SADLIER

Standards-Based Progress Mathematics

Aligned to the Chapter 111.

Texas Essential Knowledge and Skills (TEKS) for Mathematics

Subchapter A. Elementary, §111.6, Grade 4,
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Grade 4

Contents

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(b) Knowledge and skills

GRADE 4 TEXAS ESSENTIAL KNOWLEDGE AND SKILLS FOR MATHEMATICS		SADLIER *STANDARDS-BASED PROGRESS MATHEMATICS* GRADE 4	
(2)	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:		
(A)	interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left;	**Lesson 6**	**Understand Place Value of Whole Numbers**—pp. 56–63 • Understand: Place value and the value of a digit (to 100,000s) • Understand: Place value and multiples of 10
		Lesson 7	**Read, Write, and Compare Whole Numbers**—pp. 64–71 • Understand: Names for whole numbers • Understand: Numbers in expanded form • Understand: Comparisons of whole numbers
(B)	represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals;	**Lesson 6**	**Understand Place Value of Whole Numbers**—pp. 56–63 • Understand: Place value and the value of a digit (to 100,000s) • Understand: Place value and multiples of 10
		Lesson 7	**Read, Write, and Compare Whole Numbers**—pp. 64–71 • Understand: Names for whole numbers • Understand: Numbers in expanded form • Understand: Comparisons of whole numbers
		Lesson 25	**Write and Compare Decimal Fractions**—pp. 214–221 • Understand: Equivalent decimals and fractions for tenths • Understand: Equivalent decimals and fractions for hundredths
(C)	compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >, <, or =;	**Lesson 6**	**Understand Place Value of Whole Numbers**—pp. 56–63 • Understand: Place value and the value of a digit (to 100,000s) • Understand: Place value and multiples of 10
		Lesson 7	**Read, Write, and Compare Whole Numbers**—pp. 64–71 • Understand: Names for whole numbers • Understand: Numbers in expanded form • Understand: Comparisons of whole numbers
(D)	round whole numbers to a given place value through the hundred thousands place;	**Lesson 8**	**Apply Place Value to Round Whole Numbers**—pp. 72–79 • Understand: The numbers you use to round

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	(E)	represent decimals, including tenths and hundredths, using concrete and visual models and money;	**Lesson 25** **Write and Compare Decimal Fractions**—pp. 214–221 • Understand: Equivalent decimals and fractions for tenths • Understand: Equivalent decimals and fractions for hundredths
	(F)	compare and order decimals using concrete and visual models to the hundredths;	**Lesson 25** **Write and Compare Decimal Fractions**—pp. 214–221 • Understand: Equivalent decimals and fractions for tenths • Understand: Equivalent decimals and fractions for hundredths
	(G)	relate decimals to fractions that name tenths and hundredths; and	**Lesson 25** **Write and Compare Decimal Fractions**—pp. 214–221 • Understand: Equivalent decimals and fractions for tenths • Understand: Equivalent decimals and fractions for hundredths
	(H)	determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.	**Lesson 25** **Write and Compare Decimal Fractions**—pp. 214–221 • Understand: Equivalent decimals and fractions for tenths • Understand: Equivalent decimals and fractions for hundredths
(3)	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:		
	(A)	represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b > 0$, including when a > b;	n/a
	(B)	decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations;	**Lesson 14** **Understand Equivalent Fractions**—pp. 126–133 • Understand: Model equivalent fractions **Lesson 15** **Write Equivalent Fractions**—pp. 134–141 • Understand: Multiply to write equivalent fractions • Understand: Divide to write fractions **Lesson 16** **Compare Two Fractions**—pp. 142–149 • Understand: Using benchmarks to make comparisons • Understand: Using equivalent fractions to make comparisons
	(C)	determine if two given fractions are equivalent using a variety of methods;	**Lesson 14** **Understand Equivalent Fractions**—pp. 126–133 • Understand: Model equivalent fractions **Lesson 15** **Write Equivalent Fractions**—pp. 134–141 • Understand: Multiply to write equivalent fractions • Understand: Divide to write fractions

