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Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $(\frac{1}{2})/(\frac{1}{4})$ miles per hour, equivalently 2 miles per hour or apply a given scale factor to find missing dimensions of similar figures.	Textbook	1: Thinking Proportionally	2: Fractional Rates	1: Making Punch: Unit Rate Representations pp. M1-51–M1-58 2: Eggzactly!: Solving Problems with Ratios of Fractions pp. M1-59–M1-68
		MATHia Software	1: Thinking Proportionally	2: Fractional Rates	3: Ratios of Fractions 3: Ratios of Fractions
7.RP.2	Recognize and represent proportional relationships between quantities. Make basic inferences or logical predictions from proportional relationships.	Textbook	1: Thinking Proportionally	3: Proportionality	4: Minding Your Ps and Qs: Constant of Proportionality in Multiple Representations pp. M1-139–M1-152
7.RP.2.a	Decide whether two quantities are in a proportional relationship (e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin).	Textbook	1: Thinking Proportionally	3: Proportionality	1: How Does Your Garden Grow?: Proportional Relationships pp. M1-91–M1-108
		MATHia Software	1: Thinking Proportionally	2: Fractional Rates	2: Ration Representations 2: Ration Representations 4: Proportionality
7.RP.2.b	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships in real world situations.	Textbook	1: Thinking Proportionally	3: Proportionality	2: Complying with Title IX: Constant of Proportionality pp. M1-109–M1-125 3: Fish-Inches: Identifying the Constant of Proportionality in Graphs pp. M1-127–M1-138
		MATHia Software	1: Thinking Proportionally	2: Fractional Rates	4: Proportionality 5: Determining the Constant of Proportionality 5: Determining the Constant of Proportionality 6: Constant of Proportionality in Multiple Representations

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<b>7.RP.2.c</b>	Represent proportional relationships by equations and multiple representations such as tables, graphs, diagrams, sequences, and contextual situations. For example, if total cost $t$ is proportional to the number $n$ of items purchased at a constant price $p$ , the relationship between the total cost and the number of items can be expressed as $t = pn$ .	Textbook	1: Thinking Proportionally	2: Fractional Rates	3: Tagging Sharks: Solving Proportions Using Means and Extremes pp. M1-69–M1-82
				3: Proportionality	2: Complying with Title IX: Constant of Proportionality pp. M1-109–M1-125
		MATHia Software	1: Thinking Proportionally	2: Fractional Rates	3: Ratios of Fractions
					5: Determining the Constant of Proportionality pp. M1-109–M1-125
<b>7.RP.2.d</b>	Understand the concept of unit rate and show it on a coordinate plane. Explain what a point $(x, y)$ on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where $r$ is the unit rate.	Textbook	1: Thinking Proportionally	3: Proportionality	3: Fish-Inches: Identifying the Constant of Proportionality in Graphs pp. M1-127–M1-138
		MATHia Software	1: Thinking Proportionally	2: Fractional Rates	6: Constant of Proportionality in Multiple Representations
<b>7.RP.3</b>	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	Textbook	1: Thinking Proportionally	2: Fractional Rates	3: Tagging Sharks: Solving Proportions Using Means and Extremes pp. M1-69–M1-82
				4: Proportional Relationships	1: Markups and Markdowns: Introducing Proportions to Solve Percent Problems pp. M1-161–M1-176
					2: Perks of Work: Calculating Tips, Commission, and Simple Interest pp. M1-177–M1-195
					3: No Taxation Without Calculation: Sales Tax, Income Tax, and Fees pp. M1-197–M1-208
		4: More Ups and Downs: Percent Increase and Percent Decrease pp. M1-209–M1-222			
		2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	3: Building a Wright Brothers' Flyer: Simplifying Expressions to Solve Problems pp. M2-113–M2-124	
4: Analyzing Populations and Probabilities	1: Introduction to Probability	3: Toss the Cup: Determining Experimental Probability of Simple Events pp. M4-33–M4-46			
MATHia Software	1: Thinking Proportionally	3: Proportional Relationships	7: Analyzing Percent Models		

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<b>7.RP.3</b>	Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	MATHia Software	1: Thinking Proportionally	3: Proportional Relationships	7: Analyzing Percent Models
					8: Introducