

Plant Growth Study

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Learn how plants use enriched soil, water and sunlight for plant growth and survival. Record your data using copies of the Plant Growth Chart on page 2, and then log your data into copies of the Plant Growth Data Graph on page 3. Analyze and interpret your findings on page 4.

Statement	of Purpose:	To determine	whether	enriched so	il, water	and/or	sunlight i	s important	for plant	growth.
Write your	Hypothesis:									

Plant identical seedling plants that are 1-2'' tall and follow the study details below. For the plants' spacing requirements look at the Alabama Cooperative Extension System's Planting Guide (ANR-63).

Study 1

- * Group A: Plant 4 seedlings in soil enriched with compost or human hair, water each of them with $\frac{1}{2}$ (a half) cup of water 3 times a week, and make sure that they get the same amount of sunlight (approximately 6 hours a day).
- * Group B: Plant 4 in regular clay soil (dug up from outside not a garden center), water each of them with $\frac{1}{2}$ (a half) cup of water 3 times a week, and make sure that they get the same amount of sunlight (app. 6 hours a day).

Study 2 Water

- * Group C: Plant 4 seedlings in soil enriched with compost or human hair, water each of them with $\frac{1}{2}$ (a half) cup of water 3 times a week), and make sure that they get the same amount of sunlight (approximately 6 hours a day).
- * Group D: Plant 4 in soil enriched with compost or human hair, water each of them with \(\frac{1}{4}\) (one-fourth) cup of water 1 time a week), and make sure that they get the same amount of sunlight (approximately 6 hours a day).

Sunlight

- * Group E: Plant 4 seedlings in soil enriched with compost or human hair, water each of them with $\frac{1}{2}$ cup of water 3 times a week, and make sure that they get the same amount of sunlight (approximately 6 hours a day).
- ❖ Group F: Plant 4 in soil enriched with compost or human hair, water each of them each of them with ½ cup of water 3 times a week, and make sure that they do not get any sunlight by putting them under a box or in a windowless closet.

Use a ruler to measure the height of each plant once a week. Record the measurements below.

*Make copies of this Plan	nt Growth Chart as needed.	Week:	Week:	Week:	Week:	Week:	Week:
Plant De	escription						
	•	(start date)	(date)	(date)	(date)	(date)	(end date)
Group	Plant #						
	sunlightwater						
	Plant #						
enriched soil _	sunlightwater						
Group	Plant #						
enriched soil _	sunlightwater						
Group	Plant #						
enriched soil _	sunlightwater						
Group	Plant #						
enriched soil _	sunlightwater						
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Group	Plant #						
enriched soil _	sunlightwater						
Group	Plant #						
enriched soil _	sunlightwater						

[✓] Enriched soil: with fertilizer such as compost or human hair



[✓] Sunlight: app. 6 hours of sunlight a day



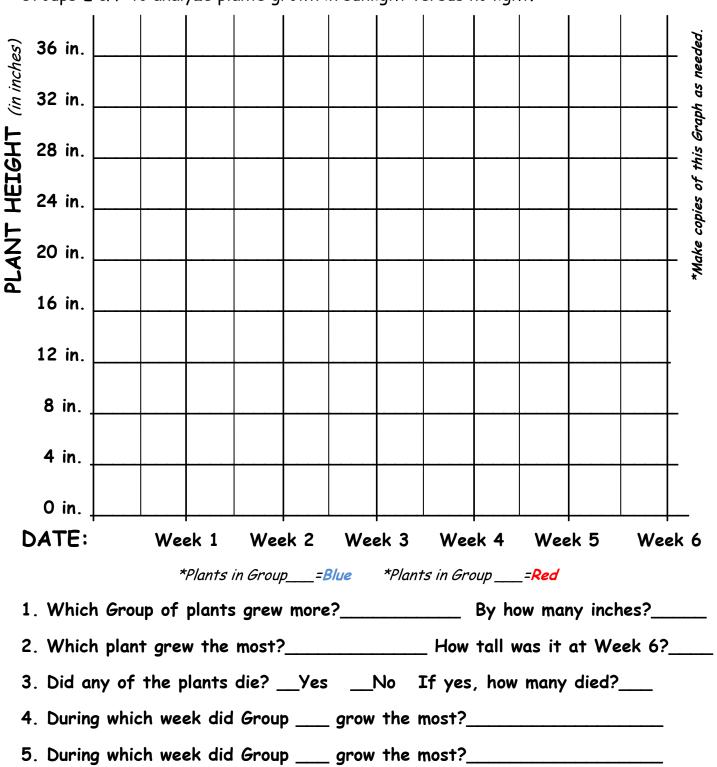
<u>Plant Growth Study Graph</u>



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Log your Plant Growth Data in the graph below.

Enter data for Groups A & B to analyze plants grown in enriched soil versus regular soil, Groups C & D to analyze plants watered 3 times a week versus 1 time a week, or Groups E & F to analyze plants grown in sunlight versus no light.



Analyze and Interpret your results. Describe what you observed and what you discovered. Include whether or not there were differences in the growth between the two different plant groups, and explain your findings. Lastly, state whether your hypothesis was correct, and explain why the results did, o did not, support your hypothesis.

Alabama Course of Study Objective Correlations for 3rd Grade

Language Arts: 9.) Demonstrate clarity and organization in a composition; compose descriptive texts using sensory details and vivid language; compose expository texts using appropriate sequencing of ideas; use complete sentences, varied sentence structure, and appropriate transition words; demonstrate correct spelling in final written text; and respond in writing to open-ended questions.

13.) Demonstrate the ability to follow multistep oral directions.

Math: 18.) Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. [3-MD3]

- 19.) Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch.
- Science: 3.) Describe ways energy from the sun is used such as plant growth, light, and heat.
 - 7.) Describe the life cycle of plants, including how they use nutrients, light, and water.
 - 10.) Determine habitat conditions that support plant growth and survival.

