

Knowre Math: **Grade 6** Curriculum

Chapter 1 Whole Numbers

Lesson	Topic	MAFS
1-1 Long Division with Remainders	A) Long Division with and without Remainders	MAFS.6.NS.2.2
1-2 Long Division with Mixed Number Quotients	A) Long Division with Mixed Number Quotients	MAFS.6.NS.2.2
1-3 Horizontal Division	A) Equivalent Divisions	MAFS.6.NS.2.2
	B) Dividing with Multiples of 10	
	C) Horizontal Division	
1-4 Divisibility Tests	A) Divisibility Tests	MAFS.6.NS.2.2
1-5 Multiples and Factors	A) Multiples	MAFS.6.NS.2.2, MAFS.6.NS.2.4
	B) Least Common Multiples	
	C) Factors	
	D) Greatest Common Factors	
1-6 Exponents	A) Multiplication Symbols	MAFS.6.EE.1.1, MAFS.6.EE.1.4
	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	MAFS.6.EE.1.1
1-8 Prime Factorization	A) Prime and Composite Numbers	MAFS.6.EE.1.1
	B) Prime Factorization Using a Completed Factor Tree	
1-9 GCF and LCM	A) Greatest Common Factors	MAFS.6.NS.2.4
	B) Least Common Multiples	

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Chapter 2 Fractions

Lesson	Topic	MAFS
2-1 Representing Fractions	A) Fractions on Number Lines	MAFS.6.NS.3.6.c
	B) Whole Numbers as Fractions	
	C) Equivalent Fractions	
	D) Simplifying Fractions	
	E) Mixed Numbers as Improper Fractions	
2-2 Comparing Fractions	A) Comparing Fractions	MAFS.6.NS.3.6.c, MAFS.6.NS.3.7.b
2-3 Adding Fractions	A) Adding Fractions and Mixed Numbers	MAFS.5.NF.1.1
2-4 Subtracting Fractions	A) Subtracting Fractions and Mixed Numbers	MAFS.5.NF.1.1
2-5 Multiplying Fractions	A) Comparing Fractional Products and Factors	MAFS.6.EE.1.1
	B) Multiplying Fractions	
	C) Powers of Nonnegative Fractions	
2-6 Dividing Fractions	A) Comparing Fractional Quotients and Dividends	MAFS.6.NS.1.1
	B) Reciprocals	
	C) Dividing Fractions	

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Chapter 3 Decimals

Lesson	Topic	MAFS
3-1 Representing Decimals	A) Decimals on Number Lines	MAFS.6.NS.3.6.c, MAFS.6.NS.3.7.b
	B) Representing Repeating Decimals	
	C) Comparing Decimals	
	D) Ordering Decimals	
3-2 Adding Decimals	A) Adding Decimals Vertically	MAFS.6.NS.2.3
	B) Adding Decimals Horizontally	
	C) Rounding Decimals to Estimate Sums	
3-3 Subtracting Decimals	A) Adding Decimals Vertically	MAFS.6.NS.2.3
	B) Adding Decimals Horizontally	
	C) Rounding Decimals to Estimate Differences	
3-4 Multiplying Decimals	A) Comparing Decimal Products and Factors	MAFS.6.NS.2.3, MAFS.6.EE.1.1
	B) Multiplying Decimals	
	C) Powers of Nonnegative Decimals	
	D) Rounding Decimals to Estimate Products	
3-5 Dividing Decimals	A) Comparing Decimal Quotients and Dividends	MAFS.6.NS.2.3
	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	MAFS.6.NS.2.3, MAFS.6.NS.3.7.b, MAFS.6.EE.1.1
	B) Order of Operations with Nonnegative Rational Numbers	

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Chapter 4 Integers

Lesson	Topic	MAFS
4-1 Number Sets and Algebra Tiles	A) Classifying Numbers	MAFS.6.NS.3.5
	B) Using Algebra Tiles to Model Integers	
	C) Representing Situations as Integers	
4-2 Comparing and Ordering Integers	A) Integers on Number Lines	MAFS.6.NS.3.5, MAFS.6.NS.3.6.c, MAFS.6.NS.3.7.a, MAFS.6.NS.3.7.b
	B) Comparing Integers	
	C) Distance on a Number Line	
	D) Ordering Integers	
4-3 Opposites and Absolute Value	A) Opposites	MAFS.6.NS.3.5, MAFS.6.NS.3.6.a, MAFS.6.NS.3.7.a, MAFS.6.NS.3.7.c, MAFS.6.NS.3.7.d
	B) Absolute Values	
4-4 Integer Addition with Tiles	A) Opposites	MAFS.7.NS.1.1.b
	B) Absolute Values	
4-5 Integer Addition with Number Lines	A) Using Number Lines to Model Addition of Integers with Different Signs	MAFS.7.NS.1.1.b
	B) Using Number Lines to Model Addition of Integers with the Same Sign	
4-6 Single-Digit Integer Addition	A) Adding One-Digit Integers	MAFS.7.NS.1.1.b
4-7 Integer Subtraction with Tiles	A) Using Algebra Tiles to Model Subtraction of Positive Integers	MAFS.7.NS.1.1.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	MAFS.7.NS.1.1.c

