Ontario School District

4th Grade Math Roadmap 2013-2014

Not all of the content is emphasized equally in the standards. Some clusters require greater emphasis than the others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. In addition, an intense focus on the most critical materials at each grade allows depth in learning which is carried out through the Standards for Mathematical Practice.

The following table identifies the major clusters = 🟩 , supporting clusters = 🟦 , and additional clusters = 🟨 and the order in which they should be covered in the scope of the school year. Major clusters are those requiring more time and emphasis in the classroom. Students should demonstrate mastery in these areas. Resource tools have been identified as well as math vocabulary by grading period. It's essential that students learn the concepts, develop fluency in that concept, and that students can apply the concept in problem solving.

4th Grade Fact Fluency Standard 4.NBT.4 Add/Subtract within 1,000,000 and maintain fluency in addition/subtraction/multiplication/division: Math fact fluency is the ability to recall the answers to basic math facts automatically (3 seconds and 90% accuracy is the goal). Fact fluency is defined as "quick recall without the use of tools". Fluent in the Common Core Standards means "fast and accurate". It is important that all students understand the **concepts** of addition and subtraction.

Data Collection Dates	Domains/Clusters	Envisions Topic	Additional Resources	Vocabulary
October 11th CFA's Topics 1, 2, & 3	**Operations and Algebraic Thinking** 🟩 Use the four operations with whole numbers to solve problems 🟦 Gain familiarity with factors and multiples 🟨 Generate and analyze patterns **Number and Operations in Base Ten** 🟩 Generalize place value understanding for multi-digit whole numbers	**Topic 1** Numeration **Topic 2** Adding and Subtracting Whole Numbers (add in 6-2) **Topic 3** Multiplication Meaning and Facts (only 3-1, 3-2, 3-3)	4th Grade Moodle Online Resources Other **Envisions Interventions Lessons:** **Topic 1:** F7-F11, H11-H13, J6 Digging into Operations CCSS: lessons 1 & 2 **Topic 2:** F26, F28, G5-G8, G11-G13, G15-G20, J1, J8 Digging into Operations CCSS: lesson 3 **Topic 3:** G21-G23, G25-G27, G32, G34 Digging into Operations CCSS: lesson 4	array, product, factors, multiple, Commutative Property of Multiplication, Zero Property of Multiplication, Identity Property of Multiplication, Distributive Property, inverse operations, fact family, repeating pattern, digits, place value, standard form, expanded form, word form, compare, breaking apart, compensation, counting on, Commutative Property of Addition, Associative Property of Addition, Identity Property of Addition, inverse operations

November 22nd CFA's Topics 4 & 5	**Operations and Algebraic Thinking** ■ Gain familiarity with factors and multiples **Number and Operations in Base Ten** ■ Use place value understanding and properties of operations to perform multi-digit arithmetic	**Topic 4** Division Meaning and Facts (add in 6-3) **Topic 5** Multiplying by 1-Digit Numbers	4th Grade Moodle Online Resources Other **Envisions Intervention Lessons:** **Topic 4:** G35, G37-G41, J10 Digging into Operations CCSS: lesson 5 **Topic 5:** G43, G45, G47-G50, J9, J34 Digging into Operations CCSS: lesson 6	partial products, compensation, compatible numbers
January 23rd CFA's Topics 7, 8, & 14	**Operations and Algebraic Thinking** ■ Gain familiarity with factors and multiples **Number and Operations in Base Ten** ■ Use place value understanding and properties of operations to perform multi-digit arithmetic	**Topic 7** Multiplying by 2-Digit Numbers **Topic 8** Dividing by 1-Digit Divisors **Topic 14** Area and Perimeter	4th Grade Moodle Online Resources Other **Envisions Intervention Lessons:** **Topic 7:** G66-G71, J2 Digging into Operations CCSS: lesson 7 **Topic 8:** G42, G44, G46, G53-G56, G59, J3-J4 Digging into Operations CCSS: lessons 8-12 **Topic 14:** I44-I50, J18 Digging into Geometry CCSS: lesson 1	remainder, prime number, composite number
March 14th CFA's Topic 10 & 12	**Number and Operations-Fractions** ■ Extend understanding of fraction equivalence and ordering ■ Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers ■ Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers ■ Understand decimal notation for fraction, and compare decimal	**Topic 10** Understanding Fractions **Topic 12** Understanding Decimals	4th Grade Moodle Online Resources Other **Envisions Intervention Lessons:** **Topic 10:** H2, H3, H6, H7, H9, H14-H19, J37 Digging into Fractions CCSS: lessons 1-3 **Topic 12:** H5, H8, H10, H20-H23, H28, H30, H34, H35, J25 Digging into Fractions CCSS: lessons 9-13	fraction, equivalent fractions, numerator, denominator, benchmark fractions, mixed number, improper fraction, unit fraction, tenth, hundredth, decimal point

	fractions			
May 2nd CFA's Topics 11 & 16	**Number and Operations-Fractions** 🟩 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers 🟩 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers **Measurement and Data** 🟦 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit 🟦 Represent and interpret data	**Topic 11** Adding and Subtracting Fractions (add supplemental lessons for adding/subtracting mixed numbers and multiplying fractions by whole numbers) **Topic 16** Measurement, Time, and Temperature (cut 16-11)	4th Grade Moodle Online Resources Other **Envisions Intervention Lessons:** **Topic 11:** H36-H38, H40, H41, J11 <mark>Digging into Fractions CCSS:</mark> lessons 4-9 **Topic 16:** I22-I36, I39, I40, I42, J27 <mark>Digging into Operations CCSS:</mark> lessons13 & 14	inch, foot, yard, mile, capacity, weight, ounce, pound, ton, millimeter, centimeter, decimeter, meter, kilometer, milliliter, liter, mass, gram, kilogram
June 12th CFA's Topic 9	**Measurement and Data** 🟧 Geometric measurement: understand concepts of angle and measure angles **Geometry** 🟦 Draw and identify lines and angels, and classify shapes by properties of their lines and angles	**Topic 9** Lines, Angles, and Shapes	4th Grade Moodle Online Resources Other **Envisions Intervention Lessons:** **Topic 9:** I3-I7, I12, I17, J32 <mark>Digging into Geometry CCSS:</mark> lessons 2-7	point, line, plane, parallel lines, intersecting lines, perpendicular lines, line segment, ray, angle, right angle, acute angle, obtuse angle, straight angle, degree, unit angle, angle measure, protractor, polygon, side, vertex, triangle, quadrilateral, pentagon, hexagon, octagon, equilateral triangle, isosceles triangle, scalene triangle, right triangle, acute triangle, obtuse triangle, rhombus, trapezoid, parallelogram, rectangle, square, symmetric, line of symmetry