



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6



Mathematics Grade 6: Year at a Glance 2018-2019

Q1		Q2		Q3		Q4
Module 1 Aug. 6 – Sept. 14 Ratios and Unit Rates	Module 2 Sept. 17-Oct. 22 Arithmetic Operations Including Division of Fractions	Module 3 Oct. 23-Nov. 27 Rational Numbers	Module 4 Nov. 28-Jan. 30 Expressions and Equations	Module 5 Jan. 31 - March 8 Area, Surface Area & Volume	Module 6 March 18 – April 12 Statistics	After Testing April 29 – May 24 Lessons from Modules 1, 2, 4, 5 & 6
6.RP.1	6.NS.1	6.NS.5	6.EE.1	6.G.1	6.SP.1	6.RP.3
6.RP.2	6.NS.2	6.NS.6	6.EE.2	6.G.2	6.SP.2	6.NS.4
6.RP.3	6.NS.4	6.NS.7	6.EE.3	6.G.3	6.SP.3	6.EE.2c
	6.NS.4	6.NS.8	6.EE.4	6.G.4	6.SP.4	6.EE.6
			6.EE.5		6.SP.5	6.EE.7
			6.EE.6			6.G.2
			6.EE.7			6.G.4
			6.EE.8			6.SP.2
			6.EE.9			6.SP.3
						6.SP.4
						6.SP.5
Major Content			Supporting Content			

Note: Please use the suggested pacing as a guide. It is understood that teachers may be up to one week ahead or one week behind depending on the needs of their students.

Use this guide as you prepare to teach a module for additional guidance in planning, pacing, and suggestions for omissions. [Pacing and Preparation Guide \(Omissions\)](#)

[Eureka Grade 6 Pacing and Preparation Guide](#)

■ Major Work

➤ Supporting Work



Introduction

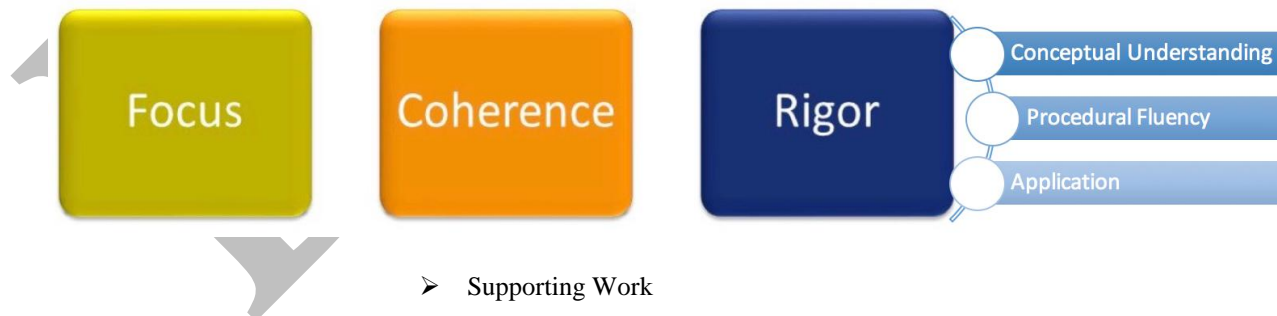
Destination 2025, Shelby County Schools' 10-year strategic plan, is designed not only to improve the quality of public education, but also to create a more knowledgeable, productive workforce and ultimately benefit our entire community.

What will success look like?



In order to achieve these ambitious goals, we must collectively work to provide our students with high quality, college and career ready aligned instruction. The Tennessee State Standards provide a common set of expectations for what students will know and be able to do at the end of a grade. The State of Tennessee provides two sets of standards, which include the Standards for Mathematical Content and The Standards for Mathematical Practice. The Content Standards set high expectations for all students to ensure that Tennessee graduates are prepared to meet the rigorous demands of mathematical understanding for college and career. The eight Standards for Mathematical Practice describe the varieties of expertise, habits of mind, and productive dispositions that educators seek to develop in all students. The Tennessee State Standards also represent three fundamental shifts in mathematics instruction: **focus, coherence and rigor**.

