

Name: _____ Section: _____

Scientific Method Project

Recently, we have been discussing and experimenting with various aspects related to the scientific method (terms, steps, activities, etc.). In this activity, you will now apply your understanding of this concept to anything that interests you. You will need to:

- ✘ **Identify a problem/question**
 - The problem you choose may range from, "Which type of paper towel soaks up the most liquid," to "whether or not yawns are contagious." It is important to understand that when choosing a problem to solve, you must be able to execute an experiment on the topic in a short period of time. In other words, don't try to solve a problem that is too difficult when considering your resources and the limitation of time. For example, if you are thinking of a problem that deals with the growth of plants, it would not be practical since you will only get around a week for this project.
- ✘ **Collect Information**
 - Gather as much information about your problem/question as possible to assist you as you begin to develop a hypothesis and subsequently an appropriate experiment. Collection of information is extremely important because it will help you form a reasonable hypothesis.
- ✘ **Form a hypothesis**
 - After considering your research and how you would like to proceed with your topic, you should be able to propose an "educated guess" identifying any relationship or solution to your problem. It is this "educated guess" that will help guide your experimentation.
- ✘ **Test your Hypothesis**
 - Design and perform an experiment that will provide evidence supporting (or not) your hypothesis. This is where you will collect your data.
- ✘ **Accept or Reject your Hypothesis**
 - In the conclusion of your lab report, acknowledge whether the data gathered during experimentation has successfully supported your hypothesis or has not supported it.
- ✘ **Report your Results**
 - Share with your teacher and classmates your problem, information, hypothesis, experimentation, and conclusions.

You may work in groups (2-3 students) for this activity; however, be sure that it is possible logistically possible. You will need to get together outside of school to complete this project.

COMPONENTS TO BE GRADED

1. Due date requirements (homework grades - 2 points each)
2. Lab report typed according to the Lab Report Format sheet (80 points)
3. Presentation that provides an overview of your experiment, the results, and your conclusions. The presentation must have an appropriate visual aid (PPT., poster, video) and you should be able to answer any questions related to your experiment. (47 points)

DUE DATE SCHEDULE

- ✓ Identification of problem or topic of interest - _____
- ✓ Information on problem or topic of interest - _____
- ✓ Hypothesis - _____
- ✓ Initial Components of Lab Report - _____
 - Title:
 - Purpose/Problem:
 - Hypothesis:
 - Materials:
 - Procedures:
- ✓ Data collected from experiment - _____
- ✓ Final lab write-up (all components) - _____
- ✓ PPT/poster/video - _____
- ✓ Presentation - _____