NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 8	UNIT #: 5	UNIT NAME: Geometry

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Using a linear equation to model real life problems then solve it by interpreting the meaning of the slope and the intercept.	8.SP.3
2	Construct and interpret scatter plots for bivariate measurement data and identify and interpret data patterns (clustering, outliers, positive or negative association, possible lines of best fit, and nonlinear association).	8.SP.1 8.SP.2
3	Construct frequency/relative frequency tables to analyze and describe possible associations between two variables.	8.SP.4
4	Know and apply the appropriate formula for the volume of a cone, a cylinder, or a sphere to solve real-world and mathematical problems.	**8.G.9**

Major Content Supporting Content Additional Content (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. *(Identified by PARCC Model Content Frameworks).*

Selected Opportunities for Connection to Mathematical Practices

1. **Make sense of problems and persevere in solving them.**
   SLO 4 Involve problems that must be constructed and deconstructed in order to solve.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. **Model with mathematics.**
   SLOs 1, 2 and 3 Use equations, scatter plots, and frequency tables to model relationships between real-world quantities.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

All of the content presented at this grade level has connections to the standards for mathematical practices.

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Bold type identifies possible starting points for connections to the SLOs in this unit.

Code #	Common Core State Standards
8.SP.1	Construct and interpret scatter plot 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 data interpreting the slope and intercept. 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.
8.SP.4	Understand the patterns of association can also be seen in bivariate categorical data by displaying the 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. *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?*
8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

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