

Hypotheses & Types of Variables



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Hypothesis

- A tentative, testable statement about what has been observed
- An educated guess



How to write a hypothesis

- 1) Identify the variables
- 2) Come up with an explanation for your expected outcome

If _____,
*(we do this) *INDEPENDENT VARIABLE*

then _____
*(this will happen) *DEPENDENT VARIABLE*

How to write a hypothesis

1) Identify the variables

There are several types of variables:

- Independent variables
- Dependent variables
- Controlled variables

Types of variables

INDEPENDENT VARIABLES

- A variable (often denoted by x) whose variation does not depend on that of another

DEPENDENT VARIABLES

- A variable (often denoted by y) whose value depends on that of another

CONTROL VARIABLES

- A variable that is constant and unchanged

A summary

INDEPENDENT VARIABLE



What I CHANGE



DEPENDENT VARIABLE

What I OBSERVE



CONTROLLED VARIABLE

What I KEEP THE SAME

Practice

OBSERVATION: Chocolate may cause pimples

- INDEPENDENT VARIABLE:

- Eating chocolate

- DEPENDENT VARIABLE:

- You will get pimples

- HYPOTHESIS:

- IF you eat chocolate, THEN you will get pimples BECAUSE chocolate increased the amount of oil in your skin.



Identifying Variables

Writing hypotheses is easy once you identify the independent and dependent variable. LET'S PRACTICE IDENTIFYING VARIABLES!

- Cart Sort Activity
- Indep & Dep Variable Scenarios
 - Paper Airplane Experiment
- Homework: Hypothesis Worksheet

Paper Airplane Experiment

Design & conduct an experiment that would investigate the relationship between the size of a paper airplane to the distance it flies.

Identify the variables of your investigation (independent, dependent, controlled) and provide an explanation of how you would conduct this experiment. Get teacher approval **BEFORE** you begin data collection.