



## Lake Forest Math Curriculum – Fourth Grade

Fourth grade will have a major focus on the following areas: (1) Using the four operations with whole numbers to solve problems, (2) Generalizing place value understanding for multi-digit whole numbers; (3) Using understanding of place value and properties of operations to perform multi-digit arithmetic; (4) Extending understanding of fraction equivalence and ordering; (5) Building fractions from unit fractions by applying and extending previous understandings of operations on whole numbers, (6) Understanding decimal notation for fractions and comparing decimal fractions.

### Unit 1

Number Sense
--------------

- Recognize that in multi-digit whole numbers, a digit in one place represents ten times what it represents in the place to its right. (4.NBT.1)
- Read and write larger whole numbers using numerals, words and in expanded form. (4.NBT.2)
- Compare two large numbers using the symbols ( $>$ ,  $<$ , or  $=$ ) to show the comparison. (4.NBT.2)
- Round large whole numbers to any place. (4.NBT.3)
- Represent multistep word problems by using equations with a letter standing for the unknown number. (4.OA.3)
- Determine reasonableness of answers to word problems by using estimation, mental math and rounding. (4.OA.3)
- Create a number or shape pattern that follows a given rule. (4.OA.5)
- Notice different features of a pattern once it is created by a rule. (4.OA.5)

## Unit 2

### Multiplication and Division

- Understand that multiplication fact problems can be seen as comparisons of groups (e.g.,  $24 = 4 \times 6$  can be thought of as 4 groups of 6 or 6 groups of 4). (4.OA.1)
- Multiply or divide to solve word problems by using drawings or writing equations and solving for a missing number. (4.OA.2)
- Use what I know about addition, subtraction, multiplication and division to solve multistep word problems involving whole numbers. (4.OA.3)
- Represent word problems by using equations with a letter standing for the unknown number. (4.OA.3)
- Determine how reasonable my answers to word problems are by using estimation, mental math and rounding. (4.OA.3)
- Find all factor pairs for a number from 1 to 100. (4.OA.4)
- Determine whether a given whole number up to 100 is a prime or composite number. (4.OA.4)
- Multiply a whole number up to four digits by a one-digit whole number. (4.NBT.5)
- Multiply two two-digit numbers. (4.NBT.5)
- Find whole-number quotients and remainders with up to four-digit dividends and one digit divisors. (4.NBT.6)

## Unit 3

### Fractions – Part I (Equivalence and Comparing)

- Explain and show models for why multiplying a numerator and a denominator by the same number does not change the value of a fraction. (4.NF.1)
- Compare two fractions with different numerators and different denominators by creating common denominators or numerators or by comparing them to a benchmark fraction (like one-half). (4.NF.2)
- Recognize that comparisons of fractions are valid only when the two fractions refer to the same whole. (4.NF.2)
- Compare fractions using symbols and justify the comparison by using models. (4.NF.2)

## Unit 4

### Fractions – Part II (Operations w/ Fractions)

- Understand that improper fractions have a greater numerator than denominator. (4.NF.3)
- Understand that addition and subtraction of fractions as joining and separating parts referring to the same whole. (4.NF.3)
- Decompose a fraction into a sum of fractions with the same denominator. (4.NF.3)
- Add and subtract mixed numbers with like denominators. (4.NF.3)
- Solve word problems involving addition and subtraction of fractions with like denominators. (4.NF.3).

- Multiply a fraction by a whole number. (4.NF.4)
- Solve word problems involving multiplication of a fraction by a whole number. (4.NF.4)
- Solve problems involving addition and subtraction of fractions by using information presented in line plots. (4.NF.4)
- Make a line plot to show measurements involving fractions. (4.MD.4)

## Unit 5

Fractions – Part III (Decimals)
---------------------------------

- Show a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100 in order to add the two fractions. (4.NF.5)
- Use decimals to show fractions with denominators of 10 and 100. (4.NF.6)
- Compare two decimals to hundredths by reasoning about their size. (4.NF.7)

## Unit 6

Measurement
-------------

- Show that I know the relative size of measurement units within a single system. (4.MD.1)
- Show the measurements of a larger unit in terms of smaller units and record those in a table. (4.MD.1)
- Use the four operations (+, -, x, ÷) to solve word problems involving measurement; including simple fractions and decimals. (4.MD.2)
- Use what he/she knows about area and perimeter to solve real world problems involving rectangles. (4.MD.3)

## Unit 7

Geometry
----------

- Identify and draw points, lines, line segments, rays, angles and perpendicular & parallel lines. (4.G.1)
- Classify two-dimensional shapes based on what I know about their geometrical attributes. (4.G.2)
- Recognize and identify right triangles. (4.G.2)
- Recognize and draw lines of symmetry. (4.G.3)
- Recognize angles as geometric shapes where two rays share a common endpoint. (4.MD.5)
- Understand that angles are measured with reference to a circle, with its center at the common endpoint of the rays. (4.MD.5)
- Use a protractor to measure angles in whole-number degrees. (4.MD.6)
- Solve addition and subtraction problems involving angles. (4.MD.7)
- Multiply two-digit numbers. (4.NBT.5)
- Find whole-number quotients and remainders with up to four-digit dividends and one digit divisors. (4.NBT.6)

- Use what I know about addition, subtraction, multiplication and division to solve multistep word problems involving whole numbers. (4.OA.3)
- Represent word problems by using equations with a letter standing for the unknown number. (4.OA.3)
- Determine how reasonable his/her answers to word problems are by using estimation, mental math and rounding. (4.OA.3)