Fifth Grade Pacing Guide

WEEK	NEW SKILL FOR THE WEEK	INDIANA CCRS
1	• Addition, • Place Value Trillions, • Comparing Numbers • Reasoning Story Problems *Students must have mastery of Multiplication facts by Week #4	**4.NS.1:** Read and write whole numbers up to 1,000,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 1,000,000. **4.C.1:** Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach.
2	• Subtraction • Perimeter	**4.C.1:** Add and subtract multi-digit whole numbers fluently using a standard algorithmic approach. **5.M.3:** Develop and use formulas for the area of triangles, parallelograms and trapezoids. Solve real-world and other mathematical problems that involve perimeter and area of triangles, parallelograms and trapezoids, using appropriate units for measures.
3	• Rounding (estimation) • Patterns • Number Line (midpoint)	**5.NS.5:** Use place value understanding to round decimal numbers up to thousandths to any given place value. **4.NS.2:** Compare two whole numbers up to 1,000,000 using >, =, and < symbols (patterns) **5.NS.1:** Use a number line to compare and order fractions, mixed numbers, and decimals to thousandths. Write the results using >, =, and < symbols.
4	• Theory of Multiplication • 2 digit X1 digit • 3 digit X 1 digit • Solving problems using Mental Math **VOCABULARY** factors products	**5.NS.3:** Recognize the relationship 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 inversely, a digit in one place represents 1/10 of what it represents in the place to its left. **5.C.1:** Multiply multi-digit whole numbers fluently using a standard algorithmic approach. 5.C.3 Compare 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.AT.1:** Solve real-world problems involving multiplication and division of whole numbers (e.g. by using equations to represent the problem). In division problems that involve a remainder, explain how the remainder affects the solution to the problem.

5	• 2 digit x 2 digit (2 ways)
	  - standard algorithm
	  - broken into 4 multiplication
	    equations EX: 62 x 38 = 60 x 30
	                                  30 x 2
	                                  8 x 2
	                                  60 x 8
	• Power of 10/Exponents
		5.C.1: Multiply multi-digit whole numbers fluently using a standard algorithmic approach. (2D X 2D)
		
		5.NS.4: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placementof the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents tode-note powers of 10.(Power of 10)

6	• Area: Parallelograms, Triangles, Rect-angles, Trapezoids	**5.M.3:** Develop and use formulas for the area of triangles, parallelograms and trapezoids. Solve real-world and other mathematical problems that involve perimeter and area of triangles, parallelo-grams and trapezoids, using appropriate units for measures.
7	• Properties: Associative, Distributive, Commutative • Parenthesis, Brackets	**5.C.9:** Evaluate expressions with parentheses or brackets involving whole numbers using the com-mutative properties of addition and multiplication, associative properties of addition and multiplication, and distributive property.
8	• Volume	**5.M.4:** Find the volume of a right rectangular prism with 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 or multiplying the height by the area of the base. **5.M.5:** Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for right rectangular prisms to find volumes of right rectangular prisms with wholenumber edge lengths to solve realworld problems and other mathemati-cal problems involving shapes.
9	• Complex Volume • Standard Measurement: Length (inches, feet, yards, mile conversion between)	**5.M.6:** Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve realworld problems and other mathematical problems. **5.M.1:** Convert among different-sized standard mea-surement units within a given measurement system, and use these conversions in solving multi-step real-world problems.

10	• Theory of Division • Vocabulary: divisor, dividend, quotient	**5.C.2:** Find whole-number quotients and remainders 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. Describe the strategy and explain the reasoning used. **5.AT.1:** Solve real-world problems involving multiplication and division of whole numbers (e.g. by using equations to represent the problem). In division problems that involve a remainder, explain how the remainder affects the solution to the problem.
11	• 2 Digit Divisors • Order of Operations	**5.C.2:** Find whole-number quotients and remainders 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. Describe the strategy and explain the reasoning used.
12	• Mean • Mode • Median • Range	**5.DS.2:** Understand and use measures of center (mean and median) frequency (mode) to describe data set.
13	• Graphing Points • Variables in an Equation	**5.AT.6:** Graph points with whole number coordinates on a coordinate plane. Explain how the coordinates relate the point as the distance from the origin on each axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and xcoordinate, y-axis and y-coordinate). **5.AT.7:** Represent real-world problems and equations by graphing ordered pairs in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. **4.AT.4:** Solve real-world problems with whole numbers involving multiplicative comparison (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).
14	• Variables to Write Linear Equations	**5.AT.8:** Define and use up to two variables to write linear expressions that arise from real-world problems, and evaluate them for given values.

