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| Investigate patterns of association in bivariate data (8.SP.1-4) | |
| Standard 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. | |
| Concepts and Skills to Master | |
| <ul style="list-style-type: none"> • Construct a scatter plot from a set of bivariate data • Determine whether the relationship between bivariate data is approximately linear or nonlinear by examination of a scatter plot. • Describe and interpret patterns on a scatter plot such as clustering, outliers, and positive, negative, or no association. | |
| Related Standards: Current Course | Related Standards: Future Courses |
| 8.EE.6 , 8.F.4 , 8.SP.2 , 8.SP.3 , 8.SP.4 | All function standards in high school, I.S.ID.6 , I.S.ID.7 , I.S.ID.8 , I.S.ID.9 , III.S.IC.6 |

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| Critical Background Knowledge (Access Background Knowledge) |
| <ul style="list-style-type: none"> • Plot points on the coordinate plane (6.NS.8) • Describe overall patterns and deviations in univariate data (6.SP.5c) |
| Academic Vocabulary |
| bivariate data, scatter plot, outlier, clustering, association, positive association, negative association, linear, nonlinear, interpret |
| Resources |
| Curriculum Resources : http://www.uen.org/core/core.do?courseNum=5180#71455 |

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| Investigate patterns of association in bivariate data (8.SP.1-4) | |
| Standard 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. | |
| Concepts and Skills to Master | |
| <ul style="list-style-type: none"> Recognize that straight lines can be used on scatter plots to model linear relationships between two quantitative variables. Place a straight line on a scatter plot that closely fits the data points (trend line). Judge how well the trend line fits the data by looking at the closeness of the data points to the line. | |
| Related Standards: Current Course | Related Standards: Future Courses |
| 8.EE.6 , 8.F.4 , 8.SP.1 , 8.SP.3 , 8.SP.4 | All function standards in high school, I.S.ID.6 , I.S.ID.7 , I.S.ID.8 , I.S.ID.9 , III.S.IC.6 |

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| Critical Background Knowledge (Access Background Knowledge) |
| <ul style="list-style-type: none"> Graph a linear relationship (8.F.4) Construct and interpret a scatter plot (8.SP.1) Analyze relationships with graphs (6.EE.9) |
| Academic Vocabulary |
| linear association, nonlinear association, scatter plot, trend line, model |
| Resources |
| Curriculum Resources : http://www.uen.org/core/core.do?courseNum=5180#71455 |

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| Investigate patterns of association in bivariate data (8.SP.1-4) | |
| <p>Standard 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. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i> (Calculating equations for a linear model is not expected in grade 8.)</p> | |
| Concepts and Skills to Master | |
| <ul style="list-style-type: none"> • Use a given trend line to make predictions. • Interpret the meaning of the slope as a rate of change and the meaning of the y-intercept in context given bivariate data. | |
| Related Standards: Current Course | Related Standards: Future Courses |
| 8.EE.6 , 8.F.4 , 8.SP.1 , 8.SP.2 , 8.SP.4 | All function standards in high school, I.S.ID.6 , I.S.ID.7 , I.S.ID.8 , I.S.ID.9 , III.S.IC.6 |

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| Critical Background Knowledge |
| <ul style="list-style-type: none"> • Know that a trend line can be used to model bivariate data (8.SP.2) • Know the meaning of slope and y-intercept (7.RP.2 and 8.EE.6) |
| Academic Vocabulary |
| Rate of change, slope, y-intercept |
| Resources |
| Curriculum Resources : http://www.uen.org/core/core.do?courseNum=5180#71455 |

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| Investigate patterns of association in bivariate data (8.SP.1-4) | |
| <p>Standard 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. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i></p> | |
| Concepts and Skills to Master | |
| <ul style="list-style-type: none"> • Construct a two-way frequency table of categorical data. • Distinguish between frequencies and relative frequencies. • Calculate relative frequencies for rows and columns in two-way tables. • Interpret relative frequencies for possible associations from a two-way table. | |
| Related Standards: Current Course | Related Standards: Future Courses |
| 8.EE.6 , 8.F.4 , 8.SP.1 , 8.SP.2 , 8.SP.3 | II.S.ID.5 , II.S.CP.1 , II.S.CP.4 , II.S.CP.5 , II.S.CP.6 , III.S.IC.6 |

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| Critical Background Knowledge |
| <ul style="list-style-type: none"> • Calculate percent's (6.RP.3) • Understand probability of a chance event (7.SP.5) • Develop a probability model (7.SP.7) and use organized lists, tables, tree diagrams, and simulation (7.SP.8) |
| Academic Vocabulary |
| Frequency, relative frequency, categorical data, two-way table, associations |
| Resources |
| Curriculum Resources : http://www.uen.org/core/core.do?courseNum=5180#71455 |