

Grade 4

Number & Operations in Base Ten: Generalize place value understanding for multi-digit whole numbers. 4.NBT.A

- 1 Recognize that in a two-digit whole number, a digit in the tens place represents ten times what it represents in the place to its right.** 4.NBT.A.1
 - a For example, in the number 55 the five in the tens place (50) is ten times the value of the five in the ones place (5). 4.NBT.A.1.A

- 2 Indicate an understanding of two-digit whole numbers using base-ten numerals, number names, and expanded form** 4.NBT.A.2
 - a Compare two two-digit whole numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of the comparisons 4.NBT.A.2.A

- 3 Use place value understanding to round whole numbers 1-100 to the nearest 10.** 4.NBT.A.3

Number & Operations in Base Ten: Use place value understanding and properties of operations to perform multi-digit arithmetic. 4.NBT.B

- 4 Add and subtract within 100 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.** 4.NBT.B.4

- 5 Multiply one-digit whole numbers using models and illustrations using equations, rectangular arrays, and/or area models.** 4.NBT.B.5
 - a Products should include values up to at least 25. 4.NBT.B.5.A

- 6 Find whole-number quotients with dividends up to at least 25 and one-digit divisors, using strategies based on the concept of division using fair and equal shares.** 4.NBT.B.6
 - a Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 4.NBT.B.6.A

Number & Operations—Fractions: Extend understanding of fraction equivalence and ordering. 4.NF.A

- 1 Explain why fraction $\frac{a}{a}$ is equivalent to a fraction $\frac{m \times a}{n \times a}$ by using visual fraction $\frac{b}{b}$ models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size.** 4.NF.A.1
 - a Equivalent fractions should include $\frac{1}{2} = \frac{2}{4}$ and $\frac{1}{2} = \frac{2}{4}$ 4.NF.A.1.A

- 2 Differentiate between whole and half.** 4.NF.A.2

**Number & Operations—
Fractions: Build
fractions from unit
fractions.** 4.NF.B

3 Understand the following additive fraction relationships: 2 as a sum of 1 and 2 2 1 ; 2 as a sum of 1 and 1 ; 3 as a sum of 1 , 1 , and 1 ; 2 as a sum of 1 and 1 ; 3 as a 2 3 3 3 3 3 3 4 4 4 4 sum of 1 , 1 , and 1 ; and 4 as a sum of 1 , 1 , 1 , and 1 . 4.NF.B.3

- a Compose and decompose visual fraction models to illustrate these relationships. 4.NF.B.3.A
- b Solve word problems involving addition and subtraction of these fractions by using visual fraction models to represent the problem. 4.NF.B.3.B

4 Apply and extend previous understandings of multiplication to understand the following multiplicative relationships involving fractions and whole numbers: 1 x 2, 1 x 2, and 1 x 3. 1 x 2, 1 x 3, and 1 x 4. 4.NF.B.4

- a Compose and decompose visual fraction models to illustrate these relationships. 4.NF.B.4.A
- b Solve word problems involving multiplication of these fractions by using visual fraction models to represent the problem. For example, if two people equally share 2 of a pizza, how much of the pizza will each 3 person get? 4.NF.B.4.B

**Number & Operations—
Fractions: Use decimal
notation for fractions,
and compare decimal
fractions.** 4.NF.C

5 Add two fractions with denominators of 10. For example, $2 + 4 = 6$. 10 10 4.NF.C.5

6 Represent a fraction <1 with a denominator of 10 as a decimal number. For example, $2 = 0.2$. Locate 0.2 on a number line diagram. 4.NF.C.6

7 Compare two visual representations of decimals to tenths by reasoning about their size. 4.NF.C.7

- a Recognize that comparisons are valid only when the two decimals refer to the same whole. 4.NF.C.7.A

**Operations & Algebraic
Thinking: Use the four
operations with whole
numbers to solve
problems.** 4.OA.A

1 Interpret a multiplication equation (with a product up to at least 15) as a comparison, e.g., interpret $12 = 3 \times 4$ as a statement that 12 is 3 times as many and 4 and 4 times as many as 3. 4.OA.A.1

- a Match verbal statements of multiplicative comparisons to multiplication equations and models. 4.OA.A.1.A

2 Multiply or divide to solve one-step word problems involving multiplicative comparison for products up to at least 25. 4.OA.A.2

- a Examples: If it takes you 3 minutes to drink your milk and takes your friend 2 times as long, how long does it take your friend to drink their milk? 4.OA.A.2.A

3 Solve one- and two-step addition and subtraction problems within 100 with whole numbers and having whole-number answers. 4.OA.A.3

- a Solve one-step multiplication and division problems within 25 with whole numbers and having whole number answers. 4.OA.A.3.A

Operations & Algebraic Thinking: Gain familiarity with factors and multiples. 4.OA.B

4 Find all factor pairs for a whole number in the range 1-12. Recognize that a whole number is a multiple of each of its factors. 4.OA.B.4

- a Determine whether a number in the range 1-12 is a multiple of a given one-digit number. 4.OA.B.4.A

Operations & Algebraic Thinking: Generate and analyze patterns. 4.OA.C

5 Use an arithmetic pattern to predict what terms are next in the sequence. 4.OA.C.5

- a For example, in the pattern 4, 8, 12, 16, generate the next terms 20 and 24. 4.OA.C.5.A

Measurement & Data: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. 4.MD.A

1 Within a single system of measurement, identify the smaller measurement unit (e.g., an inch is smaller than a foot, a minute is shorter than an hour). 4.MD.A.1

2 Tell time using a digital clock. 4.MD.A.2

- a Tell time to the nearest quarter hour using an analog clock. 4.MD.A.2.A
- b Measure mass or volume using standard tools. 4.MD.A.2.B
- c Use standard measurements to compare lengths of objects. 4.MD.A.2.C
- d Identify coins (penny, nickel, dime, quarter) and their values. 4.MD.A.2.D

3 Apply repeated addition or multiplication to find area of rectangles up to at least 25 square units in real-world and mathematical problems for which unit squares are given or defined. 4.MD.A.3

- a For example, find the area of the floor of a room that has been drawn on graph paper. 4.MD.A.3.A

Measurement & Data: Represent and interpret data. 4.MD.B

4 Make a line plot displaying a data set of measurements in whole units 4.MD.B.4

- a Solve problems involving addition and subtraction by using information presented in line plots. 4.MD.B.4.A

Measurement & Data: Geometric measurement: Understand concepts of angle and measure angles. 4.MD.C

5 Recognize angles as geometric shapes that are formed whenever two rays share a common endpoint (EE.4.MD.C.5.b). 4.MD.C.5

6 Identify right angles. 4.MD.C.6

7 Compare angles, using $>$, $=$, and $<$ symbols to record the results of comparisons. 4.MD.C.7

- a Example, given obviously obtuse angle A and obviously obtuse angle B, $A > B$. 4.MD.C.7.A

Geometry: Draw and identify lines and angles, and classify shapes by properties of

1 Identify points, lines, line segments, intersecting lines, and parallel lines in two-dimensional figures. 4.G.A.1

their lines and angles. 4.G.A

2 Identify and sort two-dimensional figures based on the presence or absence of parallel lines and/or right angles. 4.G.A.2

3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. 4.G.A.3

a Identify line-symmetric figures and indicate lines of symmetry by drawing or folding. 4.G.A.3.A