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

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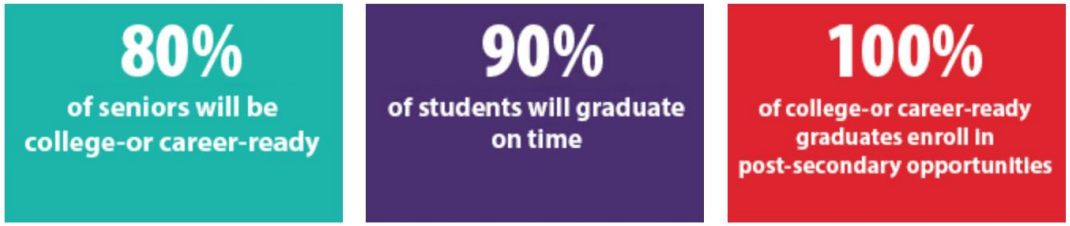
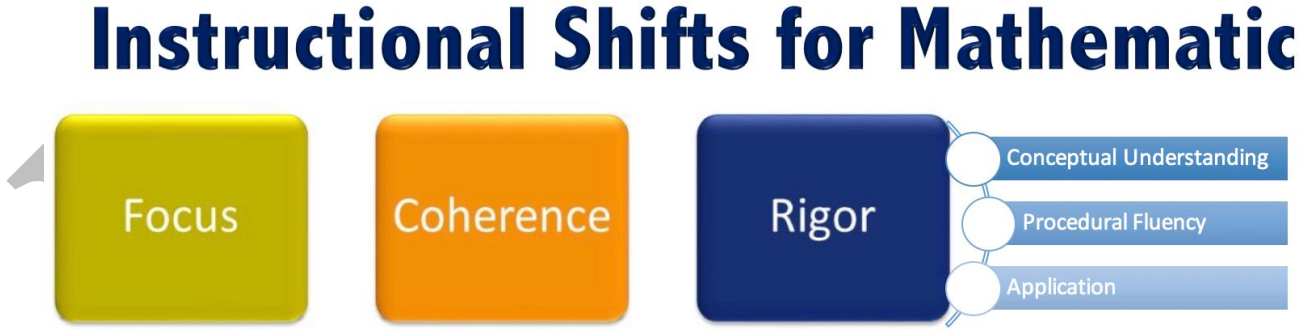
Introduction

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**.



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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.

Tennessee Mathematics Content Standards

Standards for Mathematical Practice

Literacy Skills for Mathematical Proficency

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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.

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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.

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Grade 6 Quarter 2 Overview

Module 2: Arithmetic Operations
Module 3: Rational Numbers
Module 4: Expressions & Equations

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.NS.2	Procedural Fluency	5.NBT.6
6.NS.3	Procedural Fluency	5.NBT.5, 5.NBT.6, 5.NBT.7
6.NS.4	Procedural Fluency	4.OA.4, 5.NF.5
6.NS.5	Conceptual Understanding	
6.NS.6	Conceptual Understanding	5.G.1
6.NS.7	Conceptual Understanding	
6.NS.8	Procedural Fluency & Application	5.G.2
6.EE.1	Procedural Fluency	5.NBT.2
6.EE.2	Procedural Fluency	5.OA.2, 5.OA.3
6.EE.3	Application	5.OA.2
6.EE.4	Conceptual Understanding	5.OA.2

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
Module 2 Arithmetic Operations **Grade 6 Pacing and Preparation Guide** **(Allow approximately 6 days for instruction, review and assessment)**			
Domain: The Number System **Cluster:** Compute fluently with multi-digit numbers and find common factors and multiples. ➢ **6.NS.B.2:** Fluently divide multi-digit numbers using a standard algorithm. ➢ **6.NS.B.3**: Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	**Essential Question:** • How does division of rational numbers relate to multiplication of rational numbers? • How is division of rational numbers used in the real world? **Topic C Objectives:** **Lesson 13:** • Students understand that the standard algorithm of division is simply a tally system arranged in place value columns. **Lesson 14:** • Students use their knowledge of dividing multi-digit numbers to solve for quotients of multi-digit decimals. • Students understand the mathematical concept of decimal placement in the divisor and the dividend and its connection to multiplying by powers of 10. **Lesson 15:** • Students use mental math and their knowledge of dividing multi-digit numbers to solve for quotients of multi-digit decimals. • Students understand the mathematical concept of decimal placement in the divisor and the dividend and its connection to multiplying by powers of 10.	**Topic C: Dividing Whole Numbers and Decimals** **Lesson 12 Omit** **Lesson 13** **Lesson 14** **Lesson 15 (Please notice and correct the error in Exercise #4)** **For Topic C, you may use the resources from Teacher Toolbox *Lesson 8: Divide Multi-Digit Numbers and* Lesson 10*: Multiply and Divide Decimals* for review, remediation, and/or assessment to meet the needs of your students.** **Module 2 Topic C Assessment** **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* **Illustrative Math: Interpreting a Division Computation** **Illustrative Math: Batting Average**	

