Intro to Physical Science   8/25/11

What is Science?
  - Science consists of three main fields
      Life Science - Biology, Anatomy
      Earth Science - Environmental Science, Geology
      Physical Science!
  - Physical Science has two main areas:

Important Terminology

Observations – information gathered only by the _____ without any _____ using the brain

Inferences – an _____ of information gathered by the senses

What is the *Scientific Method*? (**Your Thoughts**)	What is the *Scientific Method*? (**Class Definition**)

Steps of the Scientific Method

1) *Observation*
   - _____
   - How do things work?
   - Are we satisfied with how they are working?
   - Involves ***all 5*** senses!

2) *Ask a Question*
   - We see something we _____. How do we find out more about it?

3) *State the Hypothesis*
   - "_____"
   - "_____ statement that is a _____to your question."

4) Experiment
   - _____ the hypothesis through an _____, or sometimes simply observation.

5) Organize and Analyze

    - *DATA* – info from experiment

    -_____ or _____form

    - Helps us _____ what we need to see to answer our question.

6) Conclusion

    - Interpret our data to come up with a conclusion that either _____ (agrees) or

    _____(disagrees) our hypothesis.

Scientific Method Specifics

Experiment

- Must be repeatable w/o _____

- Experiment usually contains _____

- You can only change _____ variable at a time during an experiment

Experiment Terms

***Independent variable*:** Variable that _____

***Dependent variable*:** Variable that changes because of _____ in other variables

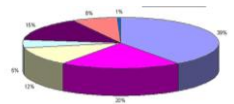***Constant*:** A factor that _____when other variables change.

***Control*:** _____to which test results are _____

Graphs

***Bar Graph*:** useful for comparing information collected by _____.

***Circle Graph or Pie Chart*:** shows how a fixed quantity is broken down into _____.

Line graph*:** shows any relationship where the ***dependent variable _____ due to a change in the ***independent*** variable.

    Always include _____, _____,

    and include _____!

Plant Growth Example

Possible variables   **Independent variable?**

    Amt of sunlight

    Amt of water   **Constant(s)?**

    Room temp

    Type of soil   **Dependent variable?**

    Type of fertilizer

                                       Control?

Important Terminology

Scientific Theory: _____ of why something happens based on _____
observations or experiments
Exs.

Scientific Law: Statement about what happens in nature that seems to be true _____.
Ex.

Model: Represents an _____, _____, or _____

Technology: _____ of science

    Does technology always help people?