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Chapter 5 Introduction to Algebra

Lesson	Topic	MAFS
5-1 Understanding Variables and Coefficients	A) Coefficients and Variables	MAFS.6.EE.1.2.b, MAFS.6.EE.2.6
	B) Modeling Variable Expressions	
	C) Simplifying Variable Expressions	
5-2 Variable Expressions	A) Parts of Variable Expressions	MAFS.6.EE.1.2.a, MAFS.6.EE.1.2.b, MAFS.6.EE.1.2.c, MAFS.6.EE.1.3, MAFS.6.EE.1.4, MAFS.6.EE.2.6
	B) Modeling First Degree Monomials and Binomials	
	C) Combining Like Terms	
	D) Evaluating Variable Expressions	
5-3 Writing Expressions	A) Writing Variable Expressions	MAFS.6.EE.1.2.a, MAFS.6.EE.1.2.b, MAFS.6.EE.2.6
5-4 Properties of Operations	A) Commutative Property	MAFS.6.EE.1.3, MAFS.6.EE.1.4, MAFS.6.EE.2.6
	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	MAFS.6.EE.1.3, MAFS.6.EE.2.6
5-6 Distributive Property	A) Distributive Property	MAFS.6.NS.2.4, MAFS.6.EE.1.3, MAFS.6.EE.1.4, MAFS.6.EE.2.6
	B) Rewrite Sums and Differences with the Distributive Property	

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Chapter 6 Equations and Inequalities

Lesson	Topic	MAFS
6-1 Equations	A) Identifying Expressions and Equations	MAFS.6.EE.2.5, MAFS.6.EE.2.6
	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	MAFS.6.EE.2.7
6-3 Solving Multiplication Equations with Bar Models	A) Using Bar Models to Solve One-Step Multiplication Equations	MAFS.6.EE.2.7
6-4 Solving One-Step Addition and Subtraction Equations	A) Subtraction Property of Equality	MAFS.6.EE.2.7
	B) Addition Property of Equality	
6-5 Solving One-Step Multiplication and Division Equations	A) Division Property of Equality	MAFS.6.EE.2.7
	B) Multiplication Property of Equality	
6-6 Solutions of Inequalities	A) Writing Inequalities from Verbal Expressions	MAFS.6.EE.2.5, MAFS.6.EE.2.8
	B) Solutions of Inequalities	
6-7 Graphing Inequalities	A) Writing Inequalities from Number Lines	MAFS.6.EE.2.5, MAFS.6.EE.2.8
	B) Graphing Inequalities on a Number Line	
6-8 Solving One-Step Addition and Subtraction Inequalities	A) Subtraction Property of Inequality	MAFS.6.EE.2.5
	B) Addition Property of Inequality	
6-9 Solving One-Step Multiplication and Division Inequalities	A) Division Property of Inequality	MAFS.6.EE.2.5
	B) Multiplication Property of Inequality	

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Chapter 7 Ratios, Rates, and Percents

Lesson	Topic	MAFS
7-1 Writing Ratios	A) Writing Ratios in Different Forms	MAFS.6.RP.1.1
7-2 Simplifying Ratios	A) Simplifying Ratios in Different Forms	MAFS.6.RP.1.1
	B) Equivalent Ratios	
7-3 Unit Rate	A) Understanding Unit Rates	MAFS.6.RP.1.1, MAFS.6.RP.1.2, MAFS.6.RP.1.3.b
	B) Finding Unit Rates	
	C) Using Unit Rate to Find a Value	
7-4 Conversions	A) Customary Length Conversion Factors	MAFS.6.RP.1.1, MAFS.6.RP.1.3.b, MAFS.6.RP.1.3.d
	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	MAFS.6.RP.1.3.c
	B) Writing Fractions as Percents	
7-6 Percents and Decimals	A) Writing Percents as Decimals	MAFS.6.RP.1.3.c
	B) Writing Decimals as Percents	
7-7 Percent Equation	A) Percent Equation	MAFS.6.RP.1.3.c

