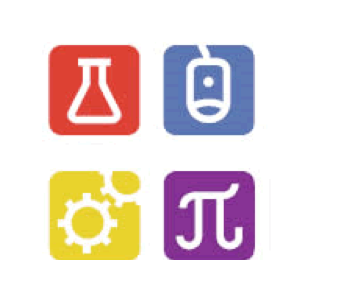
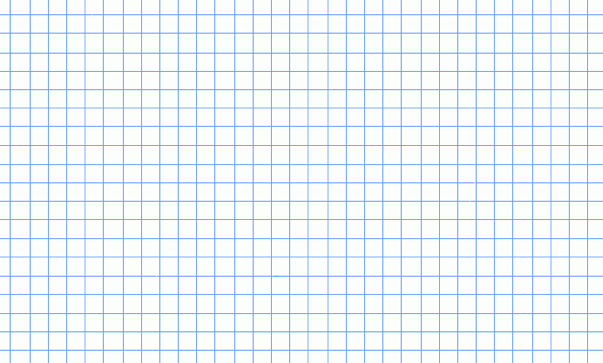
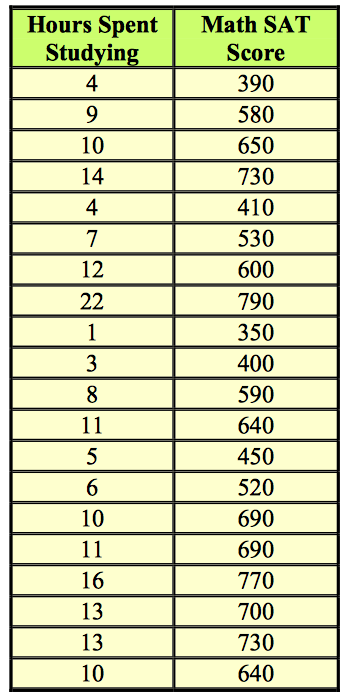
STEM PBL Linear Regression Worksheet #1 Name:



**Data:** Is there a relationship between Math SAT scores and the number of hours spent studying for the test? A study was conducted involving 20 students as they prepared for and took the Math section of the SAT Examination.

1. Create a scatterplot of the data in the table:





2. Draw a line that you think fits the data best.

3. Now find the equation of that line. y = mx + b

a. Choose 2 points on the line you drew and calculate the slope.(m)

b. Now choose one of the points you used above and plug that back into your equation to find b.

Write your equation here

4. What does the independent variable, x stand for in this situation?

5. What does the dependent variable, y, stand for in this situation?

6. What is the real life interpretation of the slope in this situation?

7. Use your equation to answer the following questions about the MATH SAT.

a. If a student studied for 15 hours, based upon this study what would their MATH SAT score be?

b. If a student received a score of 720 on their MATH SAT, based upon this study how many hours did they study?

c. If a student spent 100 hours studying what would their expected MATH SAT score be? Is this realistic? EXPLAIN.