

Name: \_\_\_\_\_

### EXPERIMENT ANALYSIS, Version A1

Ms. Wise suspects that students who study do well on tests. She wonders if the amount of time spent studying for a test is related to test scores. The hypothesis is that students who study longer get higher test scores. In order to test her hypothesis, she conducts the following experiment:

- Select 4 students who have the same IQ.
- Prepare a 20-question written test to give to each student.
- Provide all students with the same learning opportunities.
- Provide all students with the same study materials.
- Assign student 1 to not study at all for the test. Assign student 2 to study for 15 minutes. Assign student 3 to study for 30 minutes. Assign student 4 to study for 45 minutes.
- Conduct the test and record results.

The table shows the data gathered.

Student	Daily Time Spent Studying	Score on Test
1	0 minutes	60%
2	15 minutes	75%
3	30 minutes	80%
4	45 minutes	100%

- In this experiment, what is the independent variable? \_\_\_\_\_
- What is the dependent variable? \_\_\_\_\_
- List 3 control variables. \_\_\_\_\_  
\_\_\_\_\_
- Draw a line graph displaying the results. Make sure to:
  - Create an appropriate title and axis labels
  - Place the independent variable on the x-axis and the dependent variable on the y-axis
  - Calculate a reasonable scale for each axis
- The results show the independent and dependent variables have what type of relationship? (Circle one answer.)  
direct relationship, inverse relationship, or nonrelationship.
- Use complete sentences, write a conclusion for "how can I use what I learned about studying the results of this experiment."  
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- Looking with this experiment design and results, list at least one "new step" added to the experiment.  
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