Instructional Shifts for Mathematics





Curriculum and Instruction – Mathematics

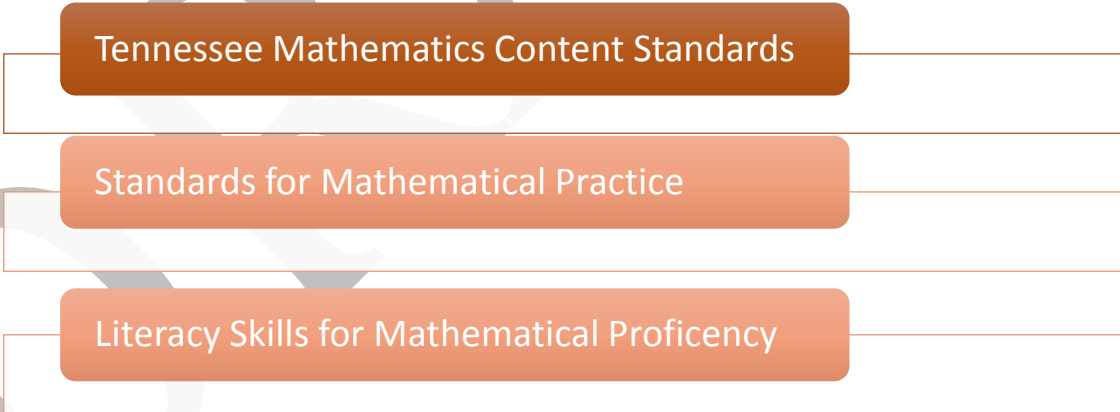
Quarter 4

Grade 6

The **Standards for Mathematical Practice** describe varieties of expertise, habits of minds and productive dispositions that mathematics educators at all levels should seek to develop in their students. These practices rest on important National Council of Teachers of Mathematics (NCTM) “processes and proficiencies” with longstanding importance in mathematics education. Throughout the year, students should continue to develop proficiency with the eight Standards for Mathematical Practice. The following are the eight Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of them.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

This curriculum map is designed to help teachers make effective decisions about what mathematical content to teach so that ultimately our students can reach Destination 2025. Throughout this curriculum map, you will see resources as well as links to tasks that will support you in ensuring that students are able to reach the demands of the standards in your classroom. In addition to the resources embedded in the map, there are some high-leverage resources around the content standards and mathematical practice standards that teachers should consistently access. For a full description of each, click on the links below.



■ Major Work

➤ Supporting Work



Structure of the Standards

Structure of the TN State Standards include:

- **Content Standards** - Statements of what a student should know, understand, and be able to do.
- **Clusters** - Groups of related standards. Cluster headings may be considered as the big idea(s) that the group of standards they represent are addressing. They are therefore useful as a quick summary of the progression of ideas that the standards in a domain are covering and can help teachers to determine the focus of the standards they are teaching.
- **Domains** - A large category of mathematics that the clusters and their respective content standards delineate and address. For example, Number and Operations – Fractions is a domain under which there are a number of clusters (the big ideas that will be addressed) along with their respective content standards, which give the specifics of what the student should know, understand, and be able to do when working with fractions.
- **Conceptual Categories** – The content standards, clusters, and domains in the 9th-12th grades are further organized under conceptual categories. These are very broad categories of mathematical thought and lend themselves to the organization of high school course work. For example, Algebra is a conceptual category in the high school standards under which are domains such as Seeing Structure in Expressions, Creating Equations, Arithmetic with Polynomials and Rational Expressions, etc.

■ Major Work

➤ Supporting Work



How to Use the Maps

Overview

An overview is provided for each quarter and includes the topics, focus standards, intended rigor of the standards and foundational skills needed for success of those standards.

Your curriculum map contains four columns that each highlight specific instructional components. Use the details below as a guide for information included in each column.

Tennessee State Standards

TN State Standards are located in the left column. Each content standard is identified as Major Content or Supporting Content. A key can be found at the bottom of the map.

Content

This section contains learning objectives based upon the TN State Standards. Best practices tell us that clearly communicating measurable objectives lead to greater student understanding. Additionally, essential questions are provided to guide student exploration and inquiry.

Instructional Support

District and web-based resources have been provided in the Instructional Support column. You will find a variety of instructional resources that align with the content standards. The additional resources provided should be used as needed for content support and scaffolding.

Vocabulary and Fluency

The inclusion of vocabulary serves as a resource for teacher planning and for building a common language across K-12 mathematics. One of the goals for Tennessee State Standards is to create a common language, and the expectation is that teachers will embed this language throughout their daily lessons. In order to aid your planning, we have also included a list of fluency activities for each lesson. It is expected that fluency practice will be a part of your daily instruction. (Note: Fluency practice is not intended to be speed drills, but rather an intentional sequence to support student automaticity. Conceptual understanding must underpin the work of fluency.)

