**Conducting an Experiment**

Each group is going to examine the relationship between a certain type of aerobic exercise and a person’s heart rate.

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| **Create an Experiment**  Your group needs to think of an aerobic exercise that you can do in the classroom or in the hallway. Your group’s job is to come up with an experiment that shows how a teenager’s heart rate changes based on a type of aerobic exercise. | C:\Users\Math\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\PVGMC1YT\MC900389120[1].wmf |

**Describe the Experiment**

1. Explain the two variables you are comparing. Then, in detail, list the steps that will allow you to perform an experiment to study the relationship between these two variables.

**Write about the Results**

1. Make a table of the data points that you collected.
2. Create a scatter plot on a piece of graph paper or using technology. Draw the regression line on the scatterplot.
3. Describe the correlation.
4. Write the equation of the regression line.

Predict *y,* given *x*

1. Choose a value for your *x*-variable.
2. Use your equation to calculate the heart rate of a person (*y*) for the value of *x* you chose above.
3. Describe your prediction in a sentence.

Predict *x,* given *y*

1. Choose a value for your *y*-variable. (Do not choose a heart rate value that is less than your resting heart rate.)
2. Use your equation to calculate the value of *x* for the value of *y* you chose above.
3. Describe your prediction in a sentence.
4. Write a paragraph explaining what you learned about the relationship between your variables and how this knowledge could be useful to someone.