Jasper City Schools

Fifth Grade Math Pacing Guide

9.20.2018

1st Nine Weeks Aug. 15 -Oct. 13	2nd Nine Weeks Oct. 16 –Dec. 20	3rs Nine Weeks Jan.4 – Mar.16	4th Nine Weeks Mar. 19 –May 25
Topic 1* Place Value **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 $^1/_{10}$ of what it represents in the place to its left. **5.NBT.3** Read, write, and compare decimals to thousandths. **5.NBT.3a** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form. **5.NBT.3b** Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. **Topic 2* Adding and Subtracting Decimals** **5.NBT.4** Use place value understanding to round decimals to any place. **5.NBT.7** Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties	**Topic 5* Divide by 2-Digit** **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. **Topic 6* Multiplying Decimals** **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.7** Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies	**Topic 9* Adding and Subtracting 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. **Topic 10* Adding and Subtracting Mixed Numbers** **5.NF.1** Add and subtract fractions with unlike denominators (including mixed numbers) by replacing	**Topic 15* Classifying Plane Figures** **5.G.3** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. **5.G.4** Classify two-dimensional figures in a hierarchy based on properties. **Topic 16* Coordinate Geometry** **5.G.1** Use a pair of perpendicular number lines, called axes, to define a coordinate system with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the

of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method, and explain the reasoning used.

Topic 3* Multiplying Whole Numbers
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.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.

Topic 4* Divide by 1-Digit
5.NBT.6 Find whole-number quotients of

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.

Topic 7* Dividing Decimals
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.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.

Topic 8* Numerical Expression, Patterns, and Relationships
5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and

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.

Topic 11* Multiplying and Dividing Fractions and Mixed Numbers
5.NF.3 Interpret a fraction as division of the numerator by the denominator ($^a/_b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

names of the two axes and the coordinates correspond.
5.G.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Topic 12*Volume of Solids
5.MD.3 Recognize volume as an attribute of solid figures, and understand concepts of volume measurement.
5.MD.3a A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
5.MD.3b A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
5.MD.5 Relate volume to the operations of multiplication and addition, and solve real-world and mathematical problems involving volume.
5.MD.5a Find the volume of a right rectangular prism with

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.	evaluate expressions with these symbols. **5.OA.2** Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. **5.OA.3** Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.	**5.NF.4a** Interpret the product ($^a/_b$) x q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a x $q \div b$. **5.NF.4b** Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. **5.NF.5** Interpret multiplication as scaling (resizing), **5.NF.5a** Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. **5.NF.5b** Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case), explaining why multiplying a given number by a fraction less than 1 results in a	whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. **5.MD.5b** Apply the formulas $V = l$ x w x h and $V = B$ x h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real-world and mathematical problems. **5.MD.5c** Recognize volume as additive. Find volumes of solid figures composed of two nonoverlapping right rectangular prisms by adding the volumes of the nonoverlapping parts, applying this technique to solve real-world problems. **Topic 13* Units of Measure** **5.MD.1** Convert among different-sized standard measurement units within a given measurement system and use these conversions in solving

		product smaller than the given number, and relating the principle of fraction equivalence $^a/_b$ = $^{(n \times a)}/_{(n \times b)}$ to the effect of multiplying by 1. **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. **5.NF.7a** Interpret division of a unit fraction by a nonzero whole number, and compute such quotients. **5.NF.7b** Interpret division of a whole number by a unit fraction, and compute such quotients. **5.NF.7c** Solve real-world problems involving division of unit	multistep, real-world problems. **Topic 14*Data** **5.MD.2** Make a line plot to display a data set of measurements in fractions of a unit ($^1/_2$, $^1/_4$, $^1/_8$). Use operations on fractions for this grade to solve problems involving information presented in line plots.

		fractions by nonzero whole numbers and division of whole numbers by unit fractions.	

*EnVision Textbook Series

	Topic Covered 2016-2017
1st Nine Weeks	**1, 2, 3, 4,***
2nd Nine Weeks	**5, 6, 7, 8,***
3rd Nine Weeks	**9, 10, 11,***
4th Nine Weeks	**12, 13, 14, 15, 16,***

*Measurement instruction will be ongoing throughout the year (morning work, bell ringers, centers).