Instructional Calendar

As a support to teachers and leaders, an instructional calendar is provided **as a guide**. Teachers should use this calendar for effective planning and pacing, and leaders should use this calendar to provide *support* for teachers. Due to variances in class schedules and differentiated support that may be needed for students' adjustment to the calendar may be required.

■ Major Work

➤ Supporting Work



Grade 6 Quarter 4 Overview

Module 6: Statistics

The chart below includes the standards that will be addressed in this quarter, the type of rigor the standards address, and foundational skills needed for mastery of these standards. Consider using these foundational standards to address student gaps during intervention time as appropriate for students.

Grade Level Standard	Type of Rigor	Foundational Standards
6.SP.1	Conceptual Understanding	5.MD.B.2
6.SP.2	Conceptual Understanding	5.MD.B.2
6.SP.3	Conceptual Understanding	
6.SP.4	Procedural Fluency	5.MD.B.2
6.SP.5	Conceptual Understanding	

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY						
<p>Module 6 Statistics</p> <p>If pacing is a challenge, do lessons (1, 3, 6, 9, 12, 14-15 & 21) highlighted in red before the TNReady assessment. Please follow any applicable special instructions that are listed below. As time permits the remaining lessons can be addressed. Adjust the mid-module and end-of-module assessments as needed or create an assessment(s) that address the specified lessons.</p> <p>Grade 6 Pacing and Preparation Guide</p> <p>(Allow approximately 4 weeks for instruction, review and assessment)</p>									
<p>Domain: Statistics and Probability Cluster: Develop understanding of statistical variability.</p> <p>➤ 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.</p> <p>➤ 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 (mean, median, mode), spread (range), and overall shape.</p> <p>Cluster: Summarize and describe distributions.</p> <p>➤ 6.SP.B.4: Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots.</p> <p>➤ 6.SP.B.5b: Describe the nature of the attribute under investigation, including how it was measured and its units of</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> • What types of questions will result in statistical variability? • How can relevant data be collected, organized, and displayed to address statistical questions? • What are appropriate displays for categorical data? What are appropriate displays for quantitative data? • What can the shape of a statistical graph (dot plot or box plot) reveal about the data? <p>Topic A Objectives:</p> <p>Lesson 1:</p> <ul style="list-style-type: none"> • Students distinguish between statistical questions and those that are not statistical. • Students formulate a statistical question and explain what data could be collected to answer the question. • Students distinguish between categorical data and numerical data. <p>Lesson 2:</p> <ul style="list-style-type: none"> • Given a dot plot, students begin describing the distribution of the points on the dot plot in terms of center and variability. 	<p>Topic A: Understanding Distributions</p> <p>Lesson 1</p> <table border="1" data-bbox="1054 656 1507 964"> <tr> <td data-bbox="1054 656 1178 711">Lesson 2</td> <td data-bbox="1178 656 1507 964" rowspan="2"> <p>You may want to introduce the vocabulary of center (mean, median and mode) in lessons 2 and 3. The term <i>mode</i> is not discussed much at all in the Common Core but it is included in the TN 6th Grade Math Standards, and <i>median</i> is covered in lesson 12.</p> </td> </tr> <tr> <td data-bbox="1054 711 1178 766">Lesson 3</td> </tr> </table> <table border="1" data-bbox="1054 993 1507 1208"> <tr> <td data-bbox="1054 993 1178 1049">Lesson 4</td> <td data-bbox="1178 993 1507 1208" rowspan="2"> <p>The TN 6th Grade Math Standard 6.SP.B.4 no longer addresses histograms. In lessons 4 & 5 replace the use of histograms to pie charts or stem plots.</p> </td> </tr> <tr> <td data-bbox="1054 1049 1178 1104">Lesson 5</td> </tr> </table> <p>For Topic A, you may use the resources from Teacher Toolbox Lessons 26: Understand Statistical Questions and 28: Display Data on Dot Plots, Histograms, and Box Plots for review, remediation, and/or assessment to meet the needs of your</p>	Lesson 2	<p>You may want to introduce the vocabulary of center (mean, median and mode) in lessons 2 and 3. The term <i>mode</i> is not discussed much at all in the Common Core but it is included in the TN 6th Grade Math Standards, and <i>median</i> is covered in lesson 12.</p>	Lesson 3	Lesson 4	<p>The TN 6th Grade Math Standard 6.SP.B.4 no longer addresses histograms. In lessons 4 & 5 replace the use of histograms to pie charts or stem plots.</p>	Lesson 5	<p>Vocabulary for Module 6 Absolute Deviation, Box Plot, Dot Plot, Frequency, Frequency Table, Mean, Mean Absolute Deviation (MAD), Median, Relative Frequency, Relative Frequency Table, Statistical Question, Variability, Stem and Leaf Plot, Range, Mode</p> <p>Familiar Terms and Symbols for Module 6 Line plot, Dot plot</p>
Lesson 2	<p>You may want to introduce the vocabulary of center (mean, median and mode) in lessons 2 and 3. The term <i>mode</i> is not discussed much at all in the Common Core but it is included in the TN 6th Grade Math Standards, and <i>median</i> is covered in lesson 12.</p>								
Lesson 3									
Lesson 4	<p>The TN 6th Grade Math Standard 6.SP.B.4 no longer addresses histograms. In lessons 4 & 5 replace the use of histograms to pie charts or stem plots.</p>								
Lesson 5									

