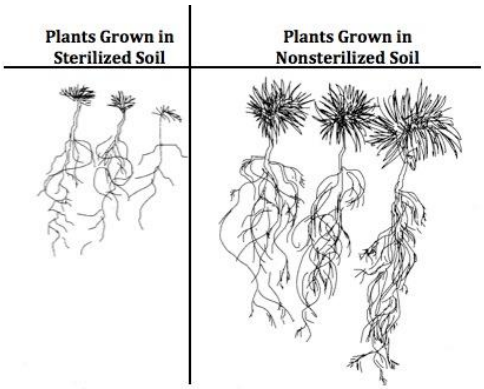
Name: _____

Date: _____

Graphing and Data Analysis Worksheet

Introduction: A mycorrhiza is a mutualistic relationship between fungal hyphae and the roots of true plants. The fungal hyphae increase the absorptive surface area of the roots of the plant by aiding in the absorption of water, phosphorus, and other mineral ions from the soil to the roots of the plant. The plant is photosynthetic and provides the fungus with carbohydrates.

An experiment was conducted to determine the effect of mycorrhizal associations on plant growth. Two groups of plants were grown. One group was planted in soil that had been sterilized. The other group was planted in the same type of soil, but the soil had not been sterilized. All other factors remained the same between the two groups. The plants were allowed to grow for 8 weeks. Each week, the height (in centimeters) of each plant was measured. The picture below shows the plants after 8 weeks of growth. The data table provides quantitative data on the growth of the plants over the 8-week period. Plot the data from the experiment on the graph below.



Week	Plants Grown in Sterilized Soil	Plants Grown in Nonsterilized Soil
1	0.8 cm	2.0 cm
2	1.5 cm	5.5 cm
3	2.0 cm	8.7 cm
4	2.3 cm	10.0 cm
5	2.4 cm	12.0 cm
6	3.8 cm	16.2 cm
7	5.0 cm	19.1 cm
8	6.0 cm	25.0 cm

1. What hypothesis is being tested in this experiment? _____

_____

2. What variable is being changed in this experiment? _____

_____

3. A statement in the introduction read, "All other factors remained the same between the two groups." Make a list of factors that must remain constant in the experiment.

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_____

_____

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4. Referring to question 3, why is it essential that these factors be kept constant?

_____

_____

5. Compare the growth of the two groups of plants in this experiment.

_____

_____

6. Read the introduction and provide an explanation for why one group of plants grew better than the other group of plants.

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7. What caused the plants grown in the sterilized soil to grow so much slower than the plants grown in the nonsterilized soil?

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_____

8. Does this experiment indicate that mycorrhizae are necessary for the proper growth of plants? Explain.

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