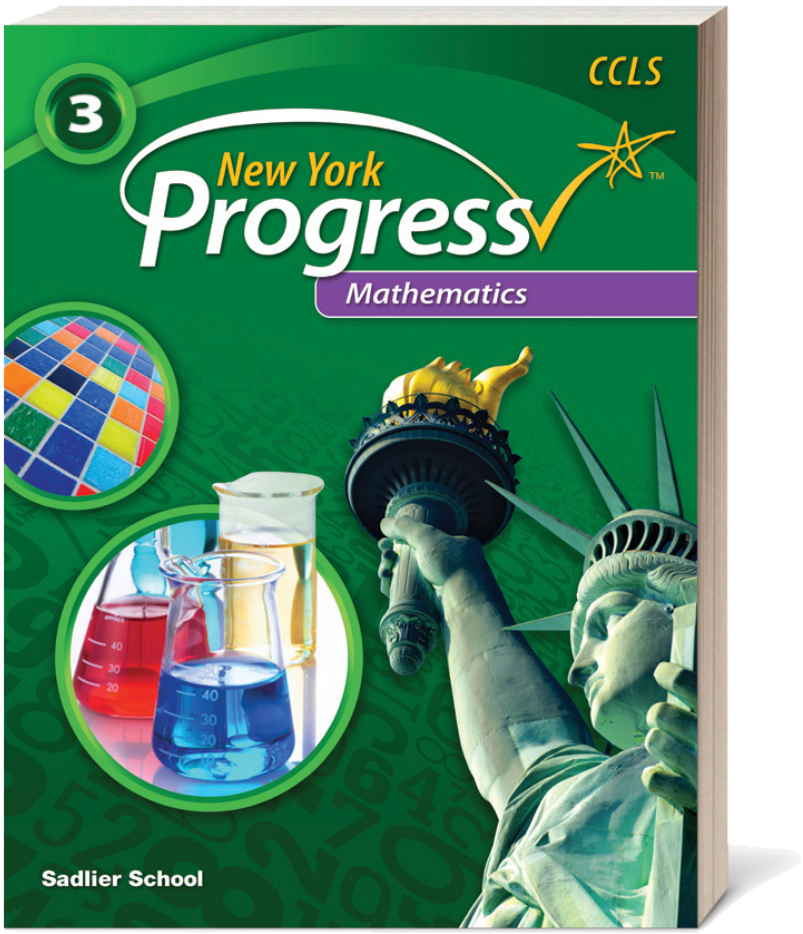
New York Progress Mathematics

Correlation to the New York State Next Generation Mathematics Learning Standards (2017) UPDATED JUNE 2019

Grade 3



Learn more at www.sadlier.com/school/mathematics

NY-3.OA OPERATIONS AND ALGEBRAIC THINKING

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Represent and solve problems involving multiplication and division.	
NY-3.OA.1 Interpret products of whole numbers. e.g., Interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. Describe a context in which a total number of objects can be expressed as 5 × 7.	**Lesson 1** Interpret Products of Whole Numbers—pp. 10–17
NY-3.OA.2 Interpret whole-number quotients of whole numbers. e.g., Interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. Describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.	**Lesson 2** Interpret Quotients of Whole Numbers—pp. 18–26
NY-3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. e.g., using drawings and equations with a symbol for the unknown number to represent the problem.	**Lesson 3** Problem Solving: Multiplication/Division and Equal Groups—pp. 26–33 **Lesson 4** Problem Solving: Multiplication/Division and Arrays—pp. 34–41 **Lesson 32** Problem Solving: Measurement—pp. 288–295
NY-3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. e.g., Determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = __ ÷ 3, 6 × 6 = ?	**Lesson 5** Find Unknown Numbers in Multiplication and Division Equations—pp. 42–49

NY-3.OA OPERATIONS AND ALGEBRAIC THINKING

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Understand properties of multiplication and the relationship between multiplication and division.	
NY-3.OA.5 Apply properties of operations as strategies to multiply and divide. e.g., • If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) • 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) • Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.) Note: Students need not use formal terms for these properties. Note: A variety of representations can be used when applying the properties of operations, which may or may not include parentheses. The area model (3.MD.7c) is a multiplication/division strategy that applies the distributive property (3.OA.5).	**Lesson 6** Apply Commutative and Associative Properties to Multiply—pp. 50–57 **Lesson 7** Apply the Distributive Property to Multiply—pp. 58–65
NY-3.OA.6 Understand division as an unknown-factor problem. e.g., Find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.	**Lesson 8** Divide by Finding an Unknown Factor—pp. 66–73
Multiply and divide within 100.	
NY-3.OA.7	
NY-3.OA.7a Fluently solve single-digit multiplication and related divisions, using strategies such as the relationship between multiplication and division or properties of operations. e.g., Knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8.	**Lesson 9** Multiply and Divide Fluently within 100—pp. 80–87

NY-3.OA OPERATIONS AND ALGEBRAIC THINKING

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
NY-3.OA.7b Know from memory all products of two one-digit numbers. Note: Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.	**Lesson 9** Multiply and Divide Fluently within 100—pp. 80–87

Solve problems involving the four operations, and identify and extend patterns in arithmetic.

NY-3.OA.8 Solve two-step word problems posed with whole numbers and having whole-number answers using the four operations. Note: Two-step problems need not be represented by a single expression or equation.	
NY-3.OA.8a Represent these problems using equations or expressions with a letter standing for the unknown quantity.	**Lesson 10** Problem Solving: Two-Step Problems—pp. 88–95 **Lesson 11** Problem Solving: Use Equations—pp. 96–103
NY-3.OA.8b Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Lesson 10** Problem Solving: Two-Step Problems (check that an answer is reasonable, estimation)—pp. 88–95 **Lesson 11** Problem Solving: Use Equations (check that an answer is reasonable)—pp. 96–103
NY-3.OA.9 Identify and extend arithmetic patterns (including patterns in the addition table or multiplication table).	**Lesson 12** Identify and Explain Arithmetic Patterns—pp. 104–111

NY-3.NBT NUMBER AND OPERATIONS IN BASE TEN

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Use place value understanding and properties of operations to perform multi-digit arithmetic.	
NY-3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.	**Lesson 13** Round Whole Numbers to the Nearest 10 or 100—pp. 112–119
NY-3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. Note on and/or: Students should be taught to use strategies and algorithms based on place value, properties of operations, and the relationship between addition and subtraction; however, when solving any problem, students can choose any strategy. Note: A range of algorithms may be used.	**Lesson 14** Add and Subtract Fluently within 1000—pp. 120–127
NY-3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10-90 using strategies based on place value and properties of operations. e.g., 9 × 80, 5 × 60	**Lesson 15** Multiply One-Digit Whole Numbers by Multiples of 10—pp. 128–135
NY-3.NBT.4	
NY-3.NBT.4a Understand that the four digits of a four-digit number represent amounts of thousands, hundreds, tens, and ones. e.g., 3,245 equals 3 thousands, 2 hundreds, 4 tens, and 5 ones.	*Related content* **Foundational Skills Handbook:** C. Understand: Models can show that 10 tens is the same as 1 hundred— p. 338 *See also Grade 2* **Lesson 8** Read and Write Numbers to 1,000—pp. 72–79 *See also Grade 4* **Lesson 6** Understand Place Value of Whole Numbers—pp. 56–63

NY-3.NBT NUMBER AND OPERATIONS IN BASE TEN

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
NY-3.NBT.4b Read and write four-digit numbers using base-ten numerals, number names and expanded form. e.g., The number 3,245 in expanded form can be written as 3,245 = 3,000 + 200 + 40 + 5.	*Related content* **Lesson 14** Add and Subtract Fluently within 1000 (expanded form)—pp. 120–127 *See also Grade 2* **Lesson 6** Place Value: Hundreds, Tens, and Ones (expanded form)—pp. 56–63 **Lesson 8** Read and Write Numbers to 1,000 (number, number name, expanded form)—pp. 72–79

NY-3.NF NUMBER AND OPERATIONS — FRACTIONS

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Develop understanding of fractions as numbers.	
NY-3.NF.1 Understand a unit fraction, $\frac{1}{b}$, is the quantity formed by 1 part when a whole is partitioned into *b* equal parts. Understand a fraction $\frac{a}{b}$ as the quantity formed by *a* parts of size $\frac{1}{b}$. Note: Fractions are limited to those with denominators 2, 3, 4, 6, and 8.	**Lesson 16** Understand Unit Fractions as Quantities—pp. 142–149 **Lesson 17** Understand Fractions as Quantities—pp. 150–157
NY-3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line.	
NY-3.NF.2a Represent a fraction $\frac{1}{b}$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it *continued*	**Lesson 18** Understand Fractions on the Number Line—pp. 158–165

NY-3.NF NUMBER AND OPERATIONS — FRACTIONS

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
into b equal parts. Recognize that each part has size $\frac{1}{b}$ and that the endpoint of the part based at 0 locates the number $\frac{1}{b}$ on the number line.	
NY-3.NF.2b Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.	**Lesson 18** Understand Fractions on the Number Line—pp. 158–165
NY-3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Note: Fractions are limited to those with denominators 2, 3, 4, 6, and 8.	
NY-3.NF.3a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	**Lesson 19** Understand Equivalent Fractions—pp. 166–173
NY-3.NF.3b Recognize and generate simple equivalent fractions. e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$ Explain why the fractions are equivalent. e.g., using a visual fraction model	**Lesson 20** Write Equivalent Fractions—pp. 174–181
NY-3.NF.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. e.g., Express 3 in the form $3 = \frac{3}{1}$, recognize that $\frac{6}{3} = 2$, and locate $\frac{4}{4}$ and 1 at the same point of a number line diagram.	**Lesson 21** Relate Whole Numbers and Fractions—pp. 182–189

NY-3.NF NUMBER AND OPERATIONS — FRACTIONS

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
NY-3.NF.3d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions. e.g., using a visual fraction model.	**Lesson 22** Compare Fractions: Same Denominator—pp. 190–197 **Lesson 23** Compare Fractions: Same Numerator—pp. 198–205

NY-3.MD MEASUREMENT AND DATA

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
NY-3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve one-step word problems involving addition and subtraction of time intervals in minutes. e.g., representing the problem on a number line or other visual model. Note: This includes one-step problems that cross into a new hour.	**Lesson 24** Problem Solving: Time—pp. 218–225
NY-3.MD.2	
NY-3.MD.2a Measure and estimate liquid volumes and masses of objects using grams (g), kilograms (kg), and liters (l). Note: Does not include compound units such as cm^3 and finding the geometric volume of a container.	**Lesson 25** Problem Solving: Volumes and Masses—pp. 226–233 **Lesson 32** Problem Solving: Measurement—pp. 288–295
NY-3.MD.2b Add, subtract, multiply, or divide to solve one-step word problems involving masses or liquid volumes that are given in the same units. *continued*	**Lesson 25** Problem Solving: Volumes and Masses—pp. 226–233 **Lesson 32** Problem Solving: Measurement—pp. 288–295

NY-3.MD MEASUREMENT AND DATA

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
e.g., using drawings (such as a beaker with a measurement scale) to represent the problem. Note: Does not include multiplicative comparison problems involving notions of "times as much."	
Represent and interpret data.	
NY-3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in a scaled picture graph or a scaled bar graph. e.g., Draw a bar graph in which each square in the bar graph might represent 5 pets.	**Lesson 26** Draw Graphs to Represent Categorical Data—pp. 234–241
NY-3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.	**Lesson 27** Generate and Graph Measurement Data—pp. 242–249
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	
NY-3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.	
NY-3.MD.5a Recognize a square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.	**Lesson 28** Understand Concepts of Area Measurement—pp. 256–263
NY-3.MD.5b Recognize a plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.	**Lesson 28** Understand Concepts of Area Measurement—pp. 256–263

NY-3.MD MEASUREMENT AND DATA

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
NY-3.MD.6 Measure areas by counting unit squares. Note: Unit squares include square cm, square m, square in., square ft., and improvised units.	**Lesson 28** Understand Concepts of Area Measurement—pp. 256–263
NY-3.MD.7 Relate area to the operations of multiplication and addition.	
NY-3.MD.7a Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	**Lesson 29** Find Areas of Rectangles: Tile and Multiply—pp. 264–271
NY-3.MD.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	**Lesson 29** Find Areas of Rectangles: Tile and Multiply—pp. 264–271
NY-3.MD.7c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	**Lesson 30** Find Areas of Rectangles: Use the Distributive Property—pp. 272–279 **Lesson 32** Problem Solving: Measurement—pp. 288–295
NY-3.MD.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. Note: Problems include no more than one unknown side length.	**Lesson 31** Find Areas: Decompose Figures into Rectangles—pp. 280–287 **Lesson 32** Problem Solving: Measurement—pp. 288–295

NY-3.MD MEASUREMENT AND DATA

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	
NY-3.MD.8	
NY-3.MD.8a Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths or finding one unknown side length given the perimeter and other side length.	**Lesson 33** Problem Solving: Perimeter—pp. 296–303 **Lesson 34** Problem Solving: Compare Perimeter and Area—pp. 304–311
NY-3.MD.8b Identify rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Lesson 33** Problem Solving: Perimeter—pp. 296–303 **Lesson 34** Problem Solving: Compare Perimeter and Area—pp. 304–311

NY-3.G GEOMETRY

Grade 3 Content Standards	*New York Progress Mathematics*, Grade 3
Reason with shapes and their attributes.	
NY-3.G.1 Recognize and classify polygons based on the number of sides and vertices (triangles, quadrilaterals, pentagons, and hexagons). Identify shapes that do not belong to one of the given subcategories. Note: Include both regular and irregular polygons, however, students need not use formal terms "regular" and "irregular," e.g., students should be able to classify an irregular pentagon as "a pentagon," but do not need to classify it as an "irregular pentagon."	**Lesson 35** Understand Shapes and Attributes—pp. 312–319

NY-3.G	GEOMETRY
Grade 3 Content Standards	***New York Progress Mathematics*, Grade 3**
NY-3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. e.g., Partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.	**Lesson 36** Partition Shapes to Make Equal Areas—pp. 320–327