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
<p>measurement.</p>	<p>Lesson 3:</p> <ul style="list-style-type: none"> Students create a dot plot of a given data set. Students summarize a given data set using equal length intervals and construct a frequency table. Based on a frequency table, students describe the distribution. <p>Lesson 4</p> <ul style="list-style-type: none"> Students construct a frequency histogram stem and leaf plot. Students recognize that the number of intervals used may affect the shape of a histogram stem plot. <p>Lesson 5</p> <ul style="list-style-type: none"> Students construct a relative frequency histogram stem and leaf plot. Students recognize that the shape of a histogram stem and leaf plot constructed using relative frequencies is the same as the shape of the histogram stem and leaf plot constructed using frequencies (provided that the same intervals are used). 	<p>students.</p> <p>M6 Topic A Assessment</p> <p>Additional Resources: <i>These optional resources may be used for extension, enrichment and/or additional practice, as needed.</i></p> <p>Khan Academy: Stem and Leaf Plots Purple Math: Stem and Leaf Plots vs Histograms Math is Fun: Pie Charts Khan Academy: Dot Plots Shape of Distributions Illustrative Math: Buttons - A Statistical Question 6.SP.A.1 Illustrative Math: Describing Distributions 6.SP.2, 6.SP.4</p>	
<p>Domain: Statistics and Probability Cluster: Develop understanding of statistical variability.</p> <p>➤ 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 (mean, median, mode), spread (range), and overall shape.</p> <p>➤ 6.SP.A.3 Recognize that a measure of</p>	<p>Essential Questions:</p> <ul style="list-style-type: none"> What do the measures of center (mean and median) reveal about the data? When is it appropriate to use median or mean to describe data? When is it not appropriate? What does the range reveal about the data? What does the mean absolute deviation reveal about the data? 	<p>Topic B: Summarizing a Distribution That Is Approximately Symmetric Using the Mean and Mean Absolute Deviation</p> <p>(The TN 6th Grade Math Standard 6.SP.B.4 specifies a single set of data, includes pie charts and stem plots and excludes histograms.)</p> <p>Lesson 6 Lesson 7</p>	

