

Questions That Grow

Ask a testable question and predict a reasonable outcome.

3.1.a.i “asking questions and defining problems ask questions that can be investigated and predict reasonable outcomes”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline Jordan's investigable question, circle his prediction, and number two details that make his test fair. These marks show how a scientist plans an investigation.

Light and Bean Seedlings

- ① Jordan saw that one bean seedling leaned toward a sunny window. He wondered whether the amount of light changes how tall bean seedlings grow. This question can be investigated because Jordan can grow seedlings, give them different amounts of light, and measure their heights. He will use seedlings of the same kind and start them on the same day.
- ② Jordan plans three groups. Each group will get the same soil, pot size, water, and temperature. One group will get six hours of light each day, another will get three hours, and the last will get one hour. After two weeks, Jordan will measure each plant with a ruler and compare the group heights. Changing only light helps make the test fair.
- ③ Before he begins, Jordan makes a prediction. He predicts that seedlings getting six hours of light will be taller, on average, than seedlings getting one hour. This is a reasonable outcome because plants use light to make food. A prediction is not a final answer. Jordan must collect measurements before deciding whether his prediction matches what happened.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What question does Jordan investigate?

2 Why can Jordan investigate this question?

3 What does Jordan change, and name two things he keeps the same.

4 What outcome does Jordan predict?

3 YOUR TURN _____ Your own words

Write one question about something you can test. Then write a prediction that tells what you think will happen.

PART 1 • READ AND MARK

Underline Jordan's investigable question, circle his prediction, and number two details that make his test fair. These marks show how a scientist plans an investigation. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What question does Jordan investigate?	Jordan investigates whether the amount of light changes how tall bean seedlings grow.
2	Why can Jordan investigate this question?	He can grow seedlings with different amounts of light and measure their heights.
3	What does Jordan change, and name two things he keeps the same.	He changes the amount of light. He keeps the soil, pot size, water, temperature, kind of seedling, and starting day the same. Any two kept-the-same details are acceptable.
4	What outcome does Jordan predict?	He predicts that seedlings getting six hours of light will be taller, on average, than seedlings getting one hour.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Does the temperature of water change how fast an ice cube melts? I predict that an ice cube will melt faster in warmer water than in colder water.

Accept questions that can be tested by observing or measuring one change and an outcome. Accept predictions that state a reasonable expected result connected to the student's question.