Eighth Grade Unit - Linear Tables and Models

Focus for Unit 5 - Understand that the slope (m) of a line is a constant rate of change. Strategically choose and efficiently implement procedures to solve linear equations in one variable.

- Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
- Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
- Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

- Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
- Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
- Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.

Supporting Your Child	Vocabulary
■ Always Talk About Math in Positive Ways Let your child know that learning math is very important. Communicating a positive, can-do attitude about math is the single most important way for you to ensure that your child is successful in mathematics. ■ Know What Your Child Is Studying in Math Be aware of the math your child is learning each year and know the standards they're required to meet. The standards for this unit are listed above. Ask you child what they're studying in math class, regularly check in with them about math homework. ■ Make Math an Everyday Part of Your Family Find math at home. Involve your child in activities like shopping, cooking, and home fix-it projects to show them that math is practical and useful. Encourage your child to solve problems that involve math. Engage your child in conversations about what they're thinking about when they solve math problems. Find opportunities to explore math together.	**Slope**: the measure of steepness of a line **Y-Intercept**: the y-coordinate of the point where a line intersects the y-axis **Linear Function**: a function that can be graphically represented in the Cartesian coordinate plane by a straight line **Linear Equation**: an equation of the form Ax + By = C, where A ≠ 0 and B ≠ 0. The graph of a linear equation is a straight line **Rate of Change**: the speed at which a variable changes over a specific period of time **Clustering**: occurring closely together **Outliers**: an element of a data set that distinctly stands out from the rest of the data **Scatter Plot**: a graph made by plotting ordered pairs in a coordinate plane to show the correlation between two sets of data **Bivariate**: involving or depending on two variables **Variable**: letters or other symbols that represent unknown numbers or values