



BIG GREEN LESSON

Learning Garden Miracle Mix Experiment

Overview

The purpose of this experiment is to have students investigate different variables in developing their own seed starting "Miracle Mix." Students will test three different "recipes" to find out which is the best mix for starting seeds.

Standards Alignment

Next Generation Science Standards

- HS-LS2-5. Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling of carbon among the biosphere, atmosphere, hydrosphere, and geosphere.
- MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Materials

- Growing mediums:
 - Coir
 - Worm castings
 - Compost
 - Perlite
 - Green sand
 - Rock phosphate
- Small pots (at least 3 per group)
- Seeds (recommended: lettuce)
- Spray bottles (for watering)
- Lab Report (at least 1 per student)

Procedure

- Have students research the list of growing mediums/ingredients.
- Students should design their experiment, deciding ahead of time on their soil recipes.
- Students will write a hypothesis, predicting which recipe will have the greatest effect on the seeds' germination rate.
- Students visit various stations and create their soil recipes.
- Students will plant seeds in each sample, keeping all other variables the same; students make sure to use the same amount of seeds and water in each sample.
- Students record daily observations on lab report.
- At the end, students analyze their data and report results in an experimental conclusion.

Name:

Date:

Learning Garden Miracle Mix Lab Report

Purpose:

Hypothesis:

Sample 1 Recipe

Sample 2 Recipe

Sample 3 Recipe

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Procedure:

Data Recording Table

Date	Sample 1	Sample 2	Sample 3

Conclusion:

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