Richmond Public Schools

Curriculum Framework

Grade 7 Honors (7/8)

Strand: Measurement and Geometry	
8.13 The student will **a) represent data in scatterplots;** **b) make observations about data represented in scatterplots; and** **c) use a drawing to estimate the line of best fit for data represented in a scatterplot.**	
Suggested Pacing	
Related Standards	
Spiral Down: 5th Grade: ● SOL 5.16 ● SOL 5.17 6th Grade: ● SOL 6.10	Spiral Up:
Essential Questions	**Common Misconceptions**
● How are scatterplots useful with real-life data? ● What type of data is best displayed in a scatterplot and histogram?	● Relationship: students have difficulty gaining an understanding of the relationship between the two variables and how they affect each other.
Understanding the Standard	**Essential Knowledge and Skills**
● A scatterplot illustrates the relationship between two sets of numerical data represented by two variables (bivariate data). A scatterplot consists of points on the coordinate plane. The coordinates of the point represent the measures of the two attributes of the point. ● In a scatterplot, each point may represent an independent and dependent variable. The independent variable is graphed on the horizontal axis and the dependent is graphed on the vertical axis. ● Scatterplots can be used to predict linear trends and estimate a line of best fit.	● Collect, organize, and represent a data set of no more than 20 items using scatterplots. (a) ● Make observations about a set of data points in a scatterplot as having a positive linear relationship, a negative linear relationship, or no relationship. (b) ● Estimate the line of best fit with a drawing for data represented in a scatterplot. (c)

- A line of best fit helps in making interpretations and predictions about the situation modeled in the data set. Lines and curves of best fit are explored more in Algebra I to make interpretations and predictions.
- A scatterplot can suggest various kinds of linear relationships between variables. For example, weight and height, where weight would be on *y*-axis and height would be on the *x*-axis. Linear relationships may be positive (rising) or negative (falling). If the pattern of points slopes from lower left to upper right, it indicates a positive linear relationship between the variables being studied. If the pattern of points slopes from upper left to lower right, it indicates a negative linear relationship.
  - For example: The following scatterplots illustrate how patterns in data values may indicate linear relationships.

No relationship Positive relationship Negative relationship

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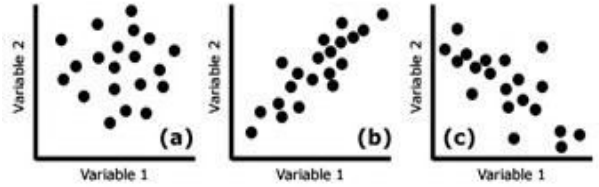

- A linear relationship between variables does not necessarily imply causation. For example, as the temperature at the beach increases, the sales at an ice cream store increase. If data were collected for these two variables, a positive linear relationship would exist, however, there is no causal relationship between the variables (i.e., the temperature outside does not cause ice cream sales to increase, but there is a relationship between the two).
- The relationship between variables is not always linear, and may be modeled by other types of functions that are studied in high school and college level mathematics.

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Vocabulary

Scatter Plot	Bivariate Data	Correlation (relationship)
Trends		

Assessment

Instructional Activities Organized by Learning Objective

Textbook

Notes

Resources

- Print
- Technology-based

Station Activities

Cross-Curricular Connections

Tiered Differentiations