15	• Plotting	**5.DS.1:** Formulate questions that can be addressed with data and make predictions about the data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, bar graphs, and line graphs. Recognize the differences in representing categorical and numerical data.
	• Interpreting Data	
	• Standard Measurement: Weight (ounces, pounds, tons-conversion between)	
		5.M.1: Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multistep real-world problems.
16	• Theory of Decimals: Write, Order, Place Value Thousandths	**5.C.8:** Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.
	• Add/Subtract	
	VOCABULARY increasing decreasing order Less than/equal symbol Greater than/equal symbol	**5.AT.5:** Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations to represent the problem).
17	• Multiply, Divide Decimals	**5.C.8:** Add, subtract, multiply, and divide decimals to hundredths, using models or drawings and strategies based on place value or the properties of operations. Describe the strategy and explain the reasoning.
		5.AT.5: Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations to represent the problem).
18	**REVIEW WEEK: Decimals - All Operations.**	

19	• Theory of Fractions:
	  - Comparing, Ordering, Equivalent
	  - Fraction to decimal
	  - Number Lines
	  - Mixed # to Improper
	  - Improper to Mixed
	  - Lowest Terms
		5.NS.2: Explain different interpretations of fractions, including: as parts of a whole, parts of a set, and division of whole numbers by whole numbers.

20	• Fraction Models	**5.AT.2:** Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators (e.g., by using visual fraction models and equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and assess whether the answer is reasonable. **5.NS.2:** Explain different interpretations of fractions, including: as parts of a whole, parts of a set, and division of whole numbers by whole numbers.

21	• Add, Subtract Fractions
	  - Mixed Numbers
	  - Unlike Denominators
	  - Using Fraction Models
		5.AT.2: Solve real-world problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators (e.g., by using visual fraction models and equations to represent the problem). Use benchmark fractions and number sense of fractions to estimate mentally and assess whether the answer is reasonable.
		
		5.C.4: Add and subtract fractions with unlike denominators, including mixed numbers.

22	• Multiplying, Dividing Fractions
	  - Mixed Numbers
	  - Division w/whole numbers
	  - Using fraction models
		5.C.5: Use visual fraction models and numbers to multiply a fraction by a fraction or a whole number.
		
		5.AT.4: Solve real-world problems involving division of unit fractions by non-zero whole numbers, and division of whole numbers by unit fractions.
		
		5.AT.3: Solve real-world problems involving multiplication of fractions, including mixed numbers.
		
		5.M.2: Find the area of a rectangle with fractional side lengths by modeling 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.C.7: Use visual fraction models and numbers to divide a unit fraction by a non-zero whole number and to divide a whole number by a unit fraction.
		
		5.C.6: Explain why multiplying a positive number by a fraction greater than 1 results in a product greater than the given number. Explain why multiplying a positive number by a fraction less than 1 results in a product smaller than the given number. Relate the principle of fraction equivalence, $a/b = (n \times a)/(n \times b)$, to the effect of multiplying a/b by 1.

23	**REVIEW WEEK: Fractions - All Operations**	
24	• Standard Measurement: Liquid (cups, pints, quarts, gallons - conversion between)	**5.M.1:** Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step real-world problems.
25	• Identify, Classify Polygons: Properties, Hierarchy • Identify Angles and Triangles: Properties	**5.G.2:** Identify and classify polygons including quadrilaterals, pentagons, hexagons, and triangles (equilateral, isosceles, scalene, right, acute and obtuse) based on angle measures and sides. Classify polygons in a hierarchy based on properties.
26	• Circles: Relationship between radius and diameter	**5.G.1:** Identify, describe, and draw triangles (right, acute, obtuse) and circles using appropriate tools (e.g., ruler or straightedge, compass and technology). Understand the relationship between radius and diameter.
27	• Theory of Percents • Converting between: Fractions, Decimals, Percents	**5.NS.6:** Understand, interpret, and model percents as part of a hundred (e.g. by using pictures, diagrams, and other visual models).
28	• Percents: Story Problems, Pictures, Diagrams	**5.NS.6:** Understand, interpret, and model percents as part of a hundred (e.g. by using pictures, diagrams, and other visual models).
29	**REVIEW WEEK: All 5th grade standards**	
30	**REVIEW WEEK: All 5th grade standards**	
31	• Theory of Integers • +/- Integers • Absolute Value • Story Problems (6th Grade)	**6.NS.1:** Understand that positive and negative numbers are used to describe quantities having opposite directions values (e.g., above/below zero, elevation above/ below sea level, credits/debits, positive/ negative electric charge). Use positive and negative represent and compare quantities in real-world contexts, explaining the meaning of 0 in each situation. **6.NS.2:** Understand the integer number system. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; know the opposite of the opposite of a number (e.g., −(−3) = 3), and that 0 is its own opposite. *Continued on next page*

31 (cont.)		**6.NS.3:** Compare and order rational numbers. Write, interpret, and explain statements of order for rational numbers in real-world contexts.
		6.NS.4: Understand that the absolute value of a number is the distance from zero on a number line.
32	• Multiplying/Dividing Integers (6th Grade)	**7.C.3/7.C.4:** Multiplication and division of integers.