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➢ **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.	**Essential Question:** Why is it important to be able to find the greatest common factor and least common multiple of a set of numbers? **Topic D Objective** **Lesson 18:** • Students find the least common multiple and greatest common factor and apply knowledge of factors to use the distributive property.	**Topic D: Number Theory- Thinking Logically About Multiplicative Arithmetic** **Lesson 16 Omit** **Lesson 17 Omit** **Lesson 18** **Lesson 19 Omit** **For Topic D, you may use the resources from Teacher Toolbox *Lesson 11: Common Factors and Multiples* for review, remediation, and/or assessment to meet the needs of your students.** **Module 2 Topic D Assessment** **End of Module 2 Assessment & Review of Assessment** **(Complete by 10/22/18)** **Module 2 EOM Alternate Assessment** **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* Illustrative Math: Greatest Common Factor 6.NS.4 Illustrative Math: Bake Sale Task	

TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
Module 3 Rational Numbers and the Coordinate Plane **Grade 6 Pacing and Preparation Guide** **(Allow approximately 5 weeks for instruction, review and assessment)**			
Domain: The Number System **Cluster:** Apply and extend previous understandings of numbers to the system of rational numbers. ■ **6.NS.C.5:** Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. ■ **6.NS.C.6a:** Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself.	**Essential Questions:** • How are positive and/or negative numbers used in real-life situations? **Topic A Objectives** **Lesson 1**: • Students extend their understanding of the number line, which includes zero and numbers to the right or above zero that are greater than zero and numbers to the left or below zero that are less than zero. • Students use positive integers to locate negative integers by moving in the opposite direction from zero. • Students understand that the set of integers includes the set of positive whole numbers and their opposites, as well as zero. They also understand that zero is its own opposite. **Lesson 2:** • Students use positive and negative numbers to indicate a change (gain or loss) in elevation with a fixed reference point, temperature, and the balance in a bank account. • Students use vocabulary precisely when describing and representing situations involving integers; for example, an elevation of −10 feet is the same as 10 feet below the fixed reference point. • Students choose an appropriate scale for the number line when given a set of positive	**Topic A: Understanding Positive and Negative Numbers on the Number Line** **Lesson 1** **Lesson 2** **Lesson 3** **Lesson 4** **Lesson 5** **Lesson 6** **For Topic A, you may use the resources from Teacher Toolbox Lesson 12: *Understand Positive and Negative Numbers* for review, remediation, and/or assessment to meet the needs of your students.** Module 3 Topic A Assessment **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* TN Task Arc: Locating, Ordering and Finding... 6.NS.C.5 (Task 1 only) TN Task: Fun in the Ocean Illustrative Math: Integers on the Number Line 1 6.NS.6a	**Vocabulary for Module 3:** Absolute Value, Integer, Magnitude, Negative Number, Opposite, Positive Number, Quadrant, Rational Number **Familiar Terms and Symbols for Module 3**: Coordinate Pair, Coordinate Plane, Fraction, Line of Symmetry, Ordered Pair, Origin, Quadrant, Symmetry, Whole Numbers, x-Axis, x-Coordinate, y-Axis, y-Coordinate

