

# MATHEMATICS

## Statistics, Data Analysis, and Probability

Grade 6		
<p><b>1. Students compute and analyze statistical measurement for data sets.</b></p> <p>6.1.1 Compute the range, mean, median and mode of data sets</p> <p>6.1.2 Understand how additional data added to data sets can affect these computations of measures of central tendency</p> <p>6.1.3 Understand how the inclusion or exclusion of outliers affects measures of central tendency</p> <p>6.1.4 Know why a specific measure of central tendency (mean, median, mode) provides the most useful information in a given context</p>	<p><b>2. Students use data samples of a population and describe the characteristics and limitations of the samples.</b></p> <p>6.2.1 Compare different samples from a population with the data from the entire population and identify when it makes sense to use a sample</p> <p>6.2.2 Identify different ways of selecting a sample (e.g., convenience sampling, those who respond to a survey, random sampling) and which makes a sample more representative for a population</p> <p>6.2.3 Analyze data displays and explain how the way the question was asked might have influenced the results obtained, and/or how the way the results were displayed might have influenced the conclusions reached</p> <p>6.2.4 Identify data that represent sampling and explain why the sample (and the display) may be biased</p> <p>6.2.5 Identify claims based on statistical data and, in simple cases, evaluate the validity of the claims</p>	<p><b>3. Students determine theoretical and experimental probabilities and use these to make predictions about events.</b></p> <p>6.3.1 Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome</p> <p>6.3.2 Use data to estimate the probability for future events (e.g., batting averages or number of accidents per mile driven)</p> <p>6.3.3 Represent probabilities as ratios, inclusive proportions, and decimals between 0 and 1, and percents between 0 and 100 and check that probabilities computed are reasonable; know how this is related to the probability of an event not occurring</p> <p>6.3.4 Understand that the probability of either of two disjoint events occurring is the sum of the two individual probabilities and that the joint probability of one event following another, in independent trials, is the product of the two probabilities</p> <p>6.3.5 Understand the difference between independent and dependent events and how this affects the results for specific probability situations</p>