Mathematics Curriculum

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Topic D

Numerical Data on Two Variables

S-ID.B.6, S-ID.C.7, S-ID.C.8, S-ID.C.9

Focus Standards:	S-ID.B.6	Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.★
		a. Fit the function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*
		b. Informally assess the fit of a function by plotting and analyzing residuals.
		c. Fit a linear function for a scatter plot that suggests a linear association.
	S-ID.C.7	Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.★
	S-ID.C.8	Compute (using technology) and interpret the correlation coefficient of a linear fit.★
	S-ID.C.9	Distinguish between correlation and causation.★
Instructional Days:	9	
Lessons 12–13:	Relationships Between Two Numerical Variables (P, P)[1]	
Lesson 14:	Modeling Relationships with a Line (P)	
Lesson 15:	Interpreting Residuals from a Line (P)	
Lesson 16:	More on Modeling Relationships with a Line (P)	
Lessons 17–18:	Analyzing Residuals (P, P)	
Lesson 19:	Interpreting Correlation (P)	
Lesson 20:	Analyzing Data Collected on Two Variables (E)	

In Topic D, students analyze relationships between two quantitative variables by using scatter plots and by summarizing linear relationships using the least squares regression line. Models are proposed based on an understanding of the equations representing the models and the observed pattern in the scatter plot. Students calculate and analyze residuals based on an interpretation of residuals as prediction errors.

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[1]Lesson Structure Key: **P**-Problem Set Lesson, **M**-Modeling Cycle Lesson, **E**-Exploration Lesson, **S**-Socratic Lesson

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