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	and negative numbers to graph. **Lesson 3**: • Students use positive and negative numbers to indicate a change (gain or loss) in elevation with a fixed reference point, temperature, and the balance in a bank account. • Students use vocabulary precisely when describing and representing situations involving integers; for instance, an elevation of −10 feet is the same as 10 feet below the fixed reference point. • Students choose an appropriate scale for the number line when given a set of positive and negative numbers to graph. **Lesson 4:** • Students understand that each nonzero integer, aa, has an opposite, denoted $-aa$, and that $-aa$ and aa are opposites if they are on opposite sides of zero and are the same distance from zero on the number line. • Students recognize the number zero is its own opposite. • Students understand that since all counting numbers are positive, it is not necessary to indicate such with a plus sign. **Lesson 5**: • Students understand that, for instance, the opposite of −5 is denoted −(−5) and is equal to 5. In general, they know that the opposite of the opposite is the original number. • Students locate and position opposite numbers on a number line. **Lesson 6**: • Students use number lines that extend in		

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	both directions and use 0 and 1 to locate integers and rational numbers on the number line. • Students know that the sign of a nonzero rational number is positive or negative, depending on whether the number is greater than zero (positive) or less than zero (negative), and use an appropriate scale when graphing rational numbers on the number line. • Students know that the opposites of rational numbers are similar to the opposites of integers. • Students know that two rational numbers have opposite signs if they are on different sides of zero and that they have the same sign if they are on the same side of zero on the number line.to model addition and subtraction of rational number.		
Domain: The Number System **Cluster:** Apply and extend previous understandings of numbers to the system of rational numbers. ■ **6.NS.C.6c:** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. ■ **6.NS.7:** Understand ordering and absolute value of rational numbers. ■ **6.NS.C.7a:** Interpret statements of inequality as statements about the relative position of two numbers on a number line. ■ **6.NS.C.7b:** Write, interpret, and explain	**Essential Questions** • What is an absolute value and how is it used in the real world? • How does absolute value relate to distance on a number line? **Topic B Objectives:** **Lesson 7** • Students write, interpret, and explain statements of order for rational numbers in the real world. • Students recognize that if $aa < bb$, then $-aa > -bb$ because a number and its opposite are equal distances from zero. Students also recognize that moving along	**Topic B: Multiplication and Division of Integers and Rational Numbers** **Lesson 7** **Lesson 8 Omit** **Lesson 9** **Lesson 10** **Lesson 11** **Lesson 12** **Lesson 13** **For Topic B, you may use the resources from Teacher Toolbox Lesson 13: *Absolute Value and Ordering Numbers* for review, remediation and/or assessment to meet the needs of your students.**	

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
statements of order for rational numbers in real-world contexts. ■ **6.NS.C.7c:** Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute as magnitude for a positive or negative quantity in a real-world situation. ■ **6.NS.C.7d:** Distinguish comparisons of absolute value from statements about order.	the horizontal number line to the right means the numbers are increasing. **Lesson 9** • Students compare and interpret rational numbers' order on the number line, making statements that relate the numbers' location on the number line to their order. • Students apply their prerequisite knowledge of place value, decimals, and fractions to compare integers and other rational numbers. • Students relate integers and other rational numbers to real-world situations and problems. **Lesson 10:** • Students write and explain inequality statements involving rational numbers. • Students justify inequality statements involving rational numbers. **Lesson 11:** • Students understand the absolute value of a number as its distance from zero on the number line. • Students use absolute value to find the magnitude of a positive or negative quantity in a real-world situation. **Lesson 12:** • Students understand that the order of positive numbers is the same as the order of their absolute values. • Students understand that the order of negative numbers is the opposite order of their absolute values. • Students understand that negative numbers are always less than positive numbers. **Lesson 13:**	Module 3 Topic B Assessment **Mid-Module 3 Assessment & Review of Assessment** ***(Complete by 11/8/18)*** Module 3 MM Alternate Assessment **Reminder:** *It is recommended that teachers begin preparing for Module 4 on 11/13/18.* **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed* TN Task Arc: Locating, Ordering & Finding Distance Between Positive & Negative Numbers Illustrative Math: Plotting Points in the Coordinate Plane 6.NS.6c Illustrative Math: 6.NS.7 Tasks	

