

Water Makes a Difference

Use plant observations as evidence about traits and environment.

3-LS3-2 "Use evidence to support the explanation that traits can be influenced by the environment. Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each observation that shows a difference in the bean plants' traits. Circle each phrase that tells about the amount of water, then use your marks as evidence.

The Bean Plant Test

- ① In the school garden, two groups of bean plants came from seeds of the same kind. Ms. Lee planted them in similar soil and gave them the same amount of sunlight. One group received water every day. The other group received only a small cup of water once a week. After four weeks, the daily-water plants were taller and had more leaves.
- ② The weekly-water plants were shorter and had fewer leaves. Their stems also bent more easily. Water is part of a plant's environment, or the conditions around it. The plants began with the same kind of seeds, so the different water amounts were an important difference. The class used their measurements of height and leaf number as evidence when they compared the groups.
- ③ A trait is a feature of a living thing, such as a plant's height or number of leaves. The results do not mean water changes the kind of seed. Instead, they show that an environmental condition can influence how a trait develops. A plant with too little water may not grow as tall or make as many leaves as it could with enough water.

2 ANSWER WITH EVIDENCE Use the passage

1 What environmental condition was different for the two groups of bean plants?

2 What are two observations that show a difference in the plants' traits?

3 Why did it matter that the plants had similar soil and sunlight and came from the same kind of seeds?

4 Use one observation from the test to explain how water influenced a bean plant trait.

3 YOUR TURN Your own words

Write a three-sentence evidence explanation about the bean plant test. State a claim about water and plant traits, give two comparison observations, and explain why the water amounts support your claim.

PART 1 • READ AND MARK

Underline each observation that shows a difference in the bean plants' traits. Circle each phrase that tells about the amount of water, then use your marks as evidence. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What environmental condition was different for the two groups of bean plants?	The groups received different amounts of water. One was watered daily, and one received a small cup once a week.
2	What are two observations that show a difference in the plants' traits?	The daily-water plants were taller and had more leaves. The weekly-water plants were shorter and had fewer leaves.
3	Why did it matter that the plants had similar soil and sunlight and came from the same kind of seeds?	These similarities made the amount of water the important difference between the groups.
4	Use one observation from the test to explain how water influenced a bean plant trait.	Water influenced plant height or leaf number. For example, plants watered every day were taller and had more leaves than plants watered once a week.

PART 3 • YOUR TURN (SAMPLE ANSWER)

The amount of water influenced the bean plants' traits. After four weeks, the daily-water plants were taller and had more leaves, while the weekly-water plants were shorter and had fewer leaves. Because the groups had similar soil and sunlight and began with the same kind of seeds, the different water amounts support this explanation.

Accept explanations that claim water availability influenced plant height, leaf number, or both. Students should use at least two accurate observations from the passage and connect the different water amounts to the trait differences.