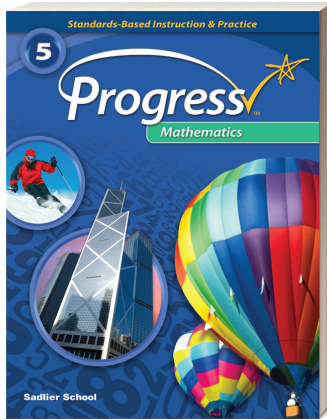SADLIER

Progress
Mathematics
Standards-Based Instruction & Practice

Aligned to the

South Carolina
College- and Career-Ready Standards for Mathematics

Grade 5

Contents

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Number Sense and Base Ten

STANDARDS	SADLIER *PROGRESS MATHEMATICS*, GRADE 5
The student will:	
5.NSBT.1 Understand that, in a multi-digit whole number, a digit in one place represents 10 times what the same digit represents in the place to its right, and represents 1/10 times what the same digit represents in the place to its left.	**Lesson 4** **Understand Place Value**—pp. 40–47
5.NSBT.2 Use whole number exponents to explain:	
a. patterns in the number of zeroes of the product when multiplying a number by powers of 10;	**Lesson 5** **Powers of 10: Use Patterns and Whole-Number Exponents**—pp. 48–55
b. patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.	**Lesson 5** **Powers of 10: Use Patterns and Whole-Number Exponents**—pp. 48–55
5.NSBT.3 Read and write decimals in standard and expanded form. Compare two decimal numbers to the thousandths using the symbols >, =, or <.	**Lesson 6** **Read and Write Decimals to Thousandths**—pp. 56–63
	Lesson 7 **Compare Decimals to Thousandths**—pp. 64–71
5.NSBT.4 Round decimals to any given place value within thousandths.	**Lesson 8** **Round Decimals: Use Place Value**—pp. 72–79
5.NSBT.5 Fluently multiply multi-digit whole numbers using strategies to include a standard algorithm.	**Lesson 9** **Multiply Fluently with Multi-Digit Numbers**—pp. 80–87
5.NSBT.6 Divide up to a four-digit dividend by a two-digit divisor, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.	**Lesson 10** **Divide Whole Numbers: Use Place Value Strategies**—pp. 88–95
	Lesson 11 **Divide Whole Numbers: Use Properties of Operations**—pp. 96–103
5.NSBT.7 Add, subtract, multiply, and divide decimal numbers to hundredths using concrete area models and drawings.	**Lesson 12** **Add and Subtract Decimals to Hundredths**—pp. 104–111
	Lesson 13 **Multiply Decimals to Hundredths**—pp. 112–119
	Lesson 14 **Divide Decimals to Hundredths**—pp. 120–127

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Number Sense and Operations — Fractions

STANDARDS	SADLIER *PROGRESS MATHEMATICS*, GRADE 5
The student will:	
5.NSF.1 Add and subtract fractions with unlike denominators (including mixed numbers) using a variety of models, including an area model and number line.	**Lesson 15** **Add and Subtract Fractions with Unlike Denominators**—pp. 134–141
	Lesson 16 **Problem Solving: Add and Subtract Fractions**—pp. 142–149
5.NSF.2 Solve real-world problems involving addition and subtraction of fractions with unlike denominators.	**Lesson 16** **Problem Solving: Add and Subtract Fractions**—pp. 142–149
5.NSF.3 Understand the relationship between fractions and division of whole numbers by interpreting a fraction as the numerator divided by the denominator (i.e., $a/b = a \div b$).	**Lesson 17** **Interpret Fractions as Division**—pp. 150–157
5.NSF.4 Extend the concept of multiplication to multiply a fraction or whole number by a fraction.	
a. Recognize the relationship between multiplying fractions and finding the areas of rectangles with fractional side lengths;	**Lesson 19** **Find Areas of Rectangles: Tile and Multiply**—pp. 166–173
b. Interpret multiplication of a fraction by a whole number and a whole number by a fraction and compute the product;	**Lesson 20** **Interpret Multiplication of Fractions as Scaling**—pp. 174–181
c. Interpret multiplication in which both factors are fractions less than one and compute the product	**Lesson 20** **Interpret Multiplication of Fractions as Scaling**—pp. 174–181
5.NSF.5 Justify the reasonableness of a product when multiplying with fractions.	
a. Estimate the size of the product based on the size of the two factors;	**Lesson 20** **Interpret Multiplication of Fractions as Scaling**—pp. 174–181
b. Explain why multiplying a given number by a number greater than 1 (e.g., improper fractions, mixed numbers, whole numbers) results in a product larger than the given number;	**Lesson 20** **Interpret Multiplication of Fractions as Scaling**—pp. 174–181
c. Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number;	**Lesson 20** **Interpret Multiplication of Fractions as Scaling**—pp. 174–181
d. Explain why multiplying the numerator and denominator by the same number has the same effect as multiplying the fraction by 1.	**Lesson 20** **Interpret Multiplication of Fractions as Scaling**—pp. 174–181

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Number Sense and Operations — Fractions