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
	• Students apply understanding of order and absolute value when examining real-world scenarios		
Domain: The Number System **Cluster:** Apply and extend previous understandings of numbers to the system of rational numbers. ■ **6.NS.C.6b:** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. ■ **6.NS.C.6c:** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. ■ **6.NS.B.8** Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	**Essential Question(s):** • How do you locate points in the coordinate plane? • How can you find distances between points on the same vertical or horizontal line? **Topic C Objectives:** **Lesson 14**: • Students use ordered pairs to name points in a grid and to locate points on a map. • Students identify the first number in an ordered pair as the first coordinate and the second number as the second coordinate. **Lesson15:** • Students extend their understanding of the coordinate plane to include all four quadrants and recognize that the axes (identified as the x-axis and y-axis) of the coordinate plane divide the plane into four regions called quadrants (that are labeled from first to fourth and are denoted by roman numerals). • Students identify the origin and locate points other than the origin, which lie on an axis. • Students locate points in the coordinate plane that correspond to given ordered pairs of integers and other rational numbers.	**Topic C: Replacing Letters with Numbers** **Lesson 14** **Lesson 15** **Lesson 16** **Lesson 17** **Lesson 18** **Lesson 19** **For Topic C, you may use the resources from Teacher Toolbox Lesson 14: *The Coordinate Plane* for review, remediation, and/or assessment to meet the needs of your students.** Module 3 Topic C Assessment **End of Module 3 Assessment & Review of Assessment** ***(Complete by 11/27/18)*** Module 3 EOM Alternate Assessment **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* TN Task: "Coordinating" with the Rug Illustrative Math: Reflecting Points over Coordinate axes Illustrative Math: Plotting Points in the Coordinate Plane Illustrative Math: Distances Between Points	**Vocabulary for Module 3:** Absolute Value, Integer, Magnitude, Negative Number, Opposite, Positive Number, Quadrant, Rational Number **Familiar Terms and Symbols for Module 3**: Coordinate Pair, Coordinate Plane, Fraction, Line of Symmetry, Ordered Pair, Origin, Quadrant, Symmetry, Whole Numbers, x-Axis, x-Coordinate, y-Axis, y-Coordinate

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
	Lessons 16: • Students understand that two numbers are said to differ only by signs if they are opposites of each other. • Students recognize that when two ordered pairs differ only by the sign of one or both of the coordinates, then the locations of the points are related by reflections across one or both axes. **Lessons 17:** • Students draw a coordinate plane on graph paper in two steps: (1) Draw and label the horizontal and vertical axes; (2) Mark the number scale on each axis. • Given some points as ordered pairs, students make reasonable choices for scales on both axes and locate and label the points on graph paper. **Lesson 18:** • Students compute the length of horizontal and vertical line segments with integer coordinates for end points in the coordinate plane by counting the number of units between end points and using absolute value. **Lesson 19**: • Students solve problems related to the distance between points that lie on the same horizontal or vertical line. • Students use the coordinate plane to graph points, line segments, and geometric shapes in the various quadrants and then use the absolute value to find the related distances.	Task	

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
Module 4 Expressions and Equations **Grade 6 Pacing and Preparation GuideGrade 6 Pacing and Preparation Guide** **(Allow approximately (Allow approximately 3 weeks for instruction, review and assessment)**			
Domain: Expressions and Equations **Cluster:** Apply and extend previous understandings of arithmetic to algebraic expressions. ■ **6.EE.A.3**: Apply the properties of operations to generate equivalent expressions.	**Essential Question(s):** • How can order of operations be applied to a mathematical expression? **Topic A Objectives** **Lesson 1**: • Students build and clarify the relationship of addition and subtraction by evaluating identities such as $w - x + x = w$ and $w + x - x = w$. **Lesson 2:** • Students build and clarify the relationship of multiplication and division by evaluating identities such as $a \div b \cdot b = a$ and $a \cdot b \div b = a$. **Lesson 3**: • Students build and clarify the relationship of multiplication and addition by evaluating identities such as $3 \cdot g = g + g + g$. **Lesson 4:** • Students build and clarify the relationship of division and subtraction by determining that $12 \div x = 4$ means $12 - x - x - x = 0$.	**Topic A: Relationships of the Operations** **Lesson 1** **Lesson 2** **Lessons 3 & 4, Combine** Suggestions for combining • Lesson 3 Discussion, Exercises 2, 4, & 5 • Lesson 4 Discussion, Exercise 2 • Lesson 3 Exit Ticket # 2 & 4; Lesson 4 Exit Ticket #1 • Homework: Lessons 3 & 4 Problem Sets **For Topic A, you may use the resources from Teacher Toolbox Lesson 17: *Equivalent Expressions* for review, remediation, and/or assessment to meet the needs of your students.** Module 4 Topic A Assessment **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* Tennessee PBS Stations: Video Lesson Illustrative Math: Anna in D.C. 6.EE.3	**Vocabulary for Module 4:** Equation, Equivalent Expressions, Exponential Notation for Whole Number Exponents, Expression, Linear Expression, Number Sentence, Numerical Expression, Solution of an Equation Truth Values of a Number Sentence Value of a Numerical Expression, Variable **Familiar Terms and Symbols for Module 4**: Distribute, Expand, Factor, Number Sentence, Product, Properties of Operations (distributive, commutative, associative), Quotient, Sum, Term, True or False Number Sentence, Variable or Unknown Number

