

Scientific Method

Scientific Method – definition: (from an online dictionary)

A method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses.

What does that actually mean?

fertilizer = plant food (liquid)

Make an observation:

Example: Plants seem to grow better with fertilizer.

Ask a question:

Example: Do plants actually grow better with fertilizer?
 height

Research: which fertilizer?

Write a hypothesis: Should be an "If....., then....." statement. (prediction)

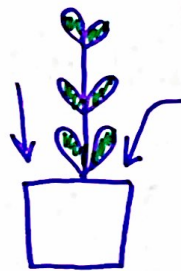
Example: If fertilizer is used on plants, then the plants will be taller.

Create an experiment to test your Hypothesis:

Example:

Equal:
- water
- light
- soil
- etc...

Record the starting height of both plants.



CONTROL GROUP

EXPERIMENTAL GROUP

Definitions:

Dependent variable

Height of plant

Independent variable

Fertilizer

Make observations, collect data:

Two types of data can be collected: Quantitative and qualitative

Numbers

collected with senses.

Check: Are the results repeatable? May collect more data to test Hypothesis.

Arrive at a conclusion:

Your conclusion may or may not support your hypothesis.

Example: The hypothesis was supported, the plant with fertilizer grew 20% taller than the plant without fertilizer.

Ask more questions

Example: What else can affect plant height?

- amount of light
- amount of soil
- amount of water
- amount of plant convo.
- Playing music to your plant

Steps in Scientific Method – A Summary:

