Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Homeroom: \_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_ **1.6**

**Graphs: Scatterplots and Correlation of Data (SPI.MATH.5.3)**

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| **Key Points** | **Notes** |
| **Six Stellar Steps for Creating a Line Graph** | 1. Draw the \_\_\_\_\_\_\_\_\_\_
2. x-axis 🡪 independent variable
3. y-axis 🡪 dependent variable
4. Label the axes with *correct \_\_\_\_\_\_\_\_\_*
5. \_\_\_\_\_\_\_\_\_ the graph (includes (IV and DV)
6. Plot your points from your data table
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| **Scatterplot** | * **Scatter plots** are used to examine two sets of data and to investigate the possible relationship (or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) between two variables. The pattern of the points suggests how \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the data is related.
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| **Scatterplot Vs. Line Graph** | * Both start with mapping \_\_\_\_\_\_\_\_\_\_\_\_\_ (numerical) data points
* \_\_\_\_\_\_\_\_\_\_\_\_\_ also allow you to see **outliers**
* In a scatterplot, the individual points should not be connected directly together with a line.
* In a line graph, each data point is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ together. In this way, the local change from point to point can be seen.
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| **Correlation** | * Scatter plots show how much one variable is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by another. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between two variables is called their **correlation**.
* If the data points in a scatter plot lie \_\_\_\_\_\_\_\_ to a line, the scatter plot shows a **strong** correlation.
* If the data points in a scatter plot do not lie close to a line, the scatter plot shows a **\_\_\_\_\_\_\_\_** correlation.
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| **Positive Correlation** | * A positive correlation be seen in a scatterplot of the overall trend is increasing
* If the data displayed on the scatter plot forms a line that **\_\_\_\_\_\_\_\_\_ from left to right**, the variables are said to have a **positive correlation**.

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| **Negative Correlation** | * A negative correlation be seen in a scatterplot of the overall trend is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* If the data displayed forms a trend line that **FALLS from left to right**, the variables have a **negative correlation**.

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| **No Correlation** |  |
| **Line of Best Fit** | * A **line of best fit** is a straight line that best represents the data on a scatter plot.
* This line may pass through some of the points, \_\_\_\_\_\_\_\_ of the points, or all of the points.
* These lines of best fit help you predict future data points

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**Additional Notes and Examples from Class:**