Algebra 2: Unit 6 Instructional Focus — Inferences and Conclusions from Data

Topic	Instructional Foci
Topic 1: Normal Models	In this topic, students see how the data displays, measures of center such as mean and median, measures of spread such as interquartile range and standard deviation, and other summary statistics learned in earlier grades relate to normal distributions. They identify key features of normal distributions and use their understandings to determine z-scores, analyze data that can be described by a normal curve, and solve problems. *Concepts:* SLT 1: Understand normal distributions and identify their features. SLT 2: Determine the effects of mean and standard deviation on a normal distribution. SLT 3: Use the features of a normal distribution to make decisions. SLT 4: Compare normal distributions using z scores. SLT 5: Determine the relative likelihood of several events using the features of a normal distribution.

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Topic 2: Sample Surveys, Experiments, and Observational Studies	Students identify different ways of collecting data, including sample surveys, experiments, and simulations, and the role that representative samples, randomness, and careful design play in the conclusions that can be drawn. They use data from a random sample to estimate a population proportion. *Honors students also estimate a population mean*. Building on what they learned about sampling variability in Grade 7, students use simulation to create an understanding of margin of error to describe how different the value of the sample proportion might be from the value of the population proportion. *Concepts:* SLT 6: Understand that sampling is used to make inferences about a population. SLT 7: Recognize the purpose of and the differences among surveys, experiments, and observational studies. SLT 8: Generate a sampling distribution of proportions, understanding that sampling involves variability. SLT 9: Understand and apply the meaning of margin of error for sample proportions. SLT 12: Evaluate reports based on sampling methods, data generation, data distribution, and margin of error. *Concepts unique to Honors Algebra 2:* SLT 10H: Generate a sampling distribution of means, understanding that sampling involves variability. SLT 11H: Understand and apply the meaning of margin of error for sample means.