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY		
<p>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.</p> <p>Cluster: Summarize and describe distributions.</p> <p>➤ 6.SP.B.4 Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots.</p> <p>➤ 6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <ol style="list-style-type: none"> Report the number of observations. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered. Relate the choice of measures of center to the shape of the data distribution and the context in which the data were gathered. 	<ul style="list-style-type: none"> What can the shape of a statistical graph (dot plot, stem and leaf plot, or box plot) reveal about the data? <p>Topic B Objectives</p> <p>Lesson 6:</p> <ul style="list-style-type: none"> Students describe the center of a data distribution using a <i>fair share</i> value called the <i>mean</i>. Students connect the <i>fair share</i> concept with the mathematical formula for finding the mean. <p>Lesson 7:</p> <ul style="list-style-type: none"> Students describe the center of a distribution by its mean and interpret it as a balance point. Students understand that the mean is a balance point by calculating the distances of the data points from the mean and calling these distances <i>deviations</i>. Students understand that the balance point <p>Lesson 8:</p> <ul style="list-style-type: none"> Students interpret the mean of a data set as a typical value. Students compare and contrast two small data sets that have the same mean but differ in variability. Students see that a data distribution is not characterized only by its center. Students also consider variability (spread) when describing a data distribution. Students informally evaluate how precise the mean is as an indicator of a typical value for a distribution, based on the variability in the data. 	<p>Lesson 8 Lesson 9 Lesson 10</p> <table border="1" data-bbox="1056 370 1507 597"> <tr> <td data-bbox="1056 370 1201 597">Lesson 11</td> <td data-bbox="1201 370 1507 597">This lesson asks students to describe two data sets. However, 6.SP.4 only addresses a single data set. Adjust parts of the lesson that require students to describe/draw two data sets.</td> </tr> </table> <p>For Topic B, you may use the resources from Teacher Toolbox Lesson 27: Measures of Center and Variability for review, remediation, and/or assessment to meet the needs of your students.</p> <p>M6 Topic B Assessment</p> <p>Mid-Module 6 Assessment & Review of Assessment [In mid-module assessment #2, replace creating a histogram for a pie chart or stem plot, adjust parts b-d to refer to the data display chosen (pie chart or stem plot), and remove part e because it uses 2 data sets.] (Complete by 3/29/19)</p> <p>M6 Mid-Module Alternate Assessment</p> <p>Additional Resources: <i>These optional resources may be used for extension, enrichment and/or additional practice, as needed.</i> Illustrative Math: Average Number of Siblings 6.SP.2, 6.SP.4, 6.SP.5c</p>	Lesson 11	This lesson asks students to describe two data sets. However, 6.SP.4 only addresses a single data set. Adjust parts of the lesson that require students to describe/draw two data sets.	
Lesson 11	This lesson asks students to describe two data sets. However, 6.SP.4 only addresses a single data set. Adjust parts of the lesson that require students to describe/draw two data sets.				

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY						
	<ul style="list-style-type: none"> Students use dot plots to order data distributions according to the variability around the mean of the data distribution. <p>Lesson 9:</p> <ul style="list-style-type: none"> Students calculate the mean absolute deviation (MAD) for a given data set. Students interpret the MAD of a data set as the average distance of the data values from the mean. <p>Lessons 10-11:</p> <ul style="list-style-type: none"> Students calculate the mean and MAD for a data distribution. Students use the mean and MAD to describe a data distribution in terms of center and variability. 	<p>Illustrative Math: Electoral College 6.SP.2, 6.SP.5d Illustrative Math: Math Homework Problems 6.SP.5c</p>							
<p>Domain: Statistics and Probability Cluster: Develop understanding of statistical variability.</p> <p>➤ 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 (mean, median, mode), spread (range), and overall shape.</p> <p>➤ 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.</p> <p>Cluster: Summarize and describe distributions.</p> <p>➤ 6.SP.B.4 Display a single set of numerical</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> What inferences and predictions can be made based on the data set as a whole? <p>Topic C Objectives</p> <p>Lesson 12:</p> <ul style="list-style-type: none"> Given a data set, students determine the median of the data. <p>Lesson 13:</p> <ul style="list-style-type: none"> Given a set of data, students describe how the data might have been collected. Students describe the unit of measurement for observations in a data set. Students calculate the median of the data and describe the variability in the data by calculating the interquartile range. <p>Lesson 14:</p> <ul style="list-style-type: none"> Students construct a box plot from a given 	<p>Topic C: Summarizing a Distribution That Is Skewed Using the Median and the Interquartile Range</p> <p>(The TN 6th Grade Math Standard 6.SP.B.5 no longer refers to interquartile range.)</p> <table border="1" data-bbox="1052 976 1507 1344"> <tr> <td data-bbox="1052 976 1199 1065">Lesson 12</td> <td data-bbox="1199 976 1507 1065">Adjust this lesson to include mode</td> </tr> <tr> <td data-bbox="1052 1065 1199 1344">Lesson 13</td> <td data-bbox="1199 1065 1507 1344">Lesson 13 focuses on interquartile range. Adjust the entire lesson to help students think about variability of data to find ranges eliminating the use of interquartile range terminology and concept.</td> </tr> </table> <table border="1" data-bbox="1052 1398 1507 1435"> <tr> <td data-bbox="1052 1398 1199 1435">Lesson 14</td> <td data-bbox="1199 1398 1507 1435">In lessons 14, 15, and 16</td> </tr> </table>	Lesson 12	Adjust this lesson to include mode	Lesson 13	Lesson 13 focuses on interquartile range. Adjust the entire lesson to help students think about variability of data to find ranges eliminating the use of interquartile range terminology and concept.	Lesson 14	In lessons 14, 15, and 16	
Lesson 12	Adjust this lesson to include mode								
Lesson 13	Lesson 13 focuses on interquartile range. Adjust the entire lesson to help students think about variability of data to find ranges eliminating the use of interquartile range terminology and concept.								
Lesson 14	In lessons 14, 15, and 16								