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		Lesson 16 **Compare Two Fractions**—pp. 142–149 • Understand: Using benchmarks to make comparisons • Understand: Using equivalent fractions to make comparisons
(D)	compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or <;	**Lesson 16** **Compare Two Fractions**—pp. 142–149 • Understand: Using benchmarks to make comparisons • Understand: Using equivalent fractions to make comparisons
(E)	represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations;	**Lesson 17** **Add and Subtract Fractions with Like Denominators**—pp. 150–157 • Understand: Addition of fractions with like denominators • Understand: Adding unit fractions to add fractions • Understand: Subtraction of fractions with like denominators
		Lesson 18 **Decompose a Fraction as a Sum of Fractions**—pp. 158–165 • Understand: Ways to break apart a whole • Understand: Ways to decompose a fraction
		Lesson 20 **Problem Solving: Add and Subtract Fractions**—pp. 174–181 • Understand: Using fraction models to represent and solve problems • Understand: Using equations to represent and solve problems
(F)	evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole; and	**Lesson 16** **Compare Two Fractions**—pp. 142–149 • Understand: Using benchmarks to make comparisons • Understand: Using equivalent fractions to make comparisons
		Lesson 17 **Add and Subtract Fractions with Like Denominators**—pp. 150–157 • Understand: Addition of fractions with like denominators • Understand: Adding unit fractions to add fractions • Understand: Subtraction of fractions with like denominators
		Lesson 18 **Decompose a Fraction as a Sum of Fractions** (mixed numbers)—pp. 158–165 • Understand: Ways to break apart a whole • Understand: Ways to decompose a fraction
		Lesson 20 **Problem Solving: Add and Subtract Fractions**—pp. 174–181 • Understand: Using fraction models to represent and solve problems

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		• Understand: Using equations to represent and solve problems
(G)	represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.	**Lesson 16** **Compare Two Fractions**—pp. 142–149 • Understand: Using benchmarks to make comparisons • Understand: Using equivalent fractions to make comparisons
		Lesson 17 **Add and Subtract Fractions with Like Denominators**—pp. 150–157 • Understand: Addition of fractions with like denominators • Understand: Adding unit fractions to add fractions • Understand: Subtraction of fractions with like denominators
		Lesson 18 **Decompose a Fraction as a Sum of Fractions**—pp. 158–165 • Understand: Ways to break apart a whole • Understand: Ways to decompose a fraction
		Lesson 19 **Add and Subtract Mixed Numbers with Like Denominators**—pp. 166–173 • Understand: Adding mixed numbers • Understand: Subtracting mixed numbers
		Lesson 20 **Problem Solving: Add and Subtract Fractions**—pp. 174–181 • Understand: Using fraction models to represent and solve problems • Understand: Using equations to represent and solve problems
(4)	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:	
(A)	add and subtract whole numbers and decimals to the hundredths place using the standard algorithm;	**Lesson 9** **Add and Subtract Fluently with Whole Numbers**—pp. 80–87 • Understand: Place value and addition • Understand: Subtraction and regrouping
(B)	determine products of a number and 10 or 100 using properties of operations and place value understandings;	**Lesson 10** **Multiply Whole Numbers: Use Place Value**—pp. 88–95 • Understand: Products of tens, hundreds, and thousands • Understand: Place value and partial products
(C)	represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15;	**Lesson 10** **Multiply Whole Numbers: Use Place Value**—pp. 88–95 • Understand: Products of tens, hundreds, and thousands • Understand: Place value and partial products

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		Lesson 28 **Problem Solving: Measurement**—pp. 250–257 • Understand: Using a diagram with a measurement scale to solve a problem • Understand: Using models for units of time
(D)	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties;	**Lesson 1** **Interpret Multiplication Equations as Comparisons**—pp. 10–17 • Understand: How a multiplication equation represents two comparisons
		Lesson 2 **Problem Solving: Use Multiplication and Division to Make Comparisons**—pp. 18–25 • Understand: Comparison with an unknown product • Understand: Comparisons can involve addition • Understand: Comparison with an unknown factor
		Lesson 5 **Generate and Analyze Number and Shape Patterns**—pp. 42–49 • Understand: Number patterns and pattern rules • Understand: Growing shape patterns • Understand: Repeating shape patterns
		Lesson 10 **Multiply Whole Numbers: Use Place Value**—pp. 88–95 • Understand: Products of tens, hundreds, and thousands • Understand: Place value and partial products
		Lesson 11 **Multiply Whole Numbers: Use Properties of Operations**—pp. 96–103 • Understand: The Distributive Property and expanded form • Understand: The Distributive Property and two-digit factors
(E)	represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations;	**Lesson 2** **Problem Solving: Use Multiplication and Division to Make Comparisons**—pp. 18–25 • Understand: Comparison with an unknown product • Understand: Comparisons can involve addition • Understand: Comparison with an unknown factor
		Lesson 3 **Problem Solving: Multistep Problems**—pp. 26–33 • Understand: Equations to solve multistep problems • Understand: The meaning of a remainder
		Lesson 12 **Divide Whole Numbers: Use Place Value**—pp. 104–111 • Understand: Quotients of tens, hundreds, and thousands • Understand: Place value and regrouping

