

Grade: 6 Unit: 5	Statistics and Probability	7 Weeks
Progression		
5th Grade	<i>Students learned to</i> Represent and interpret data. Students made line plots to display data.	
6th Grade	<i>Students will learn to: Develop understanding of statistical variability.</i> Students will recognize and understand statistical question. Students will 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. Students will display numerical data in plots on a number line, including dot plots, histograms and box plots. Students will analyze numerical data.	
7th Grade	<i>Students will extend their work:</i> <i>Use random sampling to draw inferences about a population.</i> Students will understand random samples. Students will use mean and mean absolute deviation to compare data. Students will make statistical inferences.	

STUDENT LEARNING GOALS

Mathematics Standards (Appendices A & B)

Develop understanding of statistical variability.

CCSS.MATH.CONTENT.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. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.*

CCSS.MATH.CONTENT.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.

CCSS.MATH.CONTENT.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.

Summarize and describe distributions.

CCSS.MATH.CONTENT.6.SP.B.4

Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

CCSS.MATH.CONTENT.6.SP.B.5

Summarize numerical data sets in relation to their context, such as by:

CCSS.MATH.CONTENT.6.SP.B.5.A

Reporting the number of observations.

CCSS.MATH.CONTENT.6.SP.B.5.B

Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.

CCSS.MATH.CONTENT.6.SP.B.5.C

Interdisciplinary Standards		Key Vocabulary	
Technology Integration <i>(Appendix C)</i>	21st Century Skills <i>(Appendix D)</i>	(include vocab from RCC) Statistical Questions Cluster Skewed left Skewed right Symmetrical graphs Lower Quartile Upper Quartile Box Plot Interquartile Range (IQR)	Peak Outlier Median Mode Range Mean Absolute Deviation (MAD)
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving		

Enduring Understandings <ul style="list-style-type: none"> I can recognize what makes a question a statistical question. I can calculate measures of center such as mean and median. I can calculate measures of spread such as range and mean absolute deviation. I can display data accurately with a dot plot, histogram, or box plot. I can describe data using measures of center and measures of spread. 		Essential Questions <ul style="list-style-type: none"> How can I recognize what makes a question a statistical question? How can I calculate the mean, median, range and mean absolute deviation? How can I display data accurately? How can I describe data? 	
Assessment Plan			
Summative Assessment(s)/Performance Based Assessments including 21st Century Learning RCC Interim Assessment, Student p. 306 -307 RCC Performance Task, Student p. 308		Formative and Diagnostic Assessment(s) STAR Math Assessment (Fall) RCC Embedded Tasks and Assessments	
Learning Plan Components			
Text	Ready Common Core Mathematics Instruction 2 , 2014, Curriculum Associates, ISBN: 978-0-7609-8637-0		
Print	Ready Common Core Mathematics Teacher Resource Book 2 , 2014, Curriculum Associates, ISBN: 978-0-7609-8644-8		
Electronic	www.teacher-toolbox.com www.stratfordmath.wikispaces.com www.xtramath.org		
Week 1	Students will: <ul style="list-style-type: none"> Understand that data generated from statistical questions will vary Recognize that responses to statistical questions have variations that can be used to draw conclusions about the data set. Identify the difference between a statistical and non-statistical question. Write simple statistical questions Create models that represent the anticipated data from statistical questions such as charts and tables 		
Lessons	Tasks / Activities	Worksheets	Technology
RCC Lesson 26: Understand Statistical Questions TE 285 - 292	Visual: Hands-On: 289, 292 Differentiated: 286, 292 Concept Extension: 287 Real World: 291	RCC 266 - 271	Teacher Toolbox Ready Lessons Tools for Instruction Interactive Tutorials

Week 2	Students will: <ul style="list-style-type: none"> Understand that data distribution can be viewed by its center (mean, median, and mode), spread (range), and overall shape, and it can be analyzed by its distribution. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 27:</u> Measures of Center and Variability TE 298 - 304	Visual: 296 Hands-On: 304 Differentiated: 295, 304 Concept Extension: 298 Real World: 295, 298	RCC: 272 - 283	Teacher Toolbox Ready Lessons Tools for Instruction Interactive Tutorials
Week 3	Students will: <ul style="list-style-type: none"> Create dot plots, histograms, and box plots, including labeling and scaling axes appropriately. Know when data are best represented on dot plots, histograms, or box plots. Describes the overall pattern of data, determining variability, and identify striking deviations from the overall patterns. 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 28:</u> Display Data on Dot Plots, Histograms, and Box Plots TE 305 - 316	Visual: 311 Hands-On: 307, 316 Differentiated: 310, 316 Concept Extension: 312 Real World: 307	RCC: 284 - 295	Teacher Toolbox Ready Lessons Tools for Instruction Interactive Tutorials
Week 4	Students will: <ul style="list-style-type: none"> Interpret a set of numerical data by noticing and describing patterns and deviations Understand mean absolute deviation (MAD) Determine variability (IQR, MAD) 		
Lessons	Tasks / Activities	Worksheets	Technology
<u>RCC Lesson 29 :</u> Analyze Numerical Data TE 317 - 326	Visual: 322 Hands-On: 320, 326 Differentiated: 318, 326 Concept Extension: 323 Real World: 319	RCC: 296 - 305	Teacher Toolbox Ready Lessons Tools for Instruction Interactive Tutorials
Week 5	Students will: <ul style="list-style-type: none"> Demonstrate mastery of unit objectives 		
Summative Assessment		Performance Task	
RCC Unit 1 Interim Assessment -Student p. 306 - 307 -Scoring Guide TE 327		RCC Unit 1 Performance Task -Student p. 308 -Rubric TE 328 - 329	

Additional Resources

Unit 4

Geometry

<http://www.math-aids.com/Geometry/>

<http://www.k6-geometric-shapes.com/6th-grade-math-worksheets.html>

<http://www.k5learning.com/free-math-worksheets/sixth-grade-6/geometry>

<http://www.mathworksheets4kids.com/surface-area.html>

<http://www.mathworksheetsland.com/6>

<http://www.commoncoresheets.com/Area.php>