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY						
<p>data using dot plots (line plots), box plots, pie charts and stem plots.</p> <p>➤ 6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>b. Report the number of observations.</p> <p>c. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered.</p> <p>d. Relate the choice of measures of center to the shape of the data distribution and the context in which the data were gathered.</p>	<p>set of data.</p> <p>Lesson 15:</p> <ul style="list-style-type: none"> Given a box plot, students estimate the values that make up the five-number summary (Minimum, Q1, Median, Q3, Maximum). Students describe a data set using the five-number summary and the interquartile range. Students construct a box plot from a five-number summary. <p>Lesson 16:</p> <ul style="list-style-type: none"> Students summarize a data set using box plots, the median, and the interquartile range. Students use box plots to compare two data distributions. 	<table border="1" data-bbox="1056 280 1507 375"> <tr> <td>Lesson 15</td> <td rowspan="2">remove references to quartile ranges and adjust to think about analyzing range.</td> </tr> <tr> <td>Lesson 16</td> </tr> </table> <p>For Topic C, you may use the resources from Teacher Toolbox Lesson 29: Analyze Numerical Data for review, remediation, and/or assessment to meet the needs of your students.</p> <p>Additional Resources: <i>These optional resources may be used for extension, enrichment and/or additional practice, as needed.</i></p> <p>Illustrative Math: Is It Center or Is It Variability? 6.SP.2, 6.SP.3</p> <p>Illustrative Math: Mean or Median 6.SP.5d</p>	Lesson 15	remove references to quartile ranges and adjust to think about analyzing range.	Lesson 16				
Lesson 15	remove references to quartile ranges and adjust to think about analyzing range.								
Lesson 16									
<p>Domain: Statistics and Probability</p> <p>Cluster: Summarize and describe distributions.</p> <p>➤ 6.SP.B.4 Display a single set of numerical data using dot plots (line plots), box plots, pie charts and stem plots.</p> <p>➤ 6.SP.B.5 Summarize numerical data sets in relation to their context.</p> <p>a. Report the number of observations.</p> <p>c. Give quantitative measures of center (median and/or mean) and variability (range) as well as describing any overall pattern with reference to the context in which the data were gathered.</p> <p>d. Relate the choice of measures of</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> How does the type of data influence the choice of display? What conclusions can be drawn from data? <p>Topic D Objectives</p> <p>Lesson 17:</p> <ul style="list-style-type: none"> Students formulate a statistical question and a plan to collect data to answer the question. Given a statistical question, students use data to construct appropriate graphical and numerical summaries. Students use graphical and numerical summaries to answer a statistical question. <p>Lesson 18:</p>	<p>Topic D: Summarizing and Describing Distributions</p> <p>(The TN 6th Grade Math Standard 6.SP.B.4 specifies a single set of data, includes pie charts and stem plots and excludes histograms. 6.SP.B.5 no longer refers to interquartile range.)</p> <table border="1" data-bbox="1056 1101 1507 1406"> <tr> <td colspan="2">Lesson 17</td> </tr> <tr> <td>Lesson 18</td> <td>In lesson 18 remove the use of histograms and replace with pie charts and/or stem plots. Also remove references to quartile ranges and adjust to think about analyzing ranges.)</td> </tr> <tr> <td>Lesson 19</td> <td>Adjust lesson 19 to be</td> </tr> </table>	Lesson 17		Lesson 18	In lesson 18 remove the use of histograms and replace with pie charts and/or stem plots. Also remove references to quartile ranges and adjust to think about analyzing ranges.)	Lesson 19	Adjust lesson 19 to be	
Lesson 17									
Lesson 18	In lesson 18 remove the use of histograms and replace with pie charts and/or stem plots. Also remove references to quartile ranges and adjust to think about analyzing ranges.)								
Lesson 19	Adjust lesson 19 to be								

