

1		The Real and Complex Number System				Strategies										
						Animations	Classifications	Explore Tools	Graphing Tools	Interactive Diagrams	Interactive Worksheets	Proof	Real-World Scenarios	Solvers	Worked Example	
MATHia Unit	MATHia Workspace	Overview	CCSS	Concept Builder	Mastery											
Fraction Division	Representing Fraction Division	Students watch an animation and answer questions about modeling fraction division.	6.NS.1	✓		•										
	Interpreting Remainders Using Models	Students solve real-world fraction division problems using models and relate fraction division to fraction multiplication number sentences.	6.NS.1		✓											
	Developing the Fraction Division Algorithm	Students develop an understanding of the algorithm for fraction division through worked examples and the completion of partial worked examples.	6.NS.1	✓												
	Multiplying and Dividing Rational Numbers	Students calculate products and quotients of fractions, including mixed numbers and improper fractions.	6.NS.1		✓											
Decimal Operations	Adding and Subtracting Decimals	Students review adding and subtracting multi-digit decimals by examining worked examples, completing partially-completed worked examples, and solving problems.	6.NS.3	✓												
	Decimal Sums and Differences	Students practice adding and subtracting multi-digit decimals using the standard algorithm.	6.NS.3		✓											
	Exploring Decimal Facts	Students use an interactive grid to explore multiplying and dividing with decimals less than 1 to the tenths place.	6.NS.3	✓						•						
	Patterns with Products and Quotients	From a given product, students use patterns to compute additional related products and quotients.	6.NS.3		✓											
	Multiplying Decimals	Students investigate multiplying multi-digit decimals by following worked examples, completing partially-completed worked examples, and solving problems.	6.NS.3	✓												
	Decimal Products	Students practice multiplying multi-digit decimals using the standard algorithm.	6.NS.3		✓											
	Dividing Decimals	Students investigate dividing multi-digit whole numbers and decimals by following worked examples, completing partially-completed worked examples, and solving problems.	6.NS.2 6.NS.3	✓												

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Decimal Operations (continued)	Whole Number and Decimal Quotients	Students practice dividing whole numbers and decimals using the standard algorithm.	6.NS.2 6.NS.3		✓											
Ratio Relationships	Understanding Ratio Relationships	Students develop conceptual understanding of ratio, the multiplicative nature of ratios, the different notation used for ratio, and part-to-part versus part-to-whole ratios.	6.RP.1	✓						•	•					
	Equivalent Ratios	Students use a double number line to determine equivalent ratios. Then, they move to tables and scaling up and down to determine equivalent ratios.	6.RP.3b	✓												
Introduction to Percent	Percent Models	Students watch animations and answer questions about percent models. They write fractional and decimal equivalents of percent models. Students estimate percents using models. They relate benchmark percents and fractions.	6.RP.3.c	✓		•										
	Fraction, Decimal, Percent Conversions	Students convert between fractions, decimals, and percents. They use the equivalent representations to answer comparison questions.	6.RP.3.c	✓												
Integers	Introduction to Negative Numbers	Students learn about numbers and their opposites by watching an animation and answering questions.	6.NS.C.5 6.NS.C.6	✓		•										
	Representing Integers on Number Lines	Students explore integer opposites and inequality statements and relationships involving integers through an interactive tool.	6.NS.C.6a 6.NS.C.7a	✓						•	•					
The Coordinate Plane	Identifying and Interpreting Ordered Pairs	Students analyze worked examples and answer questions about points on the coordinate plane in mathematical and real-world contexts.	6.NS.C.6c	✓												
	Plotting Points	Students identify the coordinates of plotted points and sort the points according to their quadrant location.	6.NS.C.6c	✓						•						

2		Operations & Algebraic Thinking				Strategies										
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MATHia Unit	MATHia Workspace	Overview	CCSS	Concept Builder	Mastery											
Algebraic Expressions	Identifying Parts of Simple Algebraic Expressions	Students identify the parts of simple algebraic expressions, including terms, coefficients, sums, factors, products, differences, and quotients.	6.EE.2b	✓												
	Evaluating Multi-Step Expressions	Students determine relevant information from scenarios and use this information to evaluate algebraic expressions with one or more than one operation.	6.EE.2c		✓											
	Evaluating Expressions with Multiple Variables	Students determine relevant information from scenarios and use this information to evaluate algebraic expressions with multiple variables.	6.EE.2c		✓											
Equivalent Algebraic Expressions	Modeling Equivalent Algebraic Expressions	Students use an explore tool to model algebraic expressions. They use the interactive tool to create and identify equivalent expressions.	6.EE.3 6.EE.4	✓												
	Exploring the Distributive Property with Algebraic Expressions	Students use an interactive tool to explore the Distributive Property with algebraic expressions. They apply the properties of operations to generate equivalent expressions.	6.EE.3	✓												
	Using Order of Operations to Rewrite Simple Algebraic Expressions	Students rewrite algebraic expressions by combining like terms, using number properties, and applying the Order of Operations.	6.EE.3		✓											
	Using Order of Operations to Rewrite Algebraic Expressions with Four Operations	Students rewrite multi-step algebraic expressions by combining like terms, using number properties, and applying the Order of Operations.	6.EE.3		✓											
	Using Order of Operations to Rewrite Algebraic Expressions with Parentheses and Exponents	Students rewrite algebraic expressions involving parentheses and exponents by combining like terms, using number properties, and applying the Order of Operations.	6.EE.3		✓											
	Using Order of Operations to Rewrite Algebraic Expressions	Students rewrite a variety of algebraic expressions by combining like terms, using number properties, and applying the Order of Operations.	6.EE.3		✓											

