

Knowre Math: **Grade 6** Curriculum

Chapter 1 Whole Numbers

Lesson	Topic	VA MSL
1-1 Long Division with Remainders	A) Long Division with and without Remainders	5.4
1-2 Long Division with Mixed Number Quotients	A) Long Division with Mixed Number Quotients	5.4
1-3 Horizontal Division	A) Equivalent Divisions	5.4
	B) Dividing with Multiples of 10	
	C) Horizontal Division	
1-4 Divisibility Tests	A) Divisibility Tests	5.3.b, 5.4
1-5 Multiples and Factors	A) Multiples	4.5.a
	B) Least Common Multiples	
	C) Factors	
	D) Greatest Common Factors	
1-6 Exponents	A) Multiplication Symbols	6.4
	B) Defining Powers	
	C) Writing Expressions as Powers	
	D) Evaluating Powers	
	E) Missing Values in Power Equations	
1-7 Order of Operations	A) Order of Operations	5.7
1-8 Prime Factorization	A) Prime and Composite Numbers	6.4
	B) Prime Factorization Using a Completed Factor Tree	
1-9 GCF and LCM	A) Greatest Common Factors	4.5.a
	B) Least Common Multiples	

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Chapter 2 Fractions

Lesson	Topic	VA MSL
2-1 Representing Fractions	A) Fractions on Number Lines	6.2.a
	B) Whole Numbers as Fractions	
	C) Equivalent Fractions	
	D) Simplifying Fractions	
	E) Mixed Numbers as Improper Fractions	
2-2 Comparing Fractions	A) Comparing Fractions	5.2.b
2-3 Adding Fractions	A) Adding Fractions and Mixed Numbers	6.5.b
2-4 Subtracting Fractions	A) Subtracting Fractions and Mixed Numbers	6.5.b
2-5 Multiplying Fractions	A) Comparing Fractional Products and Factors	6.4, 6.5.a, 6.5.b
	B) Multiplying Fractions	
	C) Powers of Nonnegative Fractions	
2-6 Dividing Fractions	A) Comparing Fractional Quotients and Dividends	6.5.a, 6.5.b
	B) Reciprocals	
	C) Dividing Fractions	

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Chapter 3 Decimals

Lesson	Topic	VA MSL
3-1 Representing Decimals	A) Decimals on Number Lines	4.3.a, 4.3.c
	B) Representing Repeating Decimals	
	C) Comparing Decimals	
	D) Ordering Decimals	
3-2 Adding Decimals	A) Adding Decimals Vertically	6.5.c
	B) Adding Decimals Horizontally	
	C) Rounding Decimals to Estimate Sums	
3-3 Subtracting Decimals	A) Adding Decimals Vertically	6.5.c
	B) Adding Decimals Horizontally	
	C) Rounding Decimals to Estimate Differences	
3-4 Multiplying Decimals	A) Comparing Decimal Products and Factors	6.4, 6.5.c
	B) Multiplying Decimals	
	C) Powers of Nonnegative Decimals	
	D) Rounding Decimals to Estimate Products	
3-5 Dividing Decimals	A) Comparing Decimal Quotients and Dividends	6.5.c
	B) Dividing Decimals Using Long Division	
	C) Rounding Decimals to Estimate Quotients	
3-6 Order of Operations with Rational Numbers	A) Terminating Decimals as Fractions	6.2.a, 6.5.b, 6.5.c
	B) Order of Operations with Nonnegative Rational Numbers	

