

Huntsville City Schools

Fifth Grade Digits Pacing Guide

2018 - 2019

- Thoughtful and effective **planning** throughout the school year is crucial for student mastery of standards.
- Once a standard is introduced, it is understood that the standard is continuously taught and/or reviewed throughout the **entire** school year.
- Some standards appear in multiple grading periods. The bulleted section typed below the standard is the portion of the standard that students should master in that time frame.

First Nine Weeks

Operations and Algebraic Thinking

5.OA.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

- **Whole numbers**

Number and Operations in Base Ten

5.NBT.1: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.

5.NBT.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

5.NBT.3: Read, write, and compare decimals to thousandths.

5.NBT.4: Use place value understanding to round decimals to any place.

5.NBT.5: Fluently multiply multi-digit whole numbers using the standard algorithm.

5.NBT.6: Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
(6th Grade: 6.NS.2)

5.NBT.7: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method, and explain the reasoning used.
(6th Grade: 6.NS.3)

The Number System

6.NS.2: Fluently divide multi-digit numbers using the standard algorithm.
(5th Grade: 5.NBT.6)

6.NS.3: Fluently add, subtract, multiply, and divide multi-digit decimals using standard algorithm for each operation.
(5th Grade: 5.NBT.7)

Expressions and Equations

6.EE.1: Write and evaluate numerical expressions involving whole-numbers exponents.

6.EE.3: Apply the properties of operations to generate equivalent expressions.

Second Nine Weeks

Operations and Algebraic Thinking

5.OA.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

- **Decimals and fractions**

Number and Operations – Fractions

5.NF.1: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

5.NF.2: Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally, and assess the reasonableness of answers.

5.NF.4: Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

5.NF.6: Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

5.NF.7: Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (Students able to multiply fractions in general can develop strategies to divide fractions in general by reasoning about the relationship between multiplication and division. However, division of a fraction by a fraction is not a requirement at this grade.)

(6th Grade: 6.NS.1)

The Number System

6.NS.1: Interpret and compute quotients of fractions and solve word problems involving division of fractions, e.g., by using visual fraction models and equations to represent the problem.

(5th Grade: 5.NF.7)

6.NS.4: Find the greatest common factor (GCF) of two whole numbers less than or equal to 100 and the least common multiple (LCM) 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.

Third Nine Weeks

Operations and Algebraic Thinking

5.OA.2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

Expressions and Equations

6.EE.1: Write and evaluate numerical expressions involving whole-numbers exponents.

6.EE.2: Write, read and evaluate expressions in which letters stand for numbers.

6.EE.3: Apply the properties of operations to generate equivalent expressions.

6.EE.4: Identify when two expressions are equivalent (i.e. when the two expressions name the same number regardless of which value is substituted into them).

6.EE.5: Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true?

Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

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.9: Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and the independent variables using graphs and tables, and relate these to the equation.

Ratios and Proportions

6.RP.1: Understand the concept of a ratio, and use ratio language to describe a ratio relationship between two quantities.

6.RP.2: Understand the concept of a unit rate $\frac{a}{b}$ associated with a ratio a:b with

$b \neq 0$, and use rate language in the context of a ratio relationship.

6.RP.3: Use ratio and rate reasoning to solve real-world and mathematical problems, eg., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

Fourth Nine Weeks

The Number System

6.NS.5: Understand that positive and negative numbers are used together to describe quantities having opposite direction or values. (eg., temperature above/below zero; elevation above/below sea level; credits/debits; positive/negative electrical charge); use positive and negative numbers to represent quantities in real-world contexts explaining the meaning of 0 in each situation.

6.NS.6: Understand a rational number as a point on a number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

6.NS.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.

Geometry

6.G.1: Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

6.G.3: Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

6.G.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.

Measurement and Data

5.MD.5: Relate volume to the operations of multiplication and addition, and solve real-world and mathematical problems involving volume.