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		Lesson 13 **Divide Whole Numbers: Use Properties of Operations**—pp. 112–119 • Understand: Division and multiples of the divisor • Understand: Division and the Distributive Property
(F)	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor;	**Lesson 3** **Problem Solving: Multistep Problems**—pp. 26–33 • Understand: Equations to solve multistep problems • Understand: The meaning of a remainder
		Lesson 12 **Divide Whole Numbers: Use Place Value**—pp. 104–111 • Understand: Quotients of tens, hundreds, and thousands • Understand: Place value and regrouping
		Lesson 13 **Divide Whole Numbers: Use Properties of Operations**—pp. 112–119 • Understand: Division and multiples of the divisor • Understand: Division and the Distributive Property
(G)	round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers; and	**Lesson 3** **Problem Solving: Multistep Problems**—pp. 26–33 • Understand: Equations to solve multistep problems • Understand: The meaning of a remainder
		Lesson 8 **Apply Place Value to Round Whole Numbers**—pp. 72–79 • Understand: The numbers you use to round
(H)	solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.	**Lesson 2** **Problem Solving: Use Multiplication and Division to Make Comparisons**—pp. 18–25 • Understand: Comparison with an unknown product • Understand: Comparisons can involve addition • Understand: Comparison with an unknown factor
		Lesson 3 **Problem Solving: Multistep Problems**—pp. 26–33 • Understand: Equations to solve multistep problems • Understand: The meaning of a remainder
5)	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	
(A)	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity;	**Lesson 2** **Problem Solving: Use Multiplication and Division to Make Comparisons**—pp. 18–25 • Understand: Comparison with an unknown product • Understand: Comparisons can involve addition • Understand: Comparison with an unknown factor

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		Lesson 3 **Problem Solving: Multistep Problems**—pp. 26–33 • Understand: Equations to solve multistep problems • Understand: The meaning of a remainder
(B)	represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence;	**Lesson 5** **Generate and Analyze Number and Shape Patterns**—pp. 42–49 • Understand: Number patterns and pattern rules • Understand: Growing shape patterns • Understand: Repeating shape patterns
(C)	use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$); and	**Lesson 29** **Problem Solving: Apply Area and Perimeter Formulas**—pp. 258–265 • Understand: Perimeter formulas for rectangles • Understand: Area formula for rectangles
(D)	solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	**Lesson 29** **Problem Solving: Apply Area and Perimeter Formulas**—pp. 258–265 • Understand: Perimeter formulas for rectangles • Understand: Area formula for rectangles
(6)	Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties. The student is expected to:	
(A)	identify points, lines, line segments, rays, angles, and perpendicular and parallel lines;	**Lesson 31** **Understand Angle Measures**—pp. 274–281 • Understand: Angles and parts of angles • Understand: Angle measures and fractions of a circle
		Lesson 32 **Use a Protractor to Measure Angles**—pp. 282–289 • Understand: Classifying angles by size • Understand: How to measure angles with a protractor
		Lesson 33 **Problem Solving: Find Unknown Angle Measures**—pp. 290–297 • Understand: Supplementary and complementary angles • Understand: Breaking apart and combining angles
		Lesson 34 **Draw and Identify Points, Lines, and Angles**—pp. 304–311 • Understand: Using and applying geometric terms • Understand: Identifying right, acute, obtuse, and straight angles

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	(B) identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure;	**Lesson 36** **Identify Lines of Symmetry**—pp. 320–327 • Understand: Identifying lines of symmetry • Understand: Drawing lines of symmetry
	(C) apply knowledge of right angles to identify acute, right, and obtuse triangles; and	**Lesson 31** **Understand Angle Measures**—pp. 274–281 • Understand: Angles and parts of angles • Understand: Angle measures and fractions of a circle
		Lesson 32 **Use a Protractor to Measure Angles**—pp. 282–289 • Understand: Classifying angles by size • Understand: How to measure angles with a protractor
		Lesson 34 **Draw and Identify Points, Lines, and Angles**—pp. 304–311 • Understand: Using and applying geometric terms • Understand: Identifying right, acute, obtuse, and straight angles
		Lesson 35 **Classify Two-Dimensional Figures**—pp. 312–319 • Understand: Using parallel or perpendicular lines to classify two-dimensional figures • Understand: Using angle measurement to classify two-dimensional figures
	(D) classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.	**Lesson 35** **Classify Two-Dimensional Figures**—pp. 312–319 • Understand: Using parallel or perpendicular lines to classify two-dimensional figures • Understand: Using angle measurement to classify two-dimensional figures
(7)	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:	
	(A) illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers;	**Lesson 31** **Understand Angle Measures**—pp. 274–281 • Understand: Angles and parts of angles • Understand: Angle measures and fractions of a circle
	(B) illustrate degrees as the units used to measure an angle, where 1/360 of any circle is one degree and an angle that "cuts" *n*/360 out of any circle whose center is at the angle's vertex has a measure of *n* degrees. Angle measures are limited to whole numbers;	**Lesson 31** **Understand Angle Measures**—pp. 274–281 • Understand: Angles and parts of angles • Understand: Angle measures and fractions of a circle
		Lesson 32 **Use a Protractor to Measure Angles**—pp. 282–289 • Understand: Classifying angles by size • Understand: How to measure angles with a protractor