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
Domain: Expressions and Equations **Cluster:** Apply and extend previous understandings of arithmetic to algebraic expressions. ■ **6.EE.A.1:** Write and evaluate numerical expressions involving whole-number exponents. ■ **6.EE.A.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).	**Essential Questions** • How do arithmetic properties contribute to algebraic understanding? • How do the order of operations and properties help simplify and evaluate algebraic expressions? **Topic B Objectives:** **Lesson 5:** • Students discover that $3x = x + x + x$ is not the same thing as x^3, which is $x \cdot x \cdot x$. • Students understand that a base number can be represented with a positive whole number, positive fraction, or positive decimal and that for any number a, a^m is defined as the product of m factors of a. The number a is the base, and m is called the *exponent* or *power* of a. **Lesson 6** • Students evaluate numerical expressions. They recognize that in the absence of parentheses, exponents are evaluated first.	**Topic B: Special Notations of Operations** **Lesson 5** **Lesson 6** (Allow 2 days for this lesson) **For Topic B, you may use the resources from Teacher Toolbox Lesson15: *Numerical Expressions* for review, remediation, and/or assessment to meet the needs of your students.** **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* Illustrative Math: Exponent Experimentation 1 Illustrative Math: Exponent Experimentation 2	

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■ **6.EE.A.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.A.4**: Identify when expressions are equivalent (i.e., when the expressions name the same number regardless of which value is substituted into them). For example, the expression 5b + 3b is equivalent to (5 +3) b, which is equivalent to 8b.	**Essential Question(s):** • What strategies can be used to determine if two expressions are equivalent? **Topic C Objectives:** **Lesson 8:** • Students understand that a letter in an expression or an equation can represent a number. When that number is replaced with a letter, an expression or an equation is stated. • Students discover the commutative properties of addition and multiplication, the additive identity property of zero, and the multiplicative identity property of one. They determine that $g \div 1 = g$, $g \div g = 1$, and $1 \div g = 1/g$	**Topic C: Replacing Letters and Numbers** **Lesson 7 Omit** **Lesson 8** **For Topic C, you may use the resources from Teacher Toolbox Lesson16*: Algebraic Expressions* for review, remediation, and/or assessment to meet the needs of your students.** **Additional Resources**: *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* Illustrative Math: Equivalent Expressions Illustrative math: Watch out for Parenthesis Illustrative Math: Rectangle Perimeter	
■ **6.EE.A.2.a:** Write expressions that record operations with numbers and with letters standing for numbers. "Subtract y from 5" as 5-y ■ **6.EE.A.2b:** Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. ■ **6.EE.A.3:** Apply the properties of operations (including, but not limited to, commutative, associative, and distributive properties) to generate equivalent expressions. The distributive property is prominent here. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to	**Essential Question(s):** • How can order of operations be applied to a mathematical expression? • How do we generalize numerical relationships and express mathematical ideas using expressions and equations? **Topic D Objectives:** **Lesson 9:** • Students write expressions that record addition and subtraction operations with numbers. **Lesson 10:** • Students identify parts of an expression using mathematical terms for multiplication. They view one or more	**Topic D: Expanding, Factoring, and Distributing Expressions** **Lesson 9** **Lesson 10** **Lesson 11** **Lesson 12** **Lessons 13 & 14** **There are <u>two</u> suggested options for combining Lessons 13-14:** **1. Combine Lessons 13-14** • **Lesson 13, Examples 1–3, All Exercises** • **Lesson 14 Example 1** • **Exit Ticket, and Problem Set from Lesson 14.** **2. Do all of Lesson 13 and use**	

