C2.0 Mathematics 7 Unit 4 Course Outline

Statistics and Probability

Topic	Instructional Foci
Topic 1: Chance Events and Probability Models	In this topic, students build an understanding of simple probability by exploring the chance that a desired outcome will occur within an identified sample space in both theoretical and empirical scenarios. Students will use a variety of tools including number cubes, spinners, computer-based technology, and/or graphing calculators. They extend their understanding to include compound events. Students create and use probability models and simulations to collect data and estimate probabilities for real-world contexts. ***Concepts*** Describe how probability expresses the likelihood of an event occurring. Use relative frequency to explore empirical probability and theoretical probability. Compare estimated probabilities to those predicted by a uniform probability model. Determine probabilities for chance events that may or may not have equally likely outcomes. Find probabilities of compound events using organized lists and tree diagrams. Find probabilities of compound events using tables and technology. Design and use a simulation to generate frequencies for compound events. Interpret results of a simulation.
Topic 2: Random Sampling	In this topic, students explore the value of randomness and the process of selecting a random sample as a fair way to select a subset of data. They analyze and compare data distributions, making inferences about the populations by using the measures of center and measures of variability. Students generalize about the population from which the sample was selected. ***Concepts*** Reason about what makes a sample representative of a population. Interpret data from random samples to draw inferences and estimates about populations. Analyze, compare, and evaluate data displays. Draw informal comparisons using mean and variability. Synthesize understanding of statistical questions, data displays and representations, and mathematical inferences of data.

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