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Solving One-Step Equations	Using Substitution to Identify Solutions to Equations	Students determine which given values for a variable are solutions to an equation.	6.EE.5	✓		•										
	Solving One-Step Equations with a Balance	Students use an interactive balance to explore representing and solving one-step addition and multiplication equations. Students are encouraged to determine solutions using the interactive model.	6.EE.7	✓							•					
	Solving with Addition and Subtraction (No Type In)	Students use an equation solver to solve one-step equations involving addition and subtraction.	6.EE.7		✓											
	Solving with Multiplication and Division (No Type In)	Students use an equation solver and inverse operations to solve one-step equations involving multiplication and division.	6.EE.7		✓											
	Solving One-Step Equations (Type In)	Students use an equation solver and inverse operations to solve a variety of one-step equations.	6.EE.7		✓											
Problem Solving with One-Step Equations	Modeling Scenarios with Equations	Students interpret the model of a one-step linear equation in the context of a scenario. They identify independent and dependent quantities and units from scenarios, tables, and graphs.	6.EE.9	✓												
	Analyzing Models of One-Step Linear Relationships	Students analyze scenarios of one-step linear relationships. They are given an equation that models the scenario. Students then match the different expressions in the equation to verbal descriptions of these quantities in the context of the scenario.	6.EE.9		✓					•						
	Patterns and One-Step Equations	Students make tables of values by determining inputs and outputs from given values. They use the tables to determine algebraic expressions for the relationships between two quantities.	6.EE.6 6.EE.7		✓											
	Problem Solving Using Multiple Representations in the First Quadrant	Students create tables of values, write and use algebraic expressions with one operation, and create graphs to represent problem scenarios.	6.EE.6 6.EE.7		✓						•					

3		Geometry				Strategies											
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MATHia Unit	MATHia Workspace	Overview	CCSS	Concept Builder	Mastery												
Area	Calculating Area of Rectangles	Students calculate the areas of rectangles and squares in mathematical and real-world situations.	6.G.1		✓												
	Developing Area Formulas	Students watch animations and answer questions to derive the formulas used to calculate the areas of parallelograms, triangles, and trapezoids. They use the formulas to represent area problems as equations using given dimensions in real-world scenarios.	6.G.1	✓		•											
	Calculating Area of Various Figures	Students calculate the areas of parallelograms, trapezoids, and triangles in mathematical and real-world situations.	6.G.1		✓												
	Solving Area Problems	Students use the areas of rectangles and triangles to solve area problems with composite figures.	6.G.1 7.G.6	✓													
	Calculating Area of Composite Figures	Students practice calculating the area of various mathematical and real-world composite figures.	6.G.1 7.G.6		✓												
Volume and Surface Area	Determining Volume Using Unit Fraction Cubes	Students watch an animation, which provides an example of how to determine the unit fraction dimensions of a cube to fill a rectangular prism with fractional edge lengths. Students determine the volumes of various rectangular prisms with different fractional edge lengths.	6.GM.2	✓		•											
	Calculating Volume of Right Prisms	Students determine the volume of right prisms.	6.GM.2		✓												
	Determining Surface Area Using Nets	Students watch an animation showing how real-world objects can be represented by three-dimensional solid figures and how solid figures can be taken apart to create two-dimensional nets. Students use nets to determine the surface areas of right rectangular prisms and square pyramids, and they identify faces, edges, and vertices of solid figures.	6.GM.4	✓		•											

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Volume and Surface Area (continued)	Calculating Surface Area of Right Prisms	Students determine the surface area of right prisms by determining the areas of the faces of the prisms.	6.GM.4		✓											

4		Statistics				Strategies										
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MATHia Unit	MATHia Workspace	Overview	CCSS	Concept Builder	Mastery											
Measures of Central Tendency	Calculating Mean, Median, Mode, and Range	Students calculate the mean, median, mode, and range from data sets.	6.SP.5.c		✓											
Displays of Numerical Data	Creating and Interpreting Stem Plots	Students interpret, create, and analyze stem-and-leaf plots as they learn about the features of the plot type. Students summarize and describe the displays according to shape and numerical summaries.	6.SP.4 6.SP.5a 6.SP.5b	✓												
	Creating and Interpreting Dot Plots	Students interpret, create, and analyze dot plots as they learn about the features of the plot type. Students summarize and describe the displays according to shape and numerical summaries.	6.SP.4 6.SP.5a 6.SP.5b	✓												
	Creating and Interpreting Histograms	Students watch an animation as they learn how to create a histogram. They also engage with an Explore tool to determine the effect of changing the bin size of a histogram. Students summarize and describe the displays according to shape.	6.SP.4 6.SP.5a 6.SP.5b	✓		•				•	•					
Box Plots	Constructing Box Plots	Students examine how to construct box-and-whisker plots and connect the plot to the five-number summary. They use an Explore Tool to construct their own box-and-whisker plots and answer questions about the plots.	6.SP.4 6.SP.5	✓							•	•				
	Interpreting Box Plots	Students analyze vertical and horizontal box-and-whisker plots to understand the relationship between the shape of the display and the spread of the data set.	6.SP.4 6.SP.5	✓							•					