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TN STATE STANDARDS	CONTENT	INSTRUCTIONAL SUPPORT	VOCABULARY
the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y. ■ **6.EE.A.4:** Identify when expressions are equivalent (i.e., when the expressions name the same number regardless of which value is substituted into them). For example, the expression 5b + 3b is equivalent to (5 +3) b, which is equivalent to 8b.	parts of an expression as a single entity. **Lesson 11:** • Students model and write equivalent expressions using the distributive property. They move from expanded form to factored form of an expression. **Lesson 12:** • Students model and write equivalent expressions using the distributive property. They move from the factored form to the expanded form of an expression. **Lessons 13-14:** • Students write numerical expressions in two forms, "dividend÷divisor" and "dividend/divisor ", and note the relationship between the two.	**information from Lesson 14 and make anchor charts for students to reference.** **For Topic D, you may use the resources from Teacher Toolbox Lesson17: *Equivalent Expressions* for review, remediation, and/or assessment to meet the needs of your students.** **Module 4 Topic D Assessment** **Additional Resources:** *These optional resources may be used for extension, enrichment and/or additional practice, as needed.* TN Task Arc: Equivalent Expressions 6.EE.3 & 6.EE.4 Tennessee PBS Stations: Video Lesson 6.EE.A.3 Illustrative Math Tasks: 6.EE.2	

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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.		
Textbook Resources www.greatminds.org Eureka Math Grade 6 Remediation Guide	**Standards Support** TN Math Standards Gr. 6 Instructional Focus Document Achieve the Core Edutoolbox	**Videos** Learn Zillion Khan Academy Embarc Online
Calculator Activities TI-83 & TI-84 Activities for Middle Grades TI-Inspire for Middle Grades CASIO Activities	**Interactive Manipulatives** Glencoe Virtual Manipulatives National Library of Interactive Manipulatives	**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.)

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Shelby County Schools – Grade 6 - October 2018					
Mon	**Tue**	**Wed**	**Thu**	**Fri**	
1	**2**	**3**	**4**	**5**	
8 Columbus Day **Fall Break** →	**9**	**10**	**11**	**12**	
15 **Q2 Begins** **Module 2 Topic C Lesson 13 (omit lessons 16, 17 & 19)**	**16**	**17**	**18**	**19**	
22 **End-of-Module 2 Assessment (omit #2 & 5) & Review of Assessment**	**23** **Begin Module 3 (omit lesson 8)**	**24**	**25**	**26**	
29	**30**	**31** Halloween			

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Shelby County Schools – Grade 6 – November 2018					
Mon	**Tue**	**Wed**	**Thu**	**Fri**	
			1	**2**	
5	**6**	**7**	**8** **Mid-Module 3 Assessment & Review of Assessment**	**9** **Module 3 Lesson 14**	
12 Veterans Day **Teachers & Students are out**	**13** **Prepare for Module 4**	**14**	**15**	**16**	
19	**20**	**21** **Thanksgiving Break**	**22** **Thanksgiving Day**	**23** **Thanksgiving Break**	
26	**27** **End-of-Module 3 Assessment & Review of Assessment**	**28** **Begin Module 4 (omit lesson 7; allow two days for lesson 6, if needed)**	**29**	**30**	

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Shelby County Schools – Grade 6 – December 2018					
Mon	**Tue**	**Wed**	**Thu**	**Fri**	
3	**4**	**5**	**6**	**7**	
10	**11**	**12**	**13**	**14** **Module 4 Lessons 13-14 (see additional information in map)**	
17 **Semester Exams**	**18** **Semester Exams**	**19** **Q2 Ends** **Semester Exams**	**20** **Christmas and Winter Break** →	**21**	
24 **Christmas Day** →	**25**	**26**	**27** →	**28**	

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