

Knowre Math: **Grade 4** Curriculum

Chapter 1 Whole Numbers

Lesson	Topic	VA MSL
1-1 Place Value	A) Place Values to Millions	4.1.a
	B) Expanded and Standard Form of Numbers	
1-2 Reading and Writing Numbers	A) Reading and Writing Numbers to Millions	4.1.a
1-3 Comparing and Ordering	A) Comparing Numbers with Six or Fewer Digits	4.1.b
	B) Ordering Whole Numbers	
1-4 Rounding	A) Rounding to a Given Place Value	4.1.c
	B) Rounding to a Lead Digit	

Chapter 2 Adding and Subtracting Whole Numbers

Lesson	Topic	VA MSL
2-1 Adding	A) Vertical Addition of Two Numbers with Six or Fewer Digits	4.4.b, 4.4.d
	B) Vertical Addition of Three or More Numbers	
2-2 Subtracting	A) Vertical Subtraction of Numbers with Six or Fewer Digits	4.4.b, 4.4.d
2-3 Horizontal Addition and Subtraction	A) Horizontal Addition of Two Numbers	4.4.b, 4.4.d
	B) Horizontal Subtraction of Two Numbers	
2-4 Addition and Subtraction Relations	A) Relationships Between Addition and Subtraction Sentences	4.4.b
	B) Missing Numbers in Addition and Subtraction Sentences	
2-5 Mixed Operations and Estimating	A) Horizontal Addition and Subtraction of Three or More Numbers	4.4.b, 4.4.d
	B) Estimating Sums and Differences	

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Chapter 3 Multiplying Whole Numbers

Lesson	Topic	VA MSL
3-1 Basic Multiplication Facts	A) Single Digit Multiplication	4.4.a, 4.4.d
3-2 Products with Multiples of 10	A) Multiplying a One-Digit Number and Ten	4.4.a, 4.4.d
	B) Pattern of Zeros - Multiplication	
3-3 Multiply by One-Digit Numbers - Models	A) Base Ten Blocks to Multiply by One-Digit Numbers	4.4.a, 4.4.b, 4.4.d
	B) Tables to Multiply by One-Digit Numbers	
	C) Partial Products to Multiply by One-Digit Numbers	
3-4 Multiply by One-Digit Numbers - Standard Algorithm	A) Standard Algorithm to Multiply by One-Digit Numbers without Regrouping	4.4.a, 4.4.b, 4.4.d
	B) Standard Algorithm to Multiply by One-Digit Numbers with Regrouping	
3-5 Multiply Two-Digit Numbers	A) Tables to Multiply Two-Digit Numbers	4.4.a, 4.4.b, 4.4.d
	B) Partial Products to Multiply Two-Digit Numbers	
	C) Standard Algorithm to Multiply Two-Digit Numbers without Regrouping	
	D) Standard Algorithm to Multiply Two-Digit Numbers with Regrouping	
3-6 Horizontal Multiplication	A) Horizontal Multiplication of One-Digit Numbers	4.4.a, 4.4.b, 4.4.d
	B) Horizontal Multiplication of Two-Digit Numbers	
	C) Estimating Products	

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Chapter 4 Dividing Whole Numbers

Lesson	Topic	VA MSL
4-1 Basic Division Facts	A) One-Digit Quotients When Dividing by One-Digit Numbers	4.4.a, 4.4.d
4-2 Quotients with Multiples of Ten	A) One Digit Quotients When Dividing by Ten	4.4.a, 4.4.d
	B) Pattern of Zeros - Division	
4-3 Divide with Partial Quotients - No Remainders	A) Base Ten Blocks to Divide by One-Digit Numbers	4.4.a, 4.4.c, 4.4.d
	B) Partial Products to Divide by One-Digit Numbers	
4-4 Divide with the Standard Algorithm - No Remainders	A) Long Division to Divide by One-Digit Numbers	4.4.a, 4.4.c, 4.4.d
4-5 Divide with Partial Quotients - Remainders	A) Base Ten Blocks to Divide by One-Digit Numbers with Remainders	4.4.a, 4.4.c, 4.4.d
	B) Partial Products to Divide by One-Digit Numbers with Remainders	
4-6 Divide with the Standard Algorithm - Remainders	A) Long Division to Divide by One-Digit Numbers with Remainders	4.4.a, 4.4.c, 4.4.d
4-7 Horizontal Division	A) Horizontal Division by One-Digit Numbers	4.2.c, 4.4.b, 4.4.c, 4.4.d
	B) Estimating Quotients	

