

Statistics and Probability : Grade 6

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to apply statistical methods in order to summarize, analyze, and display data. - Students will demonstrate ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> 6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. 6.SP.A.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. 6.SP.A.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. 6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots. 6.SP.B.5 Summarize numerical data sets in relation to their context, such as by: - reporting the number of observations. - describing the nature of the attribute under investigation, including how it was measured and its units of measurement. - giving quantitative measures of center (median and/or mean) and variability (inter-quartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. - relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered. - 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. - MP6 Attend to precision.	Transfer	
	Students will be able to independently use their learning to interpret data to make well-informed decisions.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... statistical representations are beneficial for either studying certain characteristics or influencing certain interpretations of the data.	ESSENTIAL QUESTIONS - How can organizing large quantities of data affect our life decisions? - How can you quantify quality?
	Acquisition	
	Students will know... - that statistical questions have a range of answers. - that both measures of center and measures of variation enable us to represent data with a single number - the measures of central tendency and measures of variation. - that the distribution of data can be described as: skewed, symmetrical, uniform. - that interpreting data distribution is an important decision-making tool. - the steps to creating dot plots, histograms, and box plots. <u>vocabulary:</u> mean, box plots, median, cluster, mode, range, distribution, peak, dot plot, gap, histogram, inter-quartile range, mean, measure of center, measure of variation, median, quartile, range, skewed, symmetrical, uniform, variability	Students will be skilled at... - describing the distribution of data. - finding and explaining mean, median, and mode. - identifying and explaining quartiles and ranges. - creating and identifying statistical questions. - displaying numerical data in dot plots, histograms, and box plots. - finding the number of observations in a data set. - describing how data was measured and its units of measurement.

• MP7 Look for and make use of structure. • MP8 Look for and express regularity in repeated reasoning.		
Content Area Literacy Standards		21st Century Skills
• RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. • RST.6-8.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. • RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. • RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.		• <i>reason effectively</i> • <i>use systems thinking</i> • <i>make judgments and decisions</i> • <i>solve problems</i> • <i>access and evaluate information</i> • <i>use and manage information</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
<i>Summary of Key Learning Events and Instruction</i>	
Language Arts Integration	Mathematics Integration
• 1.OA.1 Use	• 1.OA.1 Use
Technology Integration	District Materials
• 1.OA.1 Use	

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