

The Scientific Method

Vocab Set _1[1].doc

Vocab Set _2[1].doc

Vocabulary observations and variables.doc

Scientific Method notes 2012.doc

-pg 16+17

Sep 12-7:03 AM

research they can formulate the Problem.
Inference: Explanations given to a problem from the observations acquired from previous events from the person's experience.

1. Problem: A question presented, that needs to be solved.

Dependent variables and independent variables refer to values that change in relationship to each other.

The **dependent** variables are those that are observed to change in response to the **independent** variables.

Ex.: Will **body odor** decrease with the use of **deodorant**?

The **independent** variables are those that are deliberately manipulated to invoke a change in the dependent variables. In short, "if x is given, then y occurs", where x represents the independent variables and y represents the dependent variables.

Ex.: Will body odor decrease with the use of **deodorant**?

Write your own problem; identify the dependent and independent variables.

Sep 14-11:57 AM

Steps of the Scientific Method pg.13 of notebook

- ✓ 2. Find the dependent, independent, and controlled variables
3. If... then... statement
4. Supplies and procedures of our scientific method.
- 5 and 6: **Analysis** step of scientific method
7. 1. Should state if your hypothesis is correct or wrong
2. Should restate hypothesis
3. Be supported with data

Sep 12-9:40 AM

LabFormat

1. **Problem:** Stated as a question
Find the independent, dependent and controlled variables
2. **Hypothesis:** If the independent variable then the dependent variable
3. **Supplies:** you state what you used
4. **Procedures:** specific steps used in the experiment
5. **Analysis:** Gather quantitative and qualitative observations during your experiment. You create graphs and charts to show data
6. **Conclusion:**
 1. you state whether your hypothesis was correct or not.
 2. You restate hypothesis
 3. then prove with data

Sep 13-10:45 AM

Problem: Does increasing the candles on the steamboat increase the speed?

Hypothesis

If the candles are increased, then the speed will increase

Sep 14-10:24 AM

Remember!!!

To find the Independent variable ask:

What might cause a change?

To find the Dependent variable ask:

What might change because of the Independent variable of your problem?

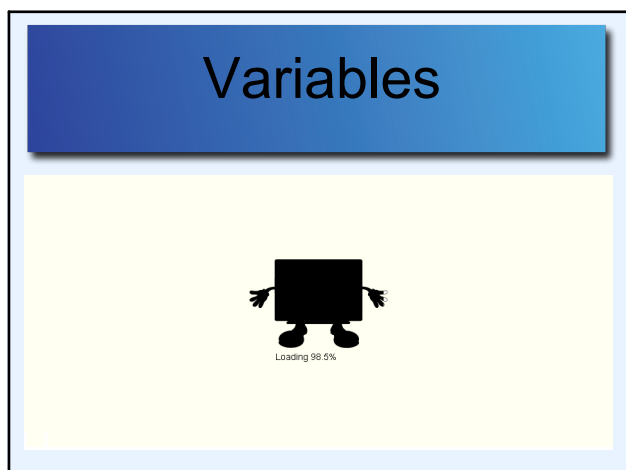
When deciding the control variables:

Think of all the things that **should be constant** so it won't alter your experiment.

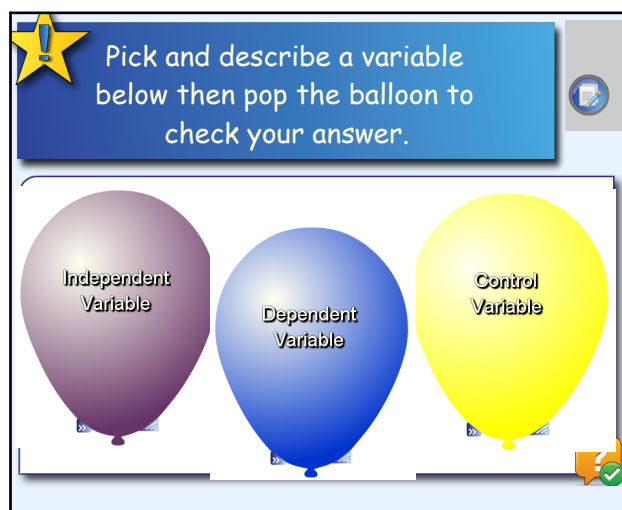
The Control Group: is the group that nothing is done to it. It is not tested. It stays as it always was!

??

Sep 17-6:26 AM



Nov 4-10:26 AM



Mar 19-7:45 AM

Read the scenario below. Identify the independent, dependent and control variable/variables. Discuss then pull tab to check answer.

Control Variables

Dependent Variable

Independent Variable

Tom planted bean seeds in 3 rectangular shape containers. The ends of 10 seeds were pointed up. Ten seeds were pointed down and ten were pointed sideways. All seeds were covered with soil.

?

Mar 19-7:45 AM

Read the scenario below. Identify the independent, dependent and control variable/variables. Discuss and check your answers by pulling the tab.

Control Variables

Dependent Variable

Independent Variable

Alissa tested an electromagnetic system she made. She wrapped a wire around a battery and a nail. Different sized nails were used and the number of paper clips the electromagnet picked up was measured by how many paper clips were picked up.

?

Mar 19-7:45 AM

Read the scenario below. Identify the independent, dependent and control variable/variables.

Control Variables

Dependent Variable

Independent Variable

Pete wanted to find out which brand of fan would produce the greatest amount of wind force. He used a wind gauge to measure wind speed.

?

Mar 19-7:45 AM

Analyze the problem below and determine the independent, dependent, and control variables.

Control Variables


Dependent Variable

Independent Variable

Does the height from which an egg is dropped effect the size of the egg's splatter?

?

Mar 19-7:45 AM




Graphing Variables
Drag the correct label to each axis.


D- Dependent Variable
I- Independent Variable

X axis
Y axis

Check answers on next page when finished.



Mar 19-7:45 AM




DRY MIX and Variables

D- Dependent Variable
R- Responding Variable
Y- Y axis


M - Manipulated Variable
I- Independent Variable
X axis

A clever way to remember where each variables goes on a graph is the saying DRY MIX . Discuss and create another clever way to remember.



Mar 19-7:45 AM

Scientific Method Review



May 23-2:36 PM

Sep 12-6:43 AM

Attachments

Vocab Set _1[1].doc

Vocab Set _2[1].doc

Scientific Method notes 2012.doc

Vocabulary observatios and variables.doc