Weeks 1-6	OAS 2016
4.N.1.1	Demonstrate fluency with multiplication and division facts with factors up to 12.
4.N.1.2	Use an understanding of place value to multiply or divide a number by 10, 100 and 1,000.
4.N.1.3	Multiply 3-digit by 1-digit or a 2-digit by 2-digit whole numbers, using efficient and generalizable procedures and strategies, based on knowledge of place value, including but not limited to standard algorithms.
4.N.1.4	Estimate products of 3-digit by 1-digit or 2-digit by 2-digit whole numbers using rounding, benchmarks and place value to assess the reasonableness of results. Explore larger numbers using technology to investigate patterns.
4.N.1.5	Solve multi-step real-world and mathematical problems requiring the use of addition, subtraction, and multiplication of multi-digit whole numbers. Use various strategies, including the relationship between operations, the use of appropriate technology, and the context of the problem to assess the reasonableness of results.
4.N.1.6	Use strategies and algorithms based on knowledge of place value, equality and properties of operations to divide 3-digit dividend by 1-digit whole number divisors.
4.N.1.7	Determine the unknown addend(s) or factor(s) in equivalent and non-equivalent expressions.
Academic Vocabulary	greater than, less than, equal to, product, computation, array, inverse operation, expanded form, rounding, standard form, associative, property, commutative property, identity property, multiplication, factor, number sentence, divisor, dividend, quotient, division, word form, period, equivalent, compensation, equation, multiple, fact family, distributive property, partial product,
Resources	Big Ideas Math Pretest
	Big Ideas Math Topic 1: 1.1 combine 1.2-1.4
	Big Ideas Math Topic 2: 2.1, Combine 2.2-2.4, 2.5
	Big Ideas Math Topic 3: all lessons give pre and post assess
	Big Ideas Math 5th Grade Topic 1.4 - 1.6
	Big Ideas Math 5th Grade 5.N.2.2

Weeks 7-12	OAS 2016
4.N.1.3	Multiply 3-digit by 1-digit or a 2-digit by 2-digit whole numbers, using efficient and generalizable procedures and strategies, based on knowledge of place value, including but not limited to standard algorithms.
4.N.1.6	Use strategies and algorithms based on knowledge of place value, equality and properties of operations to divide 3-digit dividend by 1-digit whole number divisors.
4.N.1.7	Determine the unknown addend(s) or factor(s) in equivalent and non-equivalent expressions.
4.A.1.1	Create an input/output chart or table to represent or extend a numerical pattern.
4.A.1.2	Describe the single operation rule for a pattern from an input/output table or function machine involving any operation of a whole number.
4.A.1.3	Create growth patterns involving geometric shapes and define the single operation rule of the pattern.
4.A.2.1	Use number sense, properties of multiplication and the relationship between multiplication and division to solve problems and find values for the unknowns represented by letters and symbols that make number sentences true.
4.A.2.2	Solve for unknowns in problems by solving open sentences (equations) and other problems involving addition, subtraction, multiplication, or division with whole numbers. Use real-world situations to represent number sentences and vice versa.
Academic Vocabulary	Equation, expression, input, output, remainder, variable, algebraic expression, dividend, divisor, quotient, product, function table, prime, composite, factors, multiples,
Resources	Extra lesson on math properties
	Big Ideas Math Topic 4: Pre -Test, combine lsns 4.1-4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, *could combine 4.7- 4.8
	Big Ideas Math Topic 5: Pre Test - teach all lessons, post test topic 4 and 5 together
	Big Ideas Math Topic 6- lsns 6.1, 6.2, 6.3, *Pull out 6.4 and teach if time allows, combine 6.5-6.6, pre and post test
	supplemental lesson on 3 x 3 multiplication
	supplement for variables and function tables 4.N.2.2 -not covered in the text iXl- variables

Weeks 13-18	OAS 2016
4.N.2.1	Represent and rename equivalent fractions using fraction models (e.g. parts of a set, area models, fraction strips, number lines).
4.N.2.2	benchmark fractions (0, 1/4, 1/3, 1/2, 2/3, 3/4, 1) to locate additional fractions on a number line. Use models to order and compare whole numbers and fractions less than and greater than one using comparative language and symbols.
4.N.2.3	Decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations (e.g., 3⁄4 = 1⁄4 + 1⁄4 + 1⁄4).
4.N.2.4	Use fraction models to add and subtract fractions with like denominators in real-world and mathematical situations.
Academic Vocabulary	decompose fractions, improper fractions, mixed number, simplest form, benchmark fraction, numerator, denominator, factor, equivalent, difference, mixed numbers, whole number,
Resources	Big Ideas Math Topic 7: teach all lessons
	Big Ideas Math Topic 8: *combine lsn 8.1 & 8.4, 8.2, *combine lsn 8.3 & 8.5, 8.6, *combine lsn 8.7-8.8, lsn 8.9
	Big Ideas Math Topic 9: teach all lessons
	Big Ideas 5th Grade Topic 5.A.2.1 5.A.2.3
	***supplement simplifying (reducing) fractions - not covered in the book**
	Review factors, basic fraction concepts - sets, regions

