SAU 50
Grade 8
Mathematics
Statistics and Probability

Bivariate Data: two sets of data that can be shown on a scatter plot that are related in some way.

SAU 50 District Competency:

Students will independently use their learning to interpret the validity of data presented and the factors that contribute to it.

Students will independently use their learning to collect and analyze data to answer a question.

Essential Questions

- How can you predict the outcome of future events?
- How can we use patterns within data to draw conclusions and make decisions?

Acquisition

Students will demonstrate the following to meet the standards.

- I can construct and interpret scatter plots for bivariate measurement data to investigate patterns of associations between two quantities.
- I can describe patterns such as clustering, outliers, positive or negative association, linear association and nonlinear association.
- I can create a line of best fit for scatter plots that suggest a linear association.
- I can use the equation of a linear model to solve problems in the context of bivariate data.
- I can use the equation of a linear model to interpret slope and intercept. I can find patterns of association in bivariate data by displaying frequencies and relative frequencies in a two-way table.
- I can construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects.
- I can use relative frequencies calculated for rows or columns to describe possible association between the two variables.

Standards

NH College and Career Ready Standards

Key to Standard Notation:

8.SP.1: 8 *(grade level)* **SP** *(domain: Statistics and Probability)* **1** *(number of the standard)*

Statistics and Probability
Investigate patterns of association in bivariate data.
8.SP.1: 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.
8.SP.2: 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.
8.SP.3: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
8.SP.4: 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.

[New Hampshire College and Career Ready Standards](#)

References:

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core Standards for Mathematics* (United States, National Governors Association Center for Best Practices, Council of Chief State School Officers). Retrieved August 10, 2016, from http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf

Math is fun/definitions. (n.d.). Retrieved April 17, 2017, from http:/www.mathisfun.com/definitions