Chapter 1

Earth Science Intro

SCIENCE

- The investigation and interpretation of the events in the natural, physical environment, and within our own bodies.

Scientific Method

- A creative & systematic process for proving or disproving a given question.
- An organized plan, (steps).

STEPS OF THE SCIENTIFIC METHOD

1. Observe & Pose questions
2. Hypothesis
3. Testing the Hypothesis
4. Collecting Data
5. Conclusion

1. Posing Questions

- Questions come from observations & inferences you make.
- What is lightning?

2. HYPOTHESIS

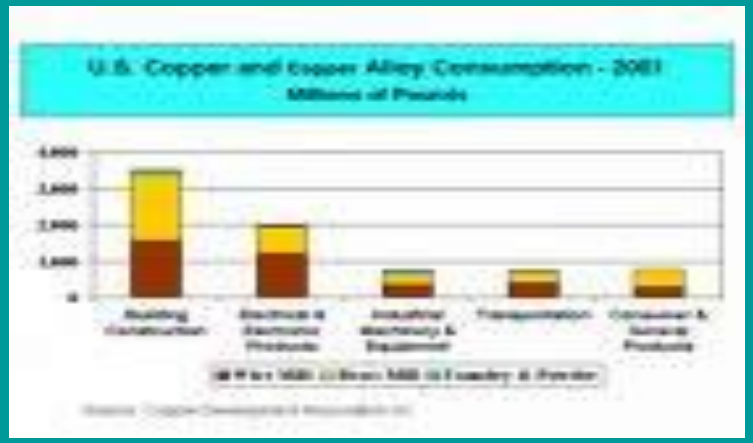
- A prediction or an "educated guess"

3. TESTING

- Gather Materials & develop Procedures (step by step instructions) to test your hypothesis.
- Controlled Experiment- a test of a hypothesis under conditions established by the scientist.

4. DATA

- Collecting the facts or the results of the experiment.
- Organize to be meaningful.
- Use data tables, graphs, charts.



5. CONCLUSION

- Goes back to the prediction, did you prove/disprove your hypothesis?
- You interpret & analyze data to arrive at your conclusion.

SCIENCE-PROCESS SKILLS

1. Observing- using senses, prior knowledge
2. Communicating- being able to speak/listen, working together

3. Comparing- noticing a relationship in things

Likes/differences

4. Ordering- seeing patterns, large-small

5. Categorizing- grouping/classifying objects by a property.
6. Relating- higher level thinking, noticing how objects interact with one another & changes are caused by these interactions.

7. Inferring- logical conclusion based on data. You explain or interpret things you observe.

- 8. Application- using knowledge in practical ways.

VARIABLES

- A variable is a factor that can change in an experiment.
- Ex: Straw Plane- can change the lengths of your loops.

EARTH SCIENCE

- The study of earth and its place in the universe.

Scientific Theory

- A well tested scientific explanation of a wide range of observations.

Scientific Law

- Describes an observed pattern in nature, but does not explain it.
- Scientists expect the same thing to happen under the same conditions.

SCIENTIFIC INQUIRY

The ongoing process of discovery in science. Scientists study the world in & propose explanations based on evidence they gather.