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Chapter 5 Operations and Patterns

Lesson	Topic	VA MSL
5-1 Multiplication and Division Relations	A) Relationships Between Multiplication and Division Sentences	4.4.a, 4.4.d
	B) Missing Numbers in Multiplication and Division Sentences	
5-2 Mixed Operations	A) Horizontal Multiplication and Division of Three or More Numbers	4.4.d
	B) Order of Operations to Evaluate Expressions without Grouping Symbols	
5-3 Expressions and Equations	A) Addition and Subtraction Expressions	4.4.d, 4.16
	B) Multiplication and Division Expressions	
	C) Expressions with More Than One Operation	
	D) Number Sentences	
5-4 Patterns	A) Repeating Patterns	4.15
	B) Patterns and Rules	
	C) Continuing and Completing Patterns	

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Chapter 6 Fraction Concepts

Lesson	Topic	VA MSL
6-1 Divisibility and Multiples	A) Divisibility by 2, 3, 5, and 10	4.5.a
	B) Multiples	
6-2 Factors	A) Factors	4.5.a
	B) Prime and Composite Numbers	
6-3 Fraction Introduction	A) Modeling Fractions with Fraction Bars	4.3.a
	B) Modeling Fractions on Number Lines	
6-4 Equivalent Fraction Models	A) Models to Write Equivalent Fractions	4.2.b
	B) Models to Simplify Fractions	
	C) Models to Identify Equivalent Fractions	
6-5 Equivalent Fractions	A) Writing Equivalent Fractions	4.2.b, 4.5.a
	B) Simplifying Fractions	
6-6 Comparing and Ordering Fractions	A) Comparing Fractions with the Same Denominator	4.2.a
	B) Comparing Fractions with the Same Numerator	
	C) Comparing Fractions with Different Numerators and Denominators	
	D) Ordering Fractions	

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Chapter 7 Fraction Addition and Subtraction

Lesson	Topic	VA MSL
7-1 Fraction Decomposition	A) Models to Decompose Fractions	4.5.b
	B) Decomposition of Fractions	
7-2 Add Fractions without Regrouping	A) Models to Add Fractions with Like Denominators - No Regrouping	4.5.b, 4.5.c
	B) Adding Fractions with Like Denominators - No Regrouping	
	C) Vertical Addition with Mixed Numbers - No Regrouping	
	D) Horizontal Addition with Mixed Numbers - No Regrouping	
7-3 Add Fractions with Regrouping	A) Models to Write Improper Fractions as Mixed Numbers	4.5.b, 4.5.c
	B) Models to Add Fractions with Like Denominators - Regrouping	
	C) Decomposition to Write Improper Fractions as Mixed Numbers	
	D) Adding Fractions with Like Denominators - Regrouping	
	E) Vertical Addition with Mixed Numbers - Regrouping	
	F) Horizontal Addition with Mixed Numbers - Regrouping	
7-4 Subtract Fractions without Regrouping	A) Models to Subtract Fractions with Like Denominators	4.5.b, 4.5.c
	B) Subtracting Fractions with Like Denominators	
	C) Vertical Subtraction with Mixed Numbers - No Regrouping	
	D) Horizontal Subtraction with Mixed Numbers - No Regrouping	

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Chapter 7 Fraction Addition and Subtraction (cont..)

