



**Science Grade 5
Scoring Guide for
Released Item 12
Maria and Her Experiment
Fall 2007**

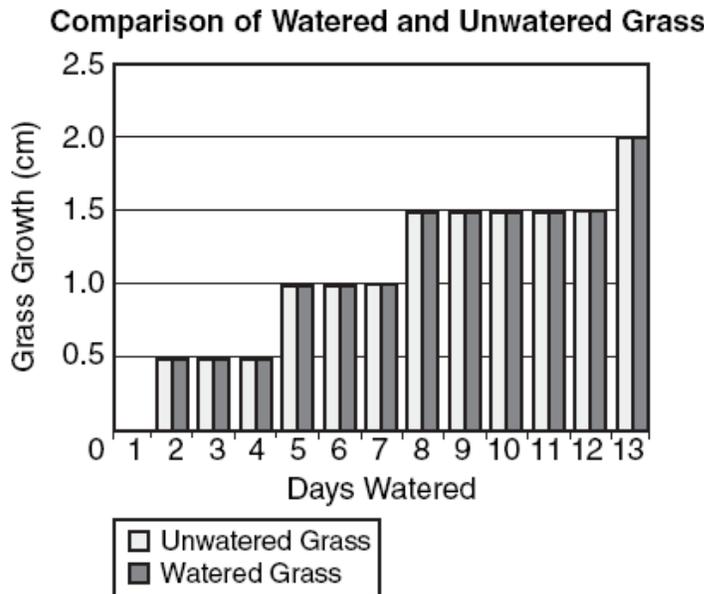


ANSWER THE FOLLOWING CONSTRUCTED-RESPONSE ITEM IN YOUR ANSWER DOCUMENT.

12 Constructed-Response (3 points)

Maria conducted an experiment to test the following prediction: "The grass will not grow in a certain area because the house is blocking the rain there. The grass needs more water to grow."

She divided the area into two sections. She watered one section for 10 minutes each night and left the other section dry. The graph below compares grass growth in the two areas.



- Was Maria’s prediction correct? Give evidence to support your answer.
- Based on the results of Maria’s experiment, what should she do next?

NOTHING WRITTEN IN THIS TEST BOOKLET WILL BE SCORED.

Science Rubric for Maria and Her Experiment

Sample Response:

Maria's prediction was incorrect.

The graph shows no difference in growth between the watered and un-watered grass.

OR

The graph shows the grass in the un-watered section did grow.

OR

The graph does not show the expected results.

Maria could repeat the investigation to verify the results.

OR

Maria could extend the investigation beyond 13 days to see if the effect occurs later.

OR

Maria could create a new hypothesis.

OR

Maria could change only one variable.

OR

Other statements to verify or further study Maria's hypothesis.

Scoring Guide:

- 3 The student states that Maria's prediction was incorrect.
AND
States that the graph shows no difference in growth between the watered and un-watered grass/ un-watered grass did grow.
AND
Provides an acceptable next step
- 2 The student does two of the following:
States that Maria's prediction was incorrect.
States that the graph shows no difference in growth between the watered and un-watered grass/ un-watered grass did grow.
Provides an acceptable next step.
- 1 The student does one of the following:
States that Maria's prediction was incorrect.
States that the graph shows no difference in growth between the watered and un-watered grass/ un-watered grass did grow.
Provides an acceptable next step.
- 0 The student fails to provide any correct information.

Anchor Paper 1 – Score Point 3

Maria's prediction was wrong. I know this because after day 2 when the plants first started to grow they were the same, so after every day the unwatered and the watered plants were the same height. Maria should see if grass growth is the same if half of the plants are in the dark and half of the plants are in the light.

**Anchor Paper 1
Score Point 3**

The student stated that Maria's prediction was incorrect because (...after every day the unwatered and the watered plants were the same height...). Based on the results of Maria's experiment, the student stated that she could create a new hypothesis (...see if grass growth is the same if half of the plants are in the dark and half of the plants are in the light.).

Anchor Paper 2 – Score Point 2

Marias prediction was wrong because the unwatered grass grew because she over watered the watered grass and the leftover water got to the unwatered grass and watered it.

**Anchor Paper 2
Score Point 2**

The student stated that Maria's prediction was (*wrong*). Since Maria's prediction was "The grass will not grow", the student's statement (...*the unwatered grass grew...*) is acceptable evidence to support the answer. No further step was provided.

Anchor Paper 3 – Score Point 1

Maria's prediction was incorrect

Anchor Paper 3
Score Point 1

The student correctly stated (*Maria's prediction was incorrect*). No evidence to support the answer was provided. No further step was provided.

Anchor Paper 4 – Score Point 0

It grows incertian spots because
some spots can be a bad spot to pick.

Anchor Paper 4
Score Point 0

No reference was made to Maria's experiment.