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Chapter 4 Integers

Lesson	Topic	VA MSL
4-1 Number Sets and Algebra Tiles	A) Classifying Numbers	6.3.a
	B) Using Algebra Tiles to Model Integers	
	C) Representing Situations as Integers	
4-2 Comparing and Ordering Integers	A) Integers on Number Lines	6.3.a, 6.3.b
	B) Comparing Integers	
	C) Distance on a Number Line	
	D) Ordering Integers	
4-3 Opposites and Absolute Value	A) Opposites	6.3.b, 6.3.c
	B) Absolute Values	
4-4 Integer Addition with Tiles	A) Opposites	6.6.a, 6.6.b, 6.6.c
	B) Absolute Values	
4-5 Integer Addition with Number Lines	A) Using Number Lines to Model Addition of Integers with Different Signs	6.6.a, 6.6.b, 6.6.c
	B) Using Number Lines to Model Addition of Integers with the Same Sign	
4-6 Single-Digit Integer Addition	A) Adding One-Digit Integers	6.6.a, 6.6.b, 6.6.c
4-7 Integer Subtraction with Tiles	A) Using Algebra Tiles to Model Subtraction of Positive Integers	6.6.a, 6.6.b, 6.6.c
	B) Using Algebra Tiles to Model Subtraction of Integers with Different Signs	
	C) Using Algebra Tiles to Model Subtraction of Negative Integers	
4-8 Single-Digit Integer Subtraction	A) Subtracting One-Digit Integers	6.6.a, 6.6.b, 6.6.c

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Chapter 5 Introduction to Algebra

Lesson	Topic	VA MSL
5-1 Understanding Variables and Coefficients	A) Coefficients and Variables	5.19.a
	B) Modeling Variable Expressions	
	C) Simplifying Variable Expressions	
5-2 Variable Expressions	A) Parts of Variable Expressions	5.19.a
	B) Modeling First Degree Monomials and Binomials	
	C) Combining Like Terms	
	D) Evaluating Variable Expressions	
5-3 Writing Expressions	A) Writing Variable Expressions	5.19.c
5-4 Properties of Operations	A) Commutative Property	8.14.b
	B) Associative Property	
	C) Using Algebra Tiles to Model Polynomial Multiplication	
	D) Using the Properties to Multiply Terms	
	E) Identity Property	
5-5 Modeling the Distributive Property	A) Using Algebra Tiles to Model the Distributive Property	8.14.b
5-6 Distributive Property	A) Distributive Property	8.14.b
	B) Rewrite Sums and Differences with the Distributive Property	

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Chapter 6 Equations and Inequalities

Lesson	Topic	VA MSL
6-1 Equations	A) Identifying Expressions and Equations	6.13
	B) Writing Equations	
	C) Solutions of Equations	
6-2 Solving Addition Equations with Bar Models	A) Using Bar Models to Solve One-Step Addition Equations	6.13
6-3 Solving Multiplication Equations with Bar Models	A) Using Bar Models to Solve One-Step Multiplication Equations	6.13
6-4 Solving One-Step Addition and Subtraction Equations	A) Subtraction Property of Equality	6.13
	B) Addition Property of Equality	
6-5 Solving One-Step Multiplication and Division Equations	A) Division Property of Equality	6.13
	B) Multiplication Property of Equality	
6-6 Solutions of Inequalities	A) Writing Inequalities from Verbal Expressions	6.14.a
	B) Solutions of Inequalities	
6-7 Graphing Inequalities	A) Writing Inequalities from Number Lines	6.14.a
	B) Graphing Inequalities on a Number Line	
6-8 Solving One-Step Addition and Subtraction Inequalities	A) Subtraction Property of Inequality	6.14.b
	B) Addition Property of Inequality	
6-9 Solving One-Step Multiplication and Division Inequalities	A) Division Property of Inequality	6.14.b
	B) Multiplication Property of Inequality	

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Chapter 7 Ratios, Rates, and Percents

Lesson	Topic	VA MSL
7-1 Writing Ratios	A) Writing Ratios in Different Forms	6.1
7-2 Simplifying Ratios	A) Simplifying Ratios in Different Forms	6.1
	B) Equivalent Ratios	
7-3 Unit Rate	A) Understanding Unit Rates	6.12.a, 6.12.b
	B) Finding Unit Rates	
	C) Using Unit Rate to Find a Value	
7-4 Conversions	A) Customary Length Conversion Factors	6.12.a
	B) Customary Unit Conversions	
	C) Metric Conversion Factors	
	D) Metric Unit Conversions	
	E) Unit Rates and Dimensional Analysis	
7-5 Percents and Fractions	A) Writing Percents as Fractions	6.2.a
	B) Writing Fractions as Percents	
7-6 Percents and Decimals	A) Writing Percents as Decimals	6.2.a
	B) Writing Decimals as Percents	
7-7 Percent Equations	A) Percent Equation	6.2.a