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY				
<p>center to the shape of the data distribution and the context in which the data were gathered.</p>	<ul style="list-style-type: none"> Students demonstrate an understanding of graphical representations (dot plots, pie charts or stem plots histograms) and numerical summaries by matching numerical summaries to graphical representations of distributions. <p>Lesson 19:</p> <ul style="list-style-type: none"> Given box plots, students comment on similarities and differences in data distributions. <p>Lesson 20:</p> <ul style="list-style-type: none"> Given a frequency chart histogram, students estimate the values of the mean and mean absolute deviation (MAD) or the median and interquartile range (IQR). <p>Lesson 21:</p> <ul style="list-style-type: none"> Given a data set, students describe the data distribution using the mean and mean absolute deviation (MAD) or the median and the interquartile range (IQR). 	<table border="1" data-bbox="1056 280 1507 557"> <tr> <td data-bbox="1056 280 1203 435"></td> <td data-bbox="1203 280 1507 435">about a single set of data vs. multiple. Also remove references to quartile ranges and adjust to think about analyzing range.)</td> </tr> <tr> <td data-bbox="1056 435 1203 557">Lesson 20</td> <td data-bbox="1203 435 1507 557">Omit lesson 20 or remove the histogram problems and replace with stem plots or pie charts</td> </tr> </table> <p>Lesson 21 Lesson 22 Omit</p> <p>For Topic D, you may use the resources from Teacher Toolbox Lesson 29: Analyze Numerical Data for review, remediation, and/or assessment to meet the needs of your students.</p> <p>End of Module 6 Assessment & Review of Assessment [In the end-of-module assessment, remove 1d and the piece on IQR from 1e, remove 2d on IQR and adjust #3 to discuss variability/range not IQR.] (Complete by 4/12/19)</p> <p>Additional Resources: <i>These optional resources may be used for extension, enrichment and/or additional practice, as needed.</i> Task: Cost of Learning 6.SP.B.5 (See TOC p. 12) CPalms: Analyzing Data with Bell Curves and Measures of Center</p>		about a single set of data vs. multiple. Also remove references to quartile ranges and adjust to think about analyzing range.)	Lesson 20	Omit lesson 20 or remove the histogram problems and replace with stem plots or pie charts	
	about a single set of data vs. multiple. Also remove references to quartile ranges and adjust to think about analyzing range.)						
Lesson 20	Omit lesson 20 or remove the histogram problems and replace with stem plots or pie charts						

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
--------------------	---------	-----------------------	------------

After TNReady Assessment

This section lists lessons that were recommended to be taught after The State assessment. The Teacher Toolbox is a great resource to use to cover the lessons and you may also use the web resources that are provided below and in each of the instructional maps.

Module 6 Statistics:

For this module complete only the lessons that you did not do before state testing. If you completed these lessons before the state assessment, please go to the next module listed.

<ul style="list-style-type: none"> ➤ 6.SP.A.1 ➤ 6.SP.A.2 ➤ 6.SP.B.4 ➤ 6.SP.B.5b 		<p>Topic A</p> <p>Lesson 2 Displaying a Data Distribution (P)</p> <p><u>Teachers may choose not to complete lessons 4 & 5 because histograms are no longer a part of the TN Math standards for grade 6; however, students will need this information for algebra 1.</u></p> <p>Lesson 4 Creating a Histogram (P)</p> <p>Lesson 5 Describing a Distribution Displayed in a Histogram (P)</p>	
<ul style="list-style-type: none"> ➤ 6.SP.A.2 ➤ 6.SP.A.3 ➤ 6.SP.B.4 ➤ 6.SP.B.5 		<p>Topic B</p> <p>Lesson 7 The Mean as a Balance Point (P)</p> <p>Lesson 8 Variability in a Data Distribution (P)</p> <p>Lessons 10 & 11 Describing Distribution Using Mean and MAD (P)</p>	

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
<ul style="list-style-type: none"> ➤ 6.SP.A.2 ➤ 6.SP.A.3 ➤ 6.SP.B.4 ➤ 6.SP.B.5 		<p>Topic C Teachers may choose not to complete lesson 13 because interquartile range is no longer a part of the TN Math standards for grade 6; however, students will need this information for algebra 1. Lesson 13 Describing Variability Using the Interquartile Range (IQR) (P) Lesson 16 Understanding Box Plots (P)</p>	
<p>The following are lessons that were skipped or omitted during quarters 1-3 because they either went beyond the scope of the correlated standard(s) or repeated a skill presented in related lessons.</p>			
<p>Module 1: Ratios and Unit Rates</p>			
<ul style="list-style-type: none"> ■ 6.RP.A.3c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. 		<p>Topic D Lesson 29 Solving Percent Problems (E)</p>	

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

Module 2: Arithmetic Operations

➤ **6.NS.B.4** Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express $36 + 8$ as $4(9+2)$.*

Topic C

Lesson 16 Even and Odd Numbers (S)
Lesson 17 Divisibility Test for 3 and 9 (S)
Lesson 19 The Euclidean Algorithm as an Application of the Long Division Algorithm (P)

[Better Lesson GCF Performance Task](#)

Module 4: Expressions & Equations

- **6.EE.2c** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
- **6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- **6.EE.7** Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p , q and x are all nonnegative rational numbers.

