond respectfully to Luis, and what limit does she admit about the evidence?

3 YOUR TURN

Your own words

A class tests whether shade cloth changes how much water plants need. In one week, shaded pots use 12 liters and unshaded pots use 20 liters. Write exactly three sentences: state a claim, support it with a scientific explanation and both data values, then respectfully name one limitation or next test.

ANSWER KEY

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GRADE 6 · TEKS 6.3.C

PART 1 · READ AND MARK

Underline each claim, circle each measured result, and write a number beside each respectful challenge or reply so you can trace how evidence shapes the argument. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What is Maya's claim, and what scientific explanation does she use to support it?	**Maya claims that wood chips will help the garden use less water. She explains that mulch covers soil and slows evaporation.**
2	What measured evidence supports Maya's claim? Include both water amounts.	**The bed with wood chips received 18 liters of water, while the bare-soil bed received 30 liters.**
3	What concern does Luis raise about using the first results to make a decision?	**He says two weeks of testing are not enough because rainfall, temperature, or soil type could affect the results.**
4	How does Maya respond respectfully to Luis, and what limit does she admit about the evidence?	**She says his concern is useful. She admits that the measurements show a difference but do not prove wood chips will work the same way in every season.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Based on the week's data, shade cloth may reduce the amount of water plants need. Shade can keep soil cooler and slow evaporation, and shaded pots used 12 liters compared with 20 liters for unshaded pots. This is a useful result, but we should repeat the test with more pots and different weather before making a final decision.

Accept equivalent claims that use the passage's evidence and explanation accurately. For the open response, require exactly three sentences, both data values, a reasonable evaporation-based explanation, and a respectful limitation or next step.