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Chapter 8 Coordinate Plane and Two-Variable Equations

Lesson	Topic	VA MSL
8-1 The Coordinate Plane	A) Identifying Quadrants and Axes of Coordinate Planes	
	B) Graphing Points	6.8.a, 6.8.b
	C) Writing the Coordinates of Points	
	D) Identifying Quadrants and Axes from Coordinates	
8-2 Distance on a Coordinate Plane	A) Counting to Find the Distance Between Points	
	B) Using Absolute Value to Find the Distance Between Points	6.8.b
8-3 Reflections on a Coordinate Plane	A) Reflections Over the x-Axis	
	B) Reflections Over the y-Axis	6.8.b
8-4 Relations	A) Representing Relations in Different Forms	6.12.b, 6.12.d
8-5 Input and Output	A) Input and Output	
	B) Independent and Dependent Variables	6.12.d
8-6 Two-Variable Equations	A) Evaluating Functions	
	B) Graphing Linear Functions	6.12.d
	C) Writing Linear Functions	

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Chapter 9 Area and Volume

Lesson	Topic	VA MSL
9-1 Area of Rectangles and Squares	A) Areas of Rectangles	6.7.c
	B) Areas of Squares	
9-2 Area of Parallelograms	A) Area of Parallelograms	6.7.c
9-3 Area of Triangles	A) Bases and Heights of Triangles	6.7.c
	B) Areas of Triangles	
9-4 Area of Trapezoids	A) Areas of Trapezoids	6.7.c
9-5 Surface Area of Prisms and Pyramids Using Nets	A) Nets of Solids	7.4.a, 7.4.b
	B) Surface Areas of Prisms and Pyramids from Nets	
	C) Surface Areas of Prisms	
9-6 Volume of Prisms and Cubes	A) Volume from Cubic Units	7.4.a, 7.4.b
	B) Volumes of Right Prisms	

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Chapter 10 Displays of Data

Lesson	Topic	VA MSL
10-1 Introduction to Statistics	A) Statistical Questions	5.16.a, 5.16.b
	B) Characteristics of Data Sets	
	C) Frequency Tables	
	D) Characteristics of Tables	
10-2 Dot Plots and Data	A) Characteristics of Dot Plots	5.16.a, 5.16.b
	B) Dot Plots, Data Sets, and Frequency Tables	
10-3 Reading Dot Plots	A) Finding the Number of Observations within a Range of Numbers	5.16.a, 5.16.b
	B) Finding the Minimum and Maximum Values	
	C) Finding the Mode	
10-4 Histograms and Bins	A) Characteristics of Histograms	7.9.a, 7.9.b
	B) Bins	
	C) Using a Frequency Table to Create a Histogram	
10-5 Histograms and Data Sets	A) Histograms, Data Sets, and Frequency Tables	7.9.a, 7.9.b
	B) Finding the Number of Observations within a Range of Numbers	
	C) Values in a Histogram	

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Chapter 11 Distributions of Data

Lesson	Topic	VA MSL
11-1 Mean	A) Writing an Expression for the Mean	6.11.a, 6.11.b
	B) Calculating the Mean of Data Sets	
	C) How Adding of Removing Data Points Affects the Mean	
11-2 Median	A) Median	6.11.b
	B) Mean and Median of the Same Data Set	
11-3 Range and Mean Absolute Deviation	A) Range	5.17.c, 5.17.d
	B) MAD	
11-4 Interquartile Range	A) Quartiles	8.12.a, 8.12.b
	B) IQR	
11-5 Reading Box Plots	A) Five-Number Summaries	8.12.a, 8.12.b
	B) Measures of Variation	
	C) Box Plots and Five-Number Summaries	
11-6 Box Plots and Data	A) Box Plots, Five-Number Summaries, and Data Sets	8.12.a, 8.12.b
	B) Distribution of Data in a Dot Plot	
11-7 Shapes of Distributions	A) Shapes of Histograms	8.12.a, 8.12.b
	B) Shapes of Dot Plots	
	C) Shape and Measure of Center	
	D) Measure of Center and Measure of Variation	
	E) Outliers and Measures of Center	