Nature of Science

What is Science?

- **Take out a piece of paper**
- **Write down the following words and explain how you use the words in “everyday language”**
- **Law, theory, hypothesis, and fact**

Science Talk

- **This is what the words mean in "science lingo";**

- **Theory- well supported explanation of an aspect of the natural world. Can include; facts, laws, inferences and tested hypotheses.**
  - **You may have used it before as; a guess, inference, etc. In everyday language, it's an unsupported guess.**

- **Fact (scientific)- Observation that has been repeatedly confirmed.**
  - **Previously used as hard evidence, always true**

- **Law- descriptive generalization about how some aspect of the natural world behaves.**
  - **Think of a law as a "set of rules" that can also predict future occurrences**

- **Hypothesis- testable statement about the natural world that can be used to build a more complex explanation.**
  - **You may have used it as; an educated guess, question**

- **Get into groups of 4-5**
- **Make sure you EACH have a paper and pencil!**
- **Each group will work in a different location (4 in the back at the lab desks and 1 or 2 in each side of the front of the room)**

Cube #1

- **DON’T PICK YOUR CUBE UP!!!! YOU CAN’T SEE THE BOTTOM!!!**
- **You are going to make observations and hypotheses to test**
- **Observe the different sides of the cube, what do you believe is on the bottom? Why? TAKE NOTES of your observations and hypotheses.**

Cube #2

- First… why did I take cube #1 away without letting you see the bottom?
- Do the same for cube #2 as you did for #1, don't forget to write down your observations and hypotheses.
- What is on the bottom of cube #2?

Cube #3

- This one is different!!!
- As a group, you're going to make a cube for the other groups to analyze.
- Make sure that there is a logical way to come to a conclusion of what is on the bottom of your cube. You will get a grade for this!!!!
- There are markers, crayons, scissors and tape in the back of the room for you to use.

Exit Pass

- **Before you leave the classroom you need to answer the following question AND attach your answers from the beginning (what are a fact, law, etc?) to the exit pass.**

- **How do *scientific* laws, facts, theories and hypotheses fit into a scientific investigation???? Use examples!!!!**

- **HAND IN:**
  1. **cube and piece of paper that explains which cube is yours and the NAMES of the members in your groups.**
  2. **Your answers from the beginning attached to your exit pass.**