STANDARDS		SADLIER *PROGRESS MATHEMATICS*, GRADE 5	
5.NSF.6	Solve real-world problems involving multiplication of a fraction by a fraction, improper fraction and a mixed number.	**Lesson 21**	**Problem Solving: Multiply Fractions and Mixed Numbers**—pp. 182–189
5.NSF.7	Extend the concept of division to divide unit fractions and whole numbers by using visual fraction models and equations.		
	a. Interpret division of a unit fraction by a non-zero whole number and compute the quotient;	**Lesson 22**	**Divide Unit Fractions by Whole Numbers**—pp. 190–197
	b. Interpret division of a whole number by a unit fraction and compute the quotient.	**Lesson 23**	**Divide Whole Numbers by Unit Fractions**—pp. 198–205
5.NSF.8	Solve real-world problems involving division of unit fractions and whole numbers, using visual fraction models and equations.	**Lesson 24**	**Problem Solving: Divide Unit Fractions and Whole Numbers**—pp. 206–213

Algebraic Thinking and Operations

STANDARDS		SADLIER *PROGRESS MATHEMATICS*, GRADE 5	
The student will:			
5.ATO.1	Evaluate numerical expressions involving grouping symbols (i.e., parentheses, brackets, braces).	**Lesson 1**	**Use Grouping Symbols and Evaluate Numerical Expressions**—pp. 10–17
5.ATO.2	Translate verbal phrases into numerical expressions and interpret numerical expressions as verbal phrases.	**Lesson 2**	**Write and Interpret Numerical Expressions**—pp. 18–25
5.ATO.3	Investigate the relationship between two numerical patterns.		
	a. Generate two numerical patterns given two rules and organize in tables;	**Lesson 3**	**Analyze Numerical Patterns**—pp. 26–33
	b. Translate the two numerical patterns into two sets of ordered pairs;	**Lesson 3**	**Analyze Numerical Patterns**—pp. 26–33
	c. Graph the two sets of ordered pairs on the same coordinate plane;	**Lesson 3**	**Analyze Numerical Patterns**—pp. 26–33
	d. Identify the relationship between the two numerical patterns.	**Lesson 3**	**Analyze Numerical Patterns**—pp. 26–33

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Geometry

STANDARDS	SADLIER *PROGRESS MATHEMATICS*, GRADE 5
The student will:	
5.G.1 Define a coordinate system.	
a. The x- and y- axes are perpendicular number lines that intersect at 0 (the origin);	**Lesson 34** **Understand Points on the Coordinate Plane**—pp. 304–311
b. Any point on the coordinate plane can be represented by its coordinates;	**Lesson 34** **Understand Points on the Coordinate Plane**—pp. 304–311
c. The first number in an ordered pair is the x-coordinate and represents the horizontal distance from the origin;	**Lesson 34** **Understand Points on the Coordinate Plane**—pp. 304–311
d. The second number in an ordered pair is the y-coordinate and represents the vertical distance from the origin.	**Lesson 34** **Understand Points on the Coordinate Plane**—pp. 304–311
5.G.2 Plot and interpret points in the first quadrant of the coordinate plane to represent realworld and mathematical situations.	**Lesson 35** **Graph Points to Represent Problem Situations**—pp. 312–319
5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	**Lesson 36** **Analyze Properties to Classify Two-Dimensional Figures**—pp. 320–327
5.G.4 Classify two-dimensional figures in a hierarchy based on their attributes.	**Lesson 36** **Analyze Properties to Classify Two-Dimensional Figures**—pp. 320–327

Measurement and Data Analysis

STANDARDS	SADLIER *PROGRESS MATHEMATICS*, GRADE 5
The student will:	
5.MDA.1 Convert measurements within a single system of measurement: customary (i.e., in., ft., yd., oz., lb., sec., min., hr.) or metric (i.e., mm, cm, m, km, g, kg, mL, L) from a larger to a smaller unit and a smaller to a larger unit.	**Lesson 25** **Convert Customary Measurement Units**—pp. 226–233 **Lesson 26** **Convert Metric Measurement Units**—pp. 234–241
5.MDA.2 Create a line plot consisting of unit fractions and use operations on fractions to solve problems related to the line plot.	**Lesson 27** **Problem Solving: Use Line Plots**—pp. 242–249
5.MDA.3 Understand the concept of volume measurement.	
a. Recognize volume as an attribute of right rectangular prisms;	**Lesson 28** **Understand Concepts of Volume Measurement**—pp. 250–257

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Measurement and Data Analysis

STANDARDS		SADLIER *PROGRESS MATHEMATICS*, GRADE 5
	b. Relate volume measurement to the operations of multiplication and addition by packing right rectangular prisms and then counting the layers of standard unit cubes;	**Lesson 30** **Find Volume: Relate Packing of Unit Cubes to Multiplying**—pp. 266–273
	c. Determine the volume of right rectangular prisms using the formula derived from packing right rectangular prisms and counting the layers of standard unit cubes.	**Lesson 29** **Measure Volume**—pp. 258–265 **Lesson 30** **Find Volume: Relate Packing of Unit Cubes to Multiplying**—pp. 266–273
5.MDA.4	Differentiate among perimeter, area and volume and identify which application is appropriate for a given situation.	*Related content—* **Lesson 32** **Problem Solving: Apply Volume Formulas for Prisms**—pp. 282–289 *For application of perimeter and area, see Grade 4: Lesson 29, Problem Solving: Apply Area and Perimeter Formulas—pp. 258–265