

Name: _____

Date: _____

Science 7

Scientific Method

Aim: I can use the scientific method to solve problems.

Do Now:

Wear goggles, wait not whiff, wash your hands, follow directions, don't fool around

Notes:

The Scientific Method

- An organized set of investigation procedures.
- Steps to answer a question

SCIENTIFIC METHOD
PURPOSE <small>State the problem.</small>
RESEARCH <small>Find out about the topic.</small>
HYPOTHESIS <small>Predict the outcome to the problem.</small>
EXPERIMENT <small>Develop a procedure to test the hypothesis.</small>
ANALYSIS <small>Record the results of the experiment.</small>
CONCLUSION <small>Compare the hypothesis to the experiment's conclusion.</small>

1. Problem

- Always in the form of a question
- What do you want to solve?

2. Hypothesis

- An educated guess based on prior knowledge and research.
- A suggested answer to the problem
- If...then...because...

3. Experiment

- Test if hypothesis is Right or Wrong
- Gather Materials
- Design Procedures

4. Observation

- The gathering of information by using one, some or all of your five senses.
- Two types of observations:

Qualitative Observation: Describes	Quantitative Observation: Measure/ Numbers
Examples: <u>The black sweater is soft</u>	Examples: <u>I have 13 students</u> <u>The classroom is 25 feet long</u>

5. Results

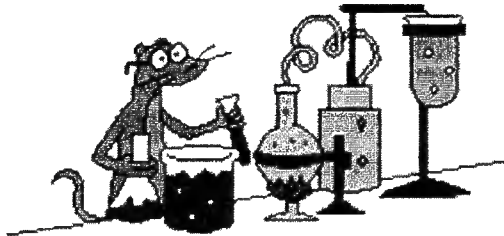
- Write down all data, observations that are made during the experiment.
- Create graphs, charts and data tables

6. Conclusion

- A multi sentence statement that:
 1. Answers the question stated in the problem
 2. States if the hypothesis is right or wrong
 3. Explains the data

7. Repeat

- The entire experiment must be conducted again to be considered valid.
- Valid: proven to be logically true/legitimate
- To find any errors



Inference

- Possible explanation for an observation
- Based on experience and prior knowledge

Examples:

1. Joel is a Rangers fan because he is wearing a Rangers sweatshirt
2. Ms. Sparaco's favorite color is pink because she is wearing a pink sweater.