

## SCIENCE GRADE 4

### A. Short Answer (SA) 2 points

Mean: 0.60

Standard: II.b.A.3

Strand: Content of Science

Content Standard: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environment

Benchmark: Know that living things have diverse forms, structures, functions, and habitats

3. Describe how roots are associated with the intake of water and soil nutrients and green leaves are associated with making food from sunlight (photosynthesis).

Most plants need both roots and leaves to survive.

Compare the role of roots to the role of leaves in plants.

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## B. Rubric

### Sample Student Response:

Roots collect water and nutrients from soil. Leaves use sunlight to make food for the plant.

Score	Description
2	The student demonstrates thorough understanding of the relevant scientific concepts and/or procedures. The student completes the task correctly, using scientifically sound procedures and provides clear and complete explanations and interpretations. The response may contain minor flaws that do not detract from the demonstration of thorough understanding.
1	The student demonstrates partial understanding of the relevant scientific concepts and/or procedures. The response includes some correct information, but indicates a lack of essential understanding of the scientific concepts and/or procedures. Explanations and/or interpretations are incomplete or only partially supported. The response may contain flaws that indicate misunderstanding of the task or of the scientific concepts and/or procedures.
0	The student demonstrates no understanding of the relevant scientific concepts and/or procedures. The response is incorrect or irrelevant to the skill or concept being measured, or no response is provided.

## C. Student Responses

### Score 2

<sup>44</sup> The role of root is to get under ground water the leaves make food.

<sup>44</sup> The root give the plants water and the leaves give them food and help the survive.

44

The roots of a plant dig for water for the plant to grow, the leaves gather sunlight to make food for the plant so the plant needs both of them to live.

Score 1

44

Roots drink the water. The water travels through the veins up the stem to the leaves.

44

You need the roots because without it the plant would not go. You also need the leaves because the plant makes food from the leaves.

44

Roots and leaves both get water for the plant.

44

The roots get water from the ground and pump it up to the leaves on the plants.

<sup>44</sup> The roots to plants help them get their soil into the plant. Now the leaves help the plant by storing its food and water in them. That's how some plants stay alive.

<sup>44</sup> The roots help the plant grow. The leaves store food for the plant.

<sup>44</sup> The role to the root is to keep the plant up.  
The role to the leaves is to make the plant look pretty.