Lesson	Topic	VA MSL
7-5 Subtract Fractions with Regrouping	A) Regrouping to Rewrite Whole and Mixed Numbers	4.5.b, 4.5.c
	B) Vertical Subtraction with Mixed Numbers - Regrouping	
	C) Horizontal Subtraction with Mixed Numbers - Regrouping	
7-6 Add and Subtract Fractions - Denominators 10 and 100	A) Models of Equivalent Fractions with Denominators of 10 and 100	4.5.b, 4.5.c
	B) Models to Add Fractions with Unlike Denominators	
	C) Models to Subtract Fractions with Unlike Denominators	

Chapter 8 Multiplying Fractions

Lesson	Topic	VA MSL
8-1 Multiplying Whole Numbers and Unit Fractions	A) Multiplication as Repeated Addition	5.6.b
	B) Fractions as Whole Numbers Times Unit Fractions	
	C) Multiplying Whole Numbers and Unit Fractions	
8-2 Multiplying Whole Numbers and Fractions	A) Multiplying Whole Numbers and Fractions	5.6.b
	B) Changing Multiplying by a Fraction to Multiplying by a Unit Fraction	

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Chapter 9 Decimals

Lesson	Topic	VA MSL
9-1 Decimal Models	A) Models of Decimals	4.3.a, 4.3.d
	B) Models to Write Equivalent Fractions and Decimals	
9-2 Decimals on a Number Line	A) Writing Decimals Shown on Number Lines	4.3.a, 4.3.d
	B) Showing Decimals on Number Lines	
9-3 Decimal Place Value	A) Decimal Place Value	4.3.a
	B) Reading and Writing Decimals	
	C) Values of Digits in Decimals	
9-4 Comparing and Ordering Decimals	A) Models to Compare Decimals	4.3.c
	B) Comparing Decimals	
	C) Ordering Decimals	
9-5 Decimals and Fractions	A) Writing Decimals as Fractions	4.3.d
	B) Writing Fractions as Decimals	

Chapter 10 Measurement and Data

Lesson	Topic	VA MSL
10-1 Customary Units of Length	A) Estimating Customary Units of Length	4.8.a, 4.8.c, 4.8.d
	B) Converting Customary Units of Length	
10-2 Customary Units of Volume and Weight	A) Estimating Customary Units of Volume	4.8.a, 4.8.c, 4.8.d
	B) Converting Customary Units of Volume	
	C) Estimating Customary Units of Weight	
	D) Converting Customary Units of Weight	
10-3 Metric Units of Length	A) Estimating Metric Units of Length	4.8.a, 4.8.c, 4.8.d
	B) Converting Metric Units of Length	
10-4 Metric Units of Volume and Mass	A) Estimating Metric Units of Volume	4.8.a, 4.8.c, 4.8.d
	B) Converting Metric Units of Volume	
	C) Estimating Metric Units of Mass	
	D) Converting Metric Units of Mass	
10-5 Units of Time and Elapsed Time	A) Converting Units of Time	4.8.c, 4.9
	B) Elapsed Time	
10-6 Line Plots	A) Line Plots and Data Sets	4.14.a, 4.14.b
	B) Interpreting Data in Line Plots	

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Chapter 11 Points, Lines, and Angles

Lesson	Topic	VA MSL
11-1 Points and Lines	A) Points and Lines	4.14.a, 4.14.b
	B) Parallel and Perpendicular Lines	
11-2 Segments, Rays, and Angles	A) Segments	4.10.a
	B) Rays	
	C) Angles	
11-3 Angle Measures	A) Angle Measurement	5.12
	B) Angle Addition	

Chapter 12 Triangles and Quadrilaterals

Lesson	Topic	VA MSL
12-1 Classifying Triangles	A) Angle Classification	5.12, 5.13.a
	B) Angle Measures to Classify Triangles	
12-2 Classifying Quadrilaterals	A) Types of Quadrilaterals	4.12
12-3 Perimeter of Rectangles and Squares	A) Perimeters of Rectangles	4.7
	B) Perimeters of Squares	
12-4 Area of Rectangles and Squares	A) Areas of Rectangles and Squares Given Figures	4.7
	B) Areas of Rectangles and Squares Given Descriptions	
12-5 Lines of Symmetry	A) Identifying Lines of Symmetry	2.12.a, 2.12.b
	B) Figures with a Given Number of Lines of Symmetry	
	C) Results of Reflecting Over Lines of Symmetry	