


Scientific Method




Scientific Method

Sep 3-5:44 PM

Scientific Method


1. **Problem** - in the form of a question
2. **Research** - gather information on the subject
3. **Hypothesis** - written in an if... then... statement
4. **Experiment**- complete the experiment
5. **Data Analysis** - review data gathered
6. **Conclusion** - a written summary of the experiment



Sep 3-5:45 PM

Problem

Question the lab experiment is going to solve.

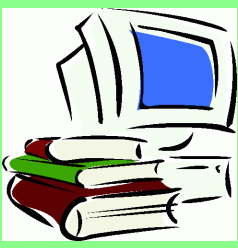


Reaction Lab Problem

Sep 3-5:50 PM

Research

Gathering information about the subject or the experiment.




Reaction Time Lab

Sep 3-5:55 PM

Hypothesis

Educated guess or suggested solution for the problem.




Sep 3-5:59 PM

Experiment

The Experiment section always includes:

- > **Materials**
- > **Procedures**
- > **Performing the experiment**
- > **Independent Variable**
- > **Dependent Variable**
- > **Constant Variable**
- > **Control Variables**



Sep 3-6:07 PM

Materials

Equipment to be used in the experiment



Sep 3-6:10 PM

Procedure

Step by step description of the experiment.



Sep 3-6:21 PM

Sep 3-6:18 PM

1. Stand with your feet together
2. Hold your right arm straight out and parallel to the ground.
3. Hold meter stick in your extended hand with 0mm resting at the bottom of your pinky finger.
4. Open and close your hand as quickly as possible.
5. Record in cm the reaction time.
6. Repeat 3 times and record on your data sheet.
7. Find the average of your 3 trials.

Sep 3-6:18 PM

Sep 3-6:21 PM

Independent Variable

The variable you are testing in your experiment. The one thing you change on purpose. It is graphed on the x-axis.



Sep 3-6:32 PM

Dependent Variable

The factor that differs as a result of the changes in the experimental set-up. It is graphed on the y-axis.



Sep 3-6:40 PM

Constant Variables


The variable in the experiment that stay the same.



Sep 3-6:49 PM

Control Variable


The standard by which the results are compared.



Sep 3-7:00 PM

Data Tables

The place where data from the experiment is recorded.



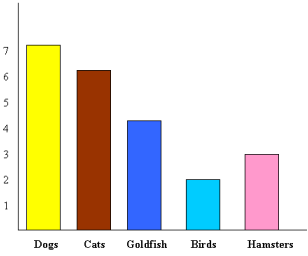
Sep 3-7:08 PM

Name	Trial 1	Trial 2	Trial 3	Average
Jake	12 cm	15 cm	9 cm	
Ian	15 cm	17 cm	13 cm	
Brad	17 cm	15 cm	22 cm	

Sep 3-7:11 PM

Graphing

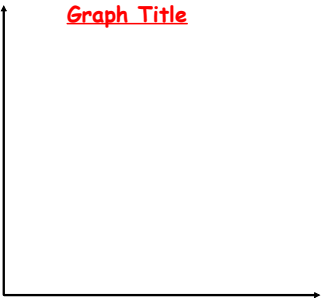
Show large amounts of information in a small space.
Graphs help scientists analyze data.



Category	Value
Dogs	7
Cats	6
Goldfish	4
Birds	2
Hamsters	3

Sep 3-7:17 PM

What all graphs should have...



Graph Title


y axis labeled
dependent variable

x axis - Independent Variable

Sep 3-7:18 PM

Conclusion

A written summary of the experiment



Sep 3-7:24 PM