Topic C

Lesson 7 Replacing Letters with Numbers (P)

Topic G

Lesson 28 Two-step Problems – All Operations (M)
Lesson 29 Multi-step Problems – All Operations (P)

Topic H

Lesson 30 One-step Problems in the Real World (P)

This task provides an opportunity for students to engage in the skills from these three standards.

[Gym Use Task: Addresses 6.EE.2c, 6.EE.B.6 & 6.EE.B.7](#)

■ Major Work

➤ Supporting Work



Module 5: Surface Area and Volume Problems

- **6.G.A.2** Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
- **6.G.A.4** Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Topic D

Lesson 18 Determining Surface Area of Three-Dimensional Figures (P)

Lesson 19a Optional lesson - Applying Surface Area and Volume to Aquariums (M)

These resources provide visuals for drawing and using nets.

[Drawing Nets & Using Nets to Calculate Surface Area Video](#)

[Surface Area & Volume Lesson Video](#)

[Learner.org Interactives: Geometry 3D Shapes](#)

DRAFT

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

RESOURCE TOOLBOX

The Resource Toolbox provides additional support for comprehension and mastery of grade-level skills and concepts. While some of these resources are imbedded in the map, the use of these categorized materials can assist educators with maximizing their instructional practices to meet the needs of all students.

NWEA MAP Resources: https://teach.mapnwea.org/assist/help_map/ApplicationHelp.htm#UsingTestResults/MAPReportsFinder.htm - Sign in and Click the Learning Continuum Tab – this resources will help as you plan for intervention, and differentiating small group instruction on the skill you are currently teaching. (Four Ways to Impact Teaching with the Learning Continuum)
<https://support.nwea.org/khanrit> - These Khan Academy lessons are aligned to RIT scores.

<p>Textbook Resources www.greatminds.org Eureka Math Grade 6 Remediation Guide</p>	<p>Standards Support TN Math Standards Gr. 6 Instructional Focus Document Achieve the Core Edutoolbox</p>	<p>Videos Learn Zillion Khan Academy</p>
<p>Calculator Activities TI-83 & TI-84 Activities for Middle Grades TI-Inspire for Middle Grades CASIO Activities</p>	<p>Interactive Manipulatives Glencoe Virtual Manipulatives National Library of Interactive Manipulatives</p>	<p>Additional Sites Embarc Online PBS: Grades 6-8 Lesson Plans Grade 6 Flip Book (This book contains valuable resources that help develop the intent, the understanding and the implementation of the state standards.)</p>

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

Shelby County Schools – Grade 6 – March 2019

Mon	Tue	Wed	Thu	Fri	
				1	
4	5	6	7	8	
11 Spring Break	12 Spring Break	13 Spring Break	14 Spring Break	15 Spring Break	
18 Q4 Begins Begin Module 6	19	20	21	22	
25	26	27	28	29 Mid-Module 6 Assessment (omit #2b) & Review	

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

Shelby County Schools – Grade 6 – April 2019					
Mon	Tue	Wed	Thu	Fri	
1 Module 6 Topic C (omit IQR from lessons 13, 14, 16, 18, & 19) (do lesson 17 after TNReady)	2	3	4	5	
8	9	10	11 End-of-Module 6 Assessment & Review	12 End-of-Module 6 Assessment & Review	
15 State Assessment Week	16	17	18	19 Good Friday (no school)	
22 State Assessment Week	23	24	25	26	
29 Begin Module 6 Lessons recommended to be done after state assessment.	30				

■ Major Work

➤ Supporting Work



Curriculum and Instruction – Mathematics

Quarter 4

Grade 6

Shelby County Schools – Grade 6 – May 2019

Mon	Tue	Wed	Thu	Fri	
		1	2	3	
6 Begin Modules 1 & 2 Lessons recommended to be done after state assessment.	7	8	9	10	
13 Begin Modules 4 & 5 Lessons recommended to be done after state assessment.	14	15	16	17	
20	21 Semester Exams	22 Semester Exams	23 Semester Exams	24 Last Day of School	
27 Memorial Day	28	29	30	31	

■ Major Work

➤ Supporting Work