Weeks 19-24	OAS 2016
4.N.2.5	Represent tenths and hundredths with concrete models, making connections between fractions and decimals.
4.N.2.6	Represent, read and write decimals up to at least the hundredths place in a variety of contexts including money.
4.N.2.7	Compare and order decimals and whole numbers using place value, a number line and models such as grids and base 10 blocks.
4.N.2.8	Compare benchmark fractions (1/4, 1/3, 1/2, 2/3, 3/4) and decimals (0.25, 0.50, 0.75) in real-world and mathematical situations.
4.N.3.1	Given a total cost (whole dollars up to $20 or coins) and amount paid (whole dollars up to $20 or coins), find the change required in a variety of ways. Limited to whole dollars up to $20 or sets of coins.
4.GM.2.4	Choose an appropriate instrument and measure the length of an object to the nearest whole centimeter or quarter-inch.
4.GM.2.5	Solve problems that deal with measurements of length, when to use liquid volumes, when to use mass, temperatures above zero and money using addition, subtraction, multiplication, or division as appropriate (customary and metric).
4.GM.2.2	Find the area of polygons that can be decomposed into rectangles.
4.GM.3.1	Determine elapsed time.
4.GM.3.2	Solve problems involving the conversion of one measure of time to another.
4.D.1.1	Represent data on a frequency table or line plot marked with whole numbers and fractions using appropriate titles, labels, and units.
Academic Vocabulary	tenths, hundredths, decimal point, area, irregular shapes, rectangles, perimeter, length, inch,, foot, yard, mile, metric, millimeter, centimeter, decimeter, meter, kilometer, capacity, ounce pound, ton, cup, pints, quarts, gallons, liters, milliliter, fluid ounce, weight, mass, gram, kilogram, standard, customary, conversion, half hour, quarter hour, minute, second, hour, elapsed time, decade, century, year, millennium, degrees, Celsius, Fahrenheit, line plots,
Resources	Big Ideas Math Topic 10: combine lsn 10.1 & 10.2, lsn 10.3, 10.4, 10.5 10.6, 10.7
	Big Ideas Math Topic 11: teach all lessons
	Big Ideas Math Topic 12: teach all lessons
	*Supplement for finding the area of irregular shapes that can break apart into rectangles - very little in 12.4

Weeks 25-30	OAS 2016
4.GM.1.1	Identify points, lines, line segments, rays, angles, endpoints, and parallel and perpendicular lines in various contexts.
4.GM.1.2	Describe, classify, and sketch quadrilaterals, including squares, rectangles, trapezoids, rhombuses, parallelograms, and kites. Recognize quadrilaterals in various contexts.
4.GM.1.3	Given two three-dimensional shapes, identify similarities, and differences.
4.GM.2.1	Measure angles in geometric figures and real-world objects with a protractor or angle ruler.
4.GM.2.3	Using a variety of tools and strategies, develop the concept that the volume of rectangular prisms with whole-number edge lengths can be found by counting the total number of same-sized unit cubes that fill a shape without gaps or overlaps. Use appropriate measurements such as cm3.
4.D.1.2	Use tables, bar graphs, timelines, and Venn diagrams to display data sets. The data may include benchmark fractions or decimals (1/4, 1/3, 1/2, 2/3, 3/4, 0.25, 0.50, 0.75).
4.D.1.3	Solve one- and two-step problems using data in whole number, decimal, or fraction form in a frequency table and line plot.
Academic Vocabulary	survey, bar graph, line graph, ordered pairs, Venn diagrams, rotational symmetry, congruence, line symmetry, quadrilaterals, trapezoid, triangle, parallelogram, rhombus, volume, frequency
Resources	Big Ideas Math Topic 13: teach all lessons
	Big Ideas Math Topic 14: teach all lessons

Weeks 31-36	OAS 2016
	getting ready for fifth grade- multiplying decimals, decimals to thousandths, dividing - dropping off the remainder and converting to decimals and continue to divide, powers of 10, adding and subtracting fractions with unlike denominators, greatest common factor, least common denominator, rounding decimals
Academic Vocabulary	
Resources	Chapter 1 of the 5th grade book