Instructional Unit Title: Data Daze

Mathematics 7th Grade

The teacher may provide a population for which counting would be either impossible or inefficient to determine its size (e.g., a tree population) so that students can try their hand at creating a method for estimating the size of a population.



The teacher may show data in a variety of graphical representations so that students can discuss the advantages of different types of graphical representations to communicate data.



The teacher may provide students with the opportunity to measure items in order to create a data set (e.g., foot size, hand span) so that students can explore the meaning of the mean, median and range.



The teacher may describe a population and give examples of different types of sampling methods so that students can identify what makes a sample either biased or unbiased.



The teacher may give students a mean for a context (e.g., number of people per home) so that students can create several possible data distributions for the given mean to explore the concept of variation (e.g., Mean Absolute Deviation).



The teacher may revisit the first learning experience so that students can critique the strengths and weaknesses of their initial methods for sampling and find a more accurate and efficient method. (e.g., a tree population).



The teacher may model several sampling methods for determining a population size so that students can explore the efficiency of sampling methods in comparison to counting an entire population.



PERFORMANCE ASSESSMENT: You are a product researcher and a cell phone company has hired you to study the cell phone habits of middle school students in your community (e.g., calls, texts, Tweets, Instagram, Vine). The company wants to study how boys use their cell phones in comparison to girls. You will need to create an unbiased sampling method to determine if the two populations have different device needs. Based on your findings you will help the company decide if it is a good business decision to design different cell phone plans for the two populations. For example, does one population text more than the other, or use the phone features and apps more often, or in different ways?

This unit was authored by a team of Colorado educators. The unit is intended to support teachers, schools, and districts as they make their own local decisions around the best instructional plans and practices for all students. To see the entire instructional unit sample with possible learning experiences, resources, differentiation, and assessments visit http://www.cde.state.co.us/standardsandinstruction/instructionalunitsamples.