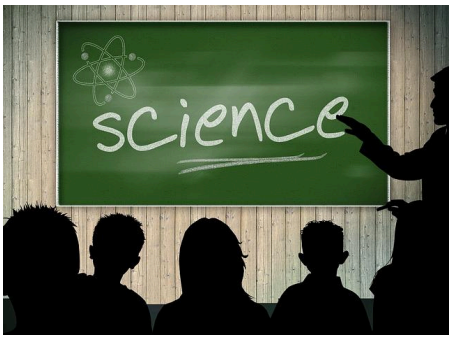
Name:



Scientific Method Exam Prep Review Sheets

Identifying the parts of an Experiment

DIRECTIONS: Read the following experiment, and use the information to answer the questions that follow. Make sure that you write every answer in full sentences!

While Mr. Olive was in college, he played football with a friend that seemed to never get tired while doing any type of exercise. When he later studied science and the ways to seek answers to his questions, he decided to ask this friend, Nick, to volunteer for a scientific experiment.

First, Mr. Olive decided to look up ways to best test his question of why Nick was able to exercise with more intensity than the average football player on his team. He spoke to many of the coaches, and read in his Biologytext books that everyone's muscles work differently and that Nick's may be stronger. So Mr. Olive decided to set up an obstacle course for his friend, and was going to have him run this obstacle course and time how long it took him to complete it. He also wanted to add a variable, and decided to test the effect of a weighted back pack on the amount of time it took him to complete the obstacle course. On day 1, Nick completed the course wearing just the clothes he wore to the experiment. On the next day, Mr. Olive had Nick complete the same obstacle course, but had him wear a backpack that had 5 pounds of weights added to it. On day 3, he did the same course but did it with 10 lbs. of weights in the back pack. Even though Nick complained that his legs were becoming more and more sore, Mr. Olive still continued to add five pounds every day to the back pack for two more consecutive days. The results are in the data table below:

Weight in the Backpack (lbs)	Obstacle Course Time (secs)
0	56
5	58
10	64
15	82
20	88

What is the independent variable in the experiment? ⟶	
What is the dependent variable in the experiment? ⟶	

Problem → What is the problem question for this investigation?

Research → What research did Mr. Olive do, and why do you think he did this research?

Hypothesis → What would Mr. Olive's hypothesis be? (in the correct form)

Results → Would the data recorded be considered quantitative or qualitative observations?

Graphing→ *Correctly* Graph Mr. Olive's data for this experiment (by hand) on graph paper. You will have to do a hand drawn graph according to the "Graphing Checklist" during the exam.

What type of relationship is there between the IV and the DV on the graph?	

Conclusion - Write a good conclusion for the experiment above. You will need to do this on the test. Refer to the Conclusion Notes and/or Rubric to be fully aware of what to include. Be sure to:

- *State whether the hypothesis was correct or not, and why.*
- *Answer the problem question (this is sometimes done with the hypothesis explanation.*
- *Be sure to use the DATA or EVIDENCE to support your conclusion.*
- *Identify Sources of Error and how they impacted the results*
- *Reformulate*

Type your Conclusion here….