Curriculum Coverage in 7th Grade Mathematics for the 2018-2019 School Year as Outlined by TN Standards.

TN Standards Major Work of the Grade:

* Operations with fractions
* Proportional Relationships
* Equivalent Expressions from properties
* Contextual problems involving equations and inequalities

Supporting:

* Geometrical figures
* Angle measure, area, surface area, volume
* Random sampling
* Compare two populations
* Probability
* Data Sets

[**The Standards for Mathematical Practice**](http://www.corestandards.org/Math/Practice)

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| **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.** | **MP4. Model with mathematics.** |
| **MP5. Use appropriate tools strategically.** | **MP6. Attend to precision.** | **MP7. Look for and make use of structure.** | **MP8. Look for and express regularity in repeated reasoning.** |

**1st Nine Weeks**

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| **TN Standards** | **Learning Outcomes**  | **Instructional Focus** | **Content** |
| **Rational Numbers****(Allow 4 weeks for instruction, review, and assessment)** |
| 7.NS.A.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.a. Describe situations in which opposite quantities combine to make 0.b. Understand *p* *+ q* as the number located a distance |*q*| from *p*, in the positive or negative direction depending on whether *q* is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.c. Understand subtraction of rational numbers as adding the additive inverse, *p – q* = *p + (-q).* Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.d. Apply properties of operations as strategies to add and subtract rational numbers. | I can…Describe situations in which a number and its opposite combine to make 0 (additive inverse).Tell the absolute value if given a number and a number line. Explain why absolute value is always a positive value. Add positive and negative numbers.Describe real-world contexts using integers.Subtract positive and negative numbers. Explain/demonstrate that subtracting is the same as adding a negative.Use the commutative and associative properties of addition to add and subtract rational numbers. |  | **GO Math:**Lesson 1.1. Adding Integers with the same sign (p.7)Lesson 1.2. Adding Integers with different signs ( p.13)Lesson 1.3 Subtracting Integers ( p. 19)Lesson 1.4 Applying Addition and Subtraction of Integers ( p. 25)**Engage NY Task:**[Module 2, Topic A, B, C](https://www.engageny.org/resource/grade-7-mathematics-module-2)[Addition and Subtraction of Integers and Rational Numbers](https://www.engageny.org/resource/grade-7-mathematics-module-2)[Multiplication and Division of Integers and Rational Numbers](https://www.engageny.org/resource/grade-7-mathematics-module-2)[Applying Operations with Rational Numbers to Expressions and Equations](https://www.engageny.org/resource/grade-7-mathematics-module-2) |
| 7.NS.A.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then –(*p/q) = (-p)/q = p/(-q).* Interpret quotients of rational numbers by describing real-world contexts.c. Apply properties of operations as strategies to multiply and divide rational numbers.d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_7.NS.A.3 Solve real-world mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions) | Multiply and divide integers – rules for multiplying and dividing integers.Explain that -(p/q) = -p/q = p/-q (this is important for solving equations)Use the distributive property to create equivalent expressionsDescribe products and quotients of integers by describing real-world situations. Use the associative and commutative property of multiplication and apply order of operations to multiply and divide integers.Use long division to convert a rational number to a decimal.Explain if the resulting number is a rational number based on the definition of rational numbers.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Apply the operations to fractions (add, subtract, multiply, divide).Identify complex fractions (a complex fraction has a fraction in either the numerator, denominator, or both).Simplify complex fractions.  |  | GO Math: Lesson 2.1 Multiplying Integers (p.37)Lesson 2.2 Dividing Integers ( p. 43)Lesson 2.3 Applying Integer Operations (p. 49)GO Math:Lesson 3.1. Rational Numbers and Decimals (p. 61)Lesson 3.2 Adding Rational Numbers (p. 67)Lesson 3.3 Subtracting Rational Numbers ( p. 75)Lesson 3.4 Multiplying Rational Numbers (p. 83)Lesson 3.5 Dividing Rational Numbers( p. 89)Lesson 3.6 Applying Rational Number Operations (p. 95) |
| **Equations and Inequalities****(Allow 5 - 6 weeks for instruction, review, and assessment)** |
| 7.EE.A.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. | I can……Apply properties of operations and work with rational numbers to write equivalent expressionsDemonstrate understanding of properties by rewriting expressions in a different expression.EX: 2(3 + 6) = 2(3) + 2(6) = 6 + 12 = 182 (X + 6) = 2(X) + 2(6) = 2X + 12 | **Instructional Focus:** Students should develop an in-depth understanding of applying properties of operations and be flexible in selecting the most efficient operations to use and explain their reasoning using precise mathematical vocabulary. Students should also be able to justify their solutions by substituting values into equivalent expressions to verify that both expressions result in the same value and are therefore equivalent expressions, and their solution path is correct. Additionally, students should extend their knowledge of applying properties for operations as strategies to add, subtract, factor, and expand liner expressions as a part of solving contextual problems. This will be a foundational skill for future coursework in which students will work with other expression types.  | GO Math: Lesson 6.1 Algebraic Expressions (p. 173)Lesson 6.2 One-Step Equations with Rational Coefficients (p. 179)Lesson 6.3. Writing Two-Step Equations ( p. 185)Lesson 6.4 Solving Two-Step Equations (p. 191)Lesson 5.2 Rewriting Percent Expressions (p. 147)**Engage NY Task**[Module 3, Topic A](https://www.engageny.org/resource/grade-7-mathematics-module-3)[Use Properties of Operations to Generate Equivalent Expressions](https://www.engageny.org/resource/grade-7-mathematics-module-3) |
| 7.EE.A.2 Understand that rewriting an expression in different forms in a contextual problem can provide multiple ways of interpreting the problem and how the quantities in it are related. | I can….Rewrite an expression in different forms in a contextual problem in order to understand all of the parts of the problem. Ex. Shoes are on sale at a 25% discount. How is the discounted price P related to the original cost C of the shoes? C - .25C = P In other words, P is 75% of the original cost for C - .25C can be written as .75C | **Instructional Focus:** Students should be able to generate an expression resulting from a real-world problem and explain the parts of the expressions in terms of the context. Students should also be able to generate multiple equivalent expressions and justify the use of one over the other. Additionally, they should be able to provide an explanation of the connection that exists between the resultant expressions. Justifications and explanations should be in both verbal and written form using precise mathematical vocabulary.  | GO Math Lessons: Lesson 5.2 Rewriting Percent Expressions (p. 147) |

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| **Resource Toolbox:**<http://www.kutasoftware.com/free.html><http://illuminations.nctm.org/> <http://cuacs8.mck.ncsu.edu/mathsampleitems/main.html> <http://www.ilovemath.org/index.php?option=com_docman> <http://www.math-aids.com><http://www.commoncoresheets.com><http://www.mathworksheetsland.com> |