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Chapter 8 Coordinate Plane and Two-Variable Equations

Lesson	Topic	MAFS
8-1 Coordinate Plane	A) Identifying Quadrants and Axes of Coordinate Planes	MAFS.6.NS.3.6.b, MAFS.6.NS.3.6.c, MAFS.6.NS.3.8
	B) Graphing Points	
	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	MAFS.6.NS.3.8, MAFS.6.G.1.3
	B) Using Absolute Value to Find the Distance Between Points	
8-3 Reflections on a Coordinate Plane	A) Reflections Over the x-Axis	MAFS.6.NS.3.6.b, MAFS.6.G.1.3
	B) Reflections Over the y-Axis	
8-4 Relations	A) Representing Relations in Different Forms	MAFS.6.RP.1.3.a, MAFS.6.RP.1.3.b, MAFS.6.EE.3.9
8-5 Input and Output	A) Input and Output	MAFS.6.EE.3.9
	B) Independent and Dependent Variables	
8-6 Two-Variable Equations	A) Evaluating Functions	MAFS.6.RP.1.3.a, MAFS.6.EE.1.2.c, MAFS.6.EE.3.9
	B) Graphing Linear Functions	
	C) Writing Linear Functions	

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Chapter 9 Area and Volume

Lesson	Topic	MAFS
9-1 Area of Rectangles and Squares	A) Areas of Rectangles	MAFS.6.G.1.1, MAFS.6.G.1.3
	B) Areas of Squares	
9-2 Area of Parallelograms	A) Area of Parallelograms	MAFS.6.G.1.1, MAFS.6.G.1.3
9-3 Area of Triangles	A) Bases and Heights of Triangles	MAFS.6.G.1.1
	B) Areas of Triangles	
9-4 Area of Trapezoids	A) Areas of Trapezoids	MAFS.6.G.1.1
9-5 Surface Area of Prisms and Pyramids Using Nets	A) Nets of Solids	MAFS.6.G.1.4
	B) Surface Areas of Prisms and Pyramids from Nets	
	C) Surface Areas of Prisms	
9-6 Volume of Rectangular Prisms	A) Volume from Cubic Units	MAFS.6.G.1.2
	B) Volumes of Right Prisms	

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Chapter 10 Displays of Data

Lesson	Topic	MAFS
10-1 Introduction to Statistics	A) Statistical Questions	MAFS.6.SP.1.1, MAFS.6.SP.2.5.a, MAFS.6.SP.2.5.b
	B) Characteristics of Data Sets	
	C) Frequency Tables	
	D) Characteristics of Tables	
10-2 Dot Plots and Data	A) Characteristics of Dot Plots	MAFS.6.SP.2.4, MAFS.6.SP.2.5.a, MAFS.6.SP.2.5.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	MAFS.6.SP.2.4
	B) Finding the Minimum and Maximum Values	
	C) Finding the Mode	
10-4 Histograms and Bins	A) Characteristics of Histograms	MAFS.6.SP.2.4, MAFS.6.SP.2.5.a, MAFS.6.SP.2.5.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	MAFS.6.SP.2.4
	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	MAFS
11-1 Mean	A) Writing an Expression for the Mean	MAFS.6.SP.1.2, MAFS.6.SP.1.3, MAFS.6.SP.2.5.c
	B) Calculating the Mean of Data Sets	
	C) How Adding or Removing Data Points Affects the Mean	
11-2 Median	A) Median	MAFS.6.SP.1.2, MAFS.6.SP.1.3, MAFS.6.SP.2.5.c
	B) Mean and Median of the Same Data Set	
11-3 Range and Mean Absolute Deviation	A) Range	MAFS.6.SP.1.2, MAFS.6.SP.1.3, MAFS.6.SP.2.5.c
	B) MAD	
11-4 Interquartile Range	A) Quartiles	MAFS.6.SP.1.2, MAFS.6.SP.1.3, MAFS.6.SP.2.5.c
	B) IQR	
11-5 Reading Box Plots	A) Five-Number Summaries	MAFS.6.SP.1.3, MAFS.6.SP.2.4
	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	MAFS.6.SP.2.4
	B) Distribution of Data in a Dot Plot	
11-7 Shapes of Distributions	A) Shapes of Histograms	MAFS.6.SP.1.2, MAFS.6.SP.1.3, MAFS.6.SP.2.5.c, MAFS.6.SP.2.5.d
	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	