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		Lesson 34 **Draw and Identify Points, Lines, and Angles**—pp. 304–311 • Understand: Using and applying geometric terms • Understand: Identifying right, acute, obtuse, and straight angles
		Lesson 35 **Classify Two-Dimensional Figures**—pp. 312–319 • Understand: Using parallel or perpendicular lines to classify two-dimensional figures • Understand: Using angle measurement to classify two-dimensional figures
(C)	determine the approximate measures of angles in degrees to the nearest whole number using a protractor;	**Lesson 31** **Understand Angle Measures**—pp. 274–281 • Understand: Angles and parts of angles • Understand: Angle measures and fractions of a circle
		Lesson 32 **Use a Protractor to Measure Angles**—pp. 282–289 • Understand: Classifying angles by size • Understand: How to measure angles with a protractor
		Lesson 34 **Draw and Identify Points, Lines, and Angles**—pp. 304–311 • Understand: Using and applying geometric terms • Understand: Identifying right, acute, obtuse, and straight angles
		Lesson 35 **Classify Two-Dimensional Figures**—pp. 312–319 • Understand: Using parallel or perpendicular lines to classify two-dimensional figures • Understand: Using angle measurement to classify two-dimensional figures
(D)	draw an angle with a given measure; and	**Lesson 32** **Use a Protractor to Measure Angles**—pp. 282–289 • Understand: Classifying angles by size • Understand: How to measure angles with a protractor
(E)	determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	**Lesson 33** **Problem Solving: Find Unknown Angle Measures**—pp. 290–297 • Understand: Supplementary and complementary angles • Understand: Breaking apart and combining angles

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(8)	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:		
	(A) identify relative sizes of measurement units within the customary and metric systems;	**Lesson 26**	**Convert Customary Measurement Units**—pp. 234–241 • Understand: Relative sizes of customary units of weight • Understand: Relative sizes of customary units of liquid volume
		Lesson 27	**Convert Metric Measurement Units**—pp. 242–249 • Understand: Relative sizes of metric measurements of length • Understand: Converting metric units of length
		Lesson 28	**Problem Solving: Measurement**—pp. 250–257 • Understand: Using a diagram with a measurement scale to solve a problem • Understand: Using models for units of time
	(B) convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table; and	**Lesson 26**	**Convert Customary Measurement Units**—pp. 234–241 • Understand: Relative sizes of customary units of weight • Understand: Relative sizes of customary units of liquid volume
		Lesson 27	**Convert Metric Measurement Units**—pp. 242–249 • Understand: Relative sizes of metric measurements of length • Understand: Converting metric units of length
		Lesson 28	**Problem Solving: Measurement**—pp. 250–257 • Understand: Using a diagram with a measurement scale to solve a problem • Understand: Using models for units of time
	(C) solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	**Lesson 26**	**Convert Customary Measurement Units**—pp. 234–241 • Understand: Relative sizes of customary units of weight • Understand: Relative sizes of customary units of liquid volume
		Lesson 27	**Convert Metric Measurement Units**—pp. 242–249 • Understand: Relative sizes of metric measurements of length • Understand: Converting metric units of length
		Lesson 28	**Problem Solving: Measurement**—pp. 250–257 • Understand: Using a diagram with a measurement scale to solve a problem • Understand: Using models for units of time

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(9)	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:			
	(A)	represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions; and	**Lesson 30**	**Problem Solving: Use Line Plots**—pp. 266–273 • Understand: Using number lines to display data • Understand: Reading and using line plots
	(B)	solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.	**Lesson 30**	**Problem Solving: Use Line Plots**—pp. 266–273 • Understand: Using number lines to display data • Understand: Reading and using line plots
(10)	Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:			
	(A)	distinguish between fixed and variable expenses;		n/a
	(B)	calculate profit in a given situation;		n/a
	(C)	explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest;		n/a
	(D)	list reasons to save and explain the benefit of a savings plan, including for college; and		n/a
	(E)	identify decisions involving income, spending, saving, credit, and charitable giving.		n/a