



SOUTHERN LEHIGH SCHOOL DISTRICT

5775 Main Street
Center Valley, PA 18034

Scope and Sequence for **Survey of Statistics**

Standards for Mathematical Practice:

MP1 Make sense of problems and persevere in solving them.
MP2 Reason abstractly and quantitatively.
MP3 Construct viable arguments and critique the reasoning of others.
MP4 Model with mathematics.

MP5 Use appropriate tools strategically.
MP6 Attend to precision.
MP7 Look for and make use of structure.
MP8 Look for and express regularity in repeated reasoning.

S.ID – Statistics and Probability – Interpreting Categorical & Quantitative Data

CCSSM	PA Core Standards for Mathematics
<p>Summarize, represent, and interpret data on a single count or measurement variable.</p> <p>S.ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.</p>	<p>CC.2.4.HS.B.1 Summarize, represent, and interpret data on a single count or measurement variable.</p>
<p>Summarize, represent, and interpret data on two categorical and quantitative variables.</p> <p>S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.</p> <p>S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</p> <ol style="list-style-type: none"> Fit a function to the data; use functions fitted to data to solve problems in the context of the data. <i>Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.</i> Informally assess the fit of a function by plotting and analyzing residuals. Fit a linear function for a scatter plot that suggests a linear association. 	<p>CC.2.4.HS.B.2 Summarize, represent, and interpret data on two categorical and quantitative variables.</p>

S.ID – Statistics and Probability – Interpreting Categorical & Quantitative Data – *Continued...*

CCSSM	PA Core Standards for Mathematics
<p>Interpret linear models.</p> <p>S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.</p> <p>S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.</p> <p>S.ID.9 Distinguish between correlation and causation.</p>	<p>CC.2.4.HS.B.3 Analyze linear models to make interpretations based on the data.</p>

S.IC – Statistics and Probability – Making Inferences and Justifying Conclusions

CCSSM	PA Core Standards for Mathematics
<p>Summarize, represent, and interpret data on a single count or measurement variable.</p> <p>S.IC.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.</p> <p>S.IC.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. <i>For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?</i></p>	<p>CC.2.4.HS.B.4 Recognize and evaluate random processes underlying statistical experiments.</p>
<p>Make inferences and justify conclusions from sample surveys, experiments, and observational studies</p> <p>S.IC.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.</p> <p>S.IC.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.</p> <p>S.IC.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.</p> <p>S.IC.6 Evaluate reports based on data.</p>	<p>CC.2.4.HS.B.5 Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.</p>