Let's Talk About Variables

There are 3 types of **Variables**

1. Independent Variable

2. Dependent Variable

3. Control Variable

1. Independent Variable

The "cause" variable. In an experiment you control this variable by choosing the values for it. It's what YOU do to change the experiment.

2. <u>D</u>ependent Variable

The "effect" variable. This is the variable being studied or measured. This variable responds to the changes made to the independent variable. It literally DEPENDS on how you changed the independent variable.

3. Control Variable

These are all the other variables that must be kept identical (controlled) so they DON'T affect the dependent variable.

Don't worry. There will be examples...

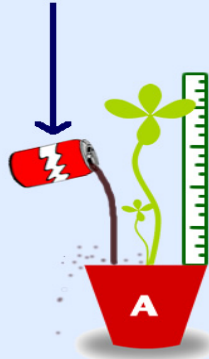Effect of Bio-fertilizer 'x' on Plant growth

Types of Variables

Independent

The one thing you change. Limit to only one in an experiment.

Example:
The liquid used to water each plant.

Independent Variable

Dependent

The change that happens because of the independent variable.

Example:
The height or health of the plant.
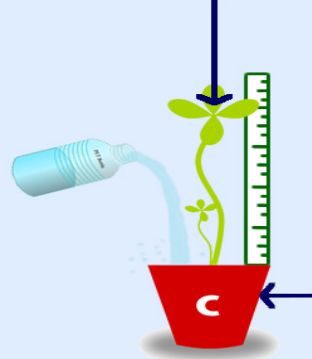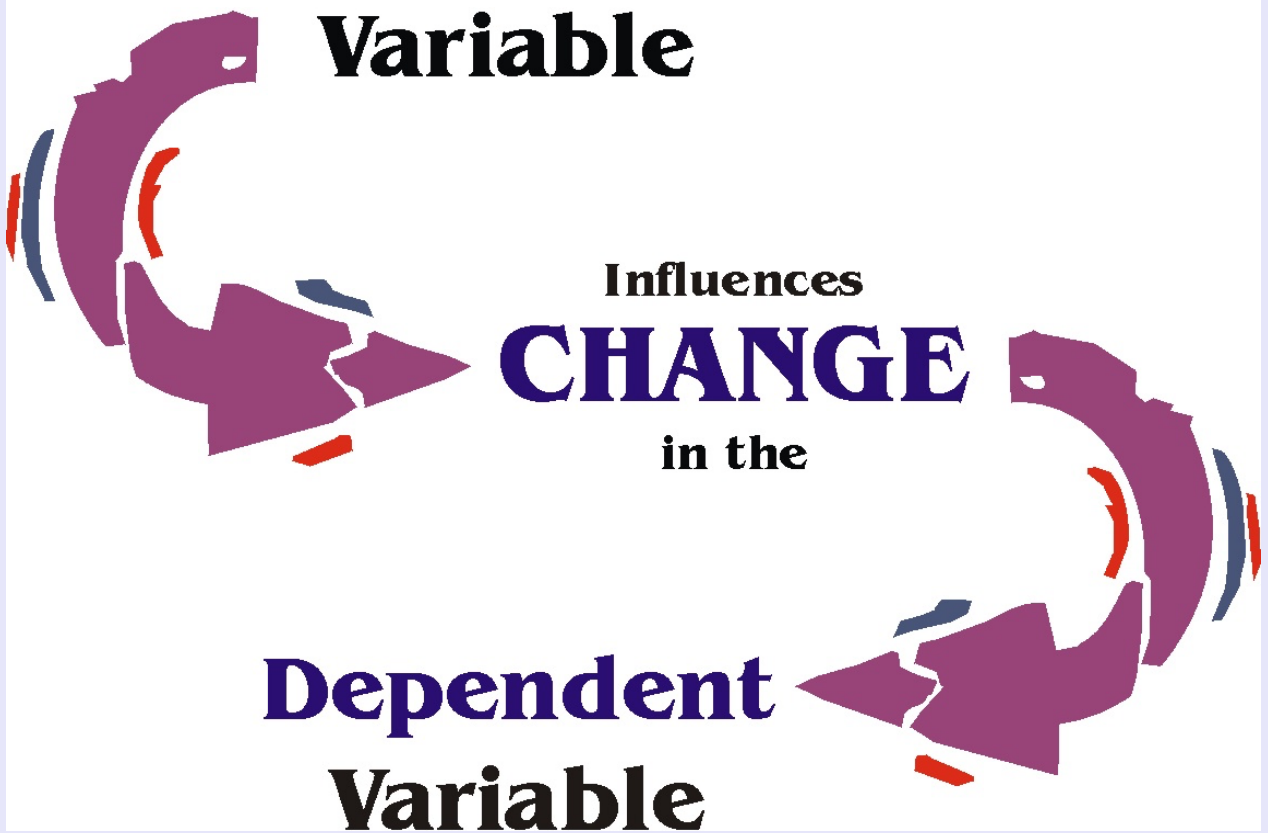
Dependent Variable

Controlled

Everything you want to remain constant and unchanging.

Example:
Type of plant used, pot size, amount of liquid, soil type, etc.

Controlled Variables

Juice

A

B

C

Independent Variable Influences CHANGE in the Dependent Variable

Example 1: I am planning an experiment to see if the type of shoe I wear makes a difference in my time overall mile-time.

Independent Variable:

Dependent Variable:

Control Variable(s):

Example 2: I am planning an experiment to see if the amount of air in a basketball affects the numbers of free-throws I make.

Independent Variable:

Dependent Variable:

Control Variable(s):

Example 3: I am planning an experiment to see if the type of music I am listening to helps with my overall concentration.

Independent Variable:

Dependent Variable:

Control Variable(s):