

Chapter 1: About Science

Lecture Outline

Name: _____

What is **Science**?

What is **Pure Science**?

What is **Applied Science**?

Science attempts to use _____ or _____.

Why do we study science?

Describe the beginning of science...

Who is **Copernicus** and what did he do?

Who is **Galileo** and what did he do?

Describe his famous experiment:

Why is this so important to science?

1.3: Scientific Methods – Classic Tools

Science involves a lot of problem solving! Scientists will discover a problem which they want to find an answer to. Scientists plan a strategy that involves a series of steps to solve the problem...the **Scientific Method**!

Scientific Method

1. Define the question, or problem...
- 2.
- 3.

4.

5.

6.

7.



Scientific Data

What is Qualitative Data?

Ex:

What is Quantitative Data?

Ex:

What is the **only** type of graph we will use in class this year? _____

What is the method for making a “good” graph? _____ (List and define all letters below)...

Define a Theory:

Define a Scientific Law:

How does a theory and a law relate to one other?

Experimental Set-Up

Define **Experiment**:

When doing an experiment, it's important to follow certain guidelines so we don't reach the wrong conclusion...

Define a **Control**:

Define **Constants**:

Define an **Independent Variable**:

Define a **Dependent Variable**:

Example Experiment: Katie wants to test if Banana Boat's new tanning lotion really does create a natural, golden tan. She applies a quarter sized amount of regular SPF 15 sun tan lotion to her right arm and a quarter sized amount of Banana Boat's new lotion to her left arm. After 1 hour at the beach, she sees that her left arm (with Banana Boat) looks very tanned, while her right arm looks the same as before.

Identify the following parts of Katie's experiment:

- Control:
- Constants:
- Dependent Variable:
- Independent Variable: