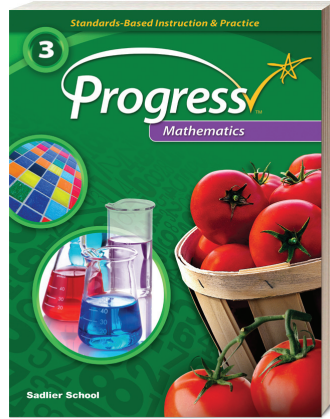


SADLIER

Progress Mathematics



Aligned to the

College and Career Ready Indiana Academic Standards Mathematics: Grade 3

Contents

- 2 Number Sense
- 3 Computation
- 4 Algebraic Thinking
- 5 Geometry
- 6 Measurement
- 7 Data Analysis and Statistics

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Number Sense

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.NS.1: Read and write whole numbers up to 10,000. Use words, models, standard form and expanded form to represent and show equivalent forms of whole numbers up to 10,000.

3.NS.2: Compare two whole numbers up to 10,000 using $>$, $=$, and $<$ symbols.

3.NS.3: Understand a fraction, $1/b$, as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction, a/b , as the quantity formed by a parts of size $1/b$. [*In grade 3, limit denominators of fractions to 2, 3, 4, 6, 8.*]

3.NS.4: Represent a fraction, $1/b$, on a number line by defining the interval from 0 to 1 as the whole, and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.

3.NS.5: Represent a fraction, a/b , on a number line by marking off lengths $1/b$ from 0. Recognize that the resulting interval has size a/b , and that its endpoint locates the number a/b on the number line.

3.NS.6: Understand two fractions as equivalent (equal) if they are the same size, based on the same whole or the same point on a number line.

3.NS.7: Recognize and generate simple equivalent fractions (e.g., $1/2 = 2/4$, $4/6 = 2/3$). Explain why the fractions are equivalent (e.g., by using a visual fraction model).

3.NS.8: Compare two fractions with the same numerator or the same denominator by reasoning about their size based on the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions (e.g., by using a visual fraction model).

SADLIER PROGRESS MATHEMATICS, GRADE 3

Not addressed at this level (see Gr. 4).

Not addressed at this level (see Gr. 4).

Lesson 16 Understand Unit Fractions as Quantities—pp. 142–149
Understand: The meaning of a unit fraction
Understand: The numerator in a unit fraction
Understand: The denominator in a unit fraction

Lesson 17 Understand Fractions as Quantities—pp. 150–157
Understand: Using unit fractions to form other fractions

Lesson 18 Understand Fractions on the Number Line—pp. 158–165
Understand: Representing a unit fraction on a number line
Understand: Representing a fraction on a number line

Lesson 18 Understand Fractions on the Number Line—pp. 158–165
Understand: Representing a unit fraction on a number line
Understand: Representing a fraction on a number line

Lesson 19 Understand Equivalent Fractions—pp. 166–173
Understand: Equivalent fractions on a number line

Lesson 21 Relate Whole Numbers and Fractions—pp. 182–189
Understand: Recognizing fractions equivalent to whole numbers
Understand: Expressing a whole number as a fraction

Lesson 20 Write Equivalent Fractions—pp. 174–181
Understand: Using fraction strips to find equivalent fractions
Understand: Using number lines to find equivalent fractions

Lesson 22 Compare Fractions: Same Denominator—pp. 190–197
Understand: Comparing fractions on a number line
Understand: Using fraction strips to compare fractions with the same denominator

Lesson 23 Compare Fractions: Same Numerator—pp. 198–205
Understand: Using number lines and models to compare fractions with the same numerator
Understand: Using number strips to compare fractions with the same numerator

Number Sense

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.NS.9: Use place value understanding to round 2- and 3-digit whole numbers to the nearest 10 or 100.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 13 Round Whole Numbers to the Nearest 10 or 100—pp. 112–119
Understand: Rounding two-digit numbers to the nearest 10
Understand: Rounding three-digit numbers to the nearest 100

Computation

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.C.1: Add and subtract whole numbers fluently within 1000.

3.C.2: Represent the concept of multiplication of whole numbers with the following models: equal-sized groups, arrays, area models, and equal "jumps" on a number line. Understand the properties of 0 and 1 in multiplication.

3.C.3: Represent the concept of division of whole numbers with the following models: partitioning, sharing, and an inverse of multiplication. Understand the properties of 0 and 1 in division.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 14 Add and Subtract Fluently within 1000—pp. 120–127
Understand: Using place-value methods to add and subtract
Understand: Using properties of addition to find sums
Understand: Adding on to subtract

Lesson 3 Problem Solving: Multiplication/Division and Equal Groups—pp. 26–33
Understand: Using multiplication to solve problems involving equal groups
Understand: Using division to find the number of equal groups
Understand: Using division to find the number in each group

Lesson 4 Problem Solving: Multiplication/Division and Arrays—pp. 34–41
Understand: Using arrays to solve problems
Understand: Representing problem situations with arrays

Lesson 2 Interpret Quotients of Whole Numbers—pp. 18–25
Understand: Using division to find how many in an equal share
Understand: Using division to separate

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Lesson 4 Problem Solving: Multiplication/Division and Arrays—pp. 34–41
Understand: Using arrays to solve problems
Understand: Representing problem situations with arrays

Lesson 9 Multiply and Divide Fluently within 100—pp. 80–87
Understand: How multiplication and division are related
Understand: How to use properties of multiplication to learn facts

Computation

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.C.4: Interpret whole-number quotients of whole numbers (e.g., interpret $56 \div 8$ 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).

3.C.5: Multiply and divide within 100 using strategies, such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$), or properties of operations.

3.C.6: Demonstrate fluency with multiplication facts and corresponding division facts of 0 to 10.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 2 **Interpret Quotients of Whole Numbers**—pp. 18–26
Understand: Using division to find how many in an equal share
Understand: Using division to separate

Lesson 6 **Apply Commutative and Associative Properties to Multiply**—pp. 50–57
Understand: Two numbers can be multiplied in any order
Understand: Three factors can be grouped in different ways

Lesson 7 **Apply the Distributive Property to Multiply**—pp. 58–65
Understand: Breaking apart numbers to multiply
Understand: Using parentheses with the Distributive Property

Lesson 8 **Divide by Finding an Unknown Factor**—pp. 66–73
Understand: Understand: Multiplication and division fact families
Understand: Using a fact family to find an unknown factor

Lesson 9 **Multiply and Divide Fluently within 100**—pp. 80–87
Understand: How multiplication and division are related
Understand: How to use properties of multiplication to learn facts

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Understand: How multiplication and division are related
Understand: How to use properties of multiplication to learn facts

Algebraic Thinking

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.AT.1: Solve real-world problems involving addition and subtraction of whole numbers within 1000 (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 14 **Add and Subtract Fluently within 1000**—pp. 120–127
Understand: Using place-value methods to add and subtract
Understand: Using properties of addition to find sums
Understand: Adding on to subtract

Lesson 11 **Problem Solving: Use Equations**—pp. 96–103
Understand: Writing an equation for a two-step word problem
Understand: Using diagrams in solving two-step word problems

Algebraic Thinking

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.AT.2: Solve real-world problems involving whole number multiplication and division within 100 in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).

3.AT.3: Solve two-step real-world problems using the four operations of addition, subtraction, multiplication and division (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).

3.AT.4: Interpret a multiplication equation as equal groups (e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each). Represent verbal statements of equal groups as multiplication equations.

3.AT.5: Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

3.AT.6: Create, extend, and give an appropriate rule for number patterns using multiplication within 1000.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 3 Problem Solving: Multiplication/Division and Equal Groups—pp. 26–33
Understand: Using multiplication to solve problems involving equal groups
Understand: Using division to find the number of equal groups
Understand: Using division to find the number in each group

Lesson 4 Problem Solving: Multiplication/Division and Arrays—pp. 34–41
Understand: Using arrays to solve problems
Understand: Representing problem situations with arrays

Lesson 32 Problem Solving: Measurement—pp. 288–295
Understand: Using a drawing to help solve a problem

Lesson 10 Problem Solving: Two-Step Problems—pp. 88–95
Understand: Solving a two-step word problem
Understand: Checking that an answer is reasonable

Lesson 11 Problem Solving: Use Equations—pp. 96–103
Understand: Writing an equation for a two-step word problem
Understand: Using diagrams in solving two-step word problems

Lesson 1 Interpret Products of Whole Numbers—pp. 10–17
Understand: What multiplication means
Understand: What a product means

Lesson 5 Find Unknown Numbers in Multiplication and Division Equations—pp. 42–49
Understand: Finding unknown numbers in multiplication equations
Understand: Finding unknown numbers in division equations

Lesson 12 Identify and Explain Arithmetic Patterns—pp. 104–111
Understand: Patterns in the multiplication table
Understand: Patterns in the addition table
Understand: Rules for patterns

Geometry

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.G.1: Identify and describe the following: cube, sphere, prism, pyramid, cone, and cylinder.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Not addressed at this level.

Geometry

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.G.2: Understand that shapes (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize and draw rhombuses, rectangles, and squares as examples of quadrilaterals. Recognize and draw examples of quadrilaterals that do not belong to any of these subcategories.

3.G.3: Identify, describe and draw points, lines and line segments using appropriate tools (e.g., ruler, straightedge, and technology), and use these terms when describing two-dimensional shapes.

3.G.4: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{8}$).

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 35 Understand Shapes and Attributes—pp. 312–319

Understand: Using number of sides and number of vertices to identify polygons

Understand: Using lengths of sides and right angles to identify special quadrilaterals

Not addressed at this level (see Gr. 4).

Lesson 36 Partition Shapes to Make Equal Areas—pp. 320–327

Understand: Partitioning a circle into 4 parts with equal area

Understand: Partitioning a rectangle into 8 parts with equal area

Measurement

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.M.1: Estimate and measure the mass of objects in grams (g) and kilograms (kg) and the volume of objects in quarts (qt), gallons (gal), and liters (l). Add, subtract, multiply, or divide to solve one-step real-world problems involving masses or volumes that are given in the same units (e.g., by using drawings, such as a beaker with a measurement scale, to represent the problem).

3.M.2: Choose and use appropriate units and tools to estimate and measure length, weight, and temperature. Estimate and measure length to a quarter-inch, weight in pounds, and temperature in degrees Celsius and Fahrenheit.

3.M.3: Tell and write time to the nearest minute from analog clocks, using a.m. and p.m., and measure time intervals in minutes. Solve real-world problems involving addition and subtraction of time intervals in minutes.

3.M.4: Find the value of any collection of coins and bills. Write amounts less than a dollar using the ¢ symbol and write larger amounts using the \$ symbol in the form of dollars and cents (e.g., \$4.59). Solve real-world problems to determine whether there is enough money to make a purchase.

3.M.5: Find the area of a rectangle with whole-number side lengths by modeling with unit squares, and show that the area is the same as would be found by multiplying the side lengths. Identify and draw rectangles with the same perimeter and different areas or with the same area and different perimeters.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 25 Problem Solving: Liquid Volumes and Masses—pp. 226–233

Understand: How to estimate liquid volume

Understand: How to estimate mass

Understand: How to solve problems involving mass

**Related content*

Lesson 27 Generate and Graph Measurement Data—pp. 242–249

Understand: How to draw line plots (measure length)

**No estimation or measurement of weight and temperature at this level.*

Lesson 24 Problem Solving: Time—pp. 218–225

Understand: How to tell and write time

Understand: How to measure intervals of time

Not addressed at this level.

Lesson 28 Understand Concepts of Area Measurement—pp. 264–271

Understand: The meaning of area

Lesson 29 Find Areas of Rectangles: Tile and Multiply—pp. 264–271

Understand: Finding the area of a rectangle

Measurement

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.M.6: Multiply side lengths to find areas of rectangles with whole-number side lengths to solve real-world problems and other mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

3.M.7: Find perimeters of polygons given the side lengths or by finding an unknown side length.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 30 **Find Areas of Rectangles: Use the Distributive Property**—pp. 272–279
Understand: Using tiling to show the Distributive Property
Understand: Using area models to represent the Distributive Property

Lesson 34 **Problem Solving: Compare Perimeter and Area**—pp. 304–311
Understand: Areas of different rectangles with the same perimeter
Understand: Perimeters of different rectangles with the same area

Lesson 29 **Find Areas of Rectangles: Tile and Multiply**—pp. 264–271
Understand: Finding the area of a rectangle

Lesson 30 **Find Areas of Rectangles: Use the Distributive Property**—pp. 272–279
Understand: Using tiling to show the Distributive Property
Understand: Using area models to represent the Distributive Property

Lesson 31 **Find Areas: Decompose Figures into Rectangles**—pp. 280–287
Understand: Decomposing figures into rectangles to find their areas

Lesson 33 **Problem Solving: Perimeter**—pp. 296–303
Understand: The meaning of perimeter
Understand: Finding an unknown side length of a polygon

Data Analysis

MATHEMATICS STANDARDS & DESCRIPTION, GRADE 3

3.DA.1: Create scaled picture graphs, scaled bar graphs, and frequency tables to represent a data set—including data collected through observations, surveys, and experiments—with several categories. Solve one- and two-step “how many more” and “how many less” problems regarding the data and make predictions based on the data.

3.DA.2: Generate measurement data by measuring lengths with rulers to the nearest quarter of an inch. Display the data by making a line plot, where the horizontal scale is marked off in appropriate units, such as whole numbers, halves, or quarters.

SADLIER PROGRESS MATHEMATICS, GRADE 3

Lesson 26 **Draw Graphs to Represent Categorical Data**—pp. 234–241
Understand: How to draw picture graphs
Understand: How to draw bar graphs

Lesson 27 **Generate and Graph Measurement Data**—pp. 242–249
Understand: How to draw line plots