

Plant Power Clues

Trace how plant conditions cause changes.

2.5 · Recurring themes and concepts. The student uses recurring themes and concepts to make connections across disciplines. The student is expected to: identify and use patterns to describe phenomena or design solutions; investigate and predict cause-and-effect relationships in science; measure and describe the properties of objects in terms of size and quantity; examine the parts of a whole to define or model a system; identify forms of energy and properties of matter; describe the relationship between structure and function of objects, organisms, and systems; and describe how factors or conditions can cause objects, organisms, and systems to either change or stay the same.

Name _____ Date _____

Three Bean Plants: An Illustrative Scenario

Underline the sentences that describe the three imagined plant outcomes. Circle the conditions that differ. These are example outcomes, not observations made by your class.

This made-up classroom scenario helps us think about plant needs. Mia's class starts with three similar young bean plants in matching cups with equal soil. Roots take in water from soil. Stems support plants, and leaves catch light energy.

Plant A gets measured water and light. Plant B gets the same light but no added water. Plant C gets the same water as A but stays in darkness. In this imagined example, A grows green, B droops, and C becomes pale. Actual plants may change at different rates.

These outcomes illustrate how water and light can affect plants. Too little water can make a plant droop. Without light, new growth may be pale and the plant cannot keep making food using light energy. A real class would record what actually happened rather than copy these imagined results.

1. Respond

What two things did Plant A get that helped it stay green and grow?

2. Respond

In the imagined example, what missing condition helps explain Plant B drooping and Plant C becoming pale?

3. Respond

What job do the roots do? What job do the leaves do?

Your turn

Draw a bird feeder that can keep seeds dry when it rains. Label a roof, a cup for seeds, and a string.
Then write how the roof helps the feeder work.



1.

Plant A got water and light.

2.

B received no added water; C received no light. These are explanations for the example, not guaranteed results on a fixed day.

3.

Roots take in water from the soil. Leaves catch light energy.

Sample response

The roof keeps rain off the seeds. The cup holds the seeds, and the string lets the feeder hang from a branch.

What to accept

Accept answers that show a roof above the seed cup and labels for the roof, cup, and string. The written explanation should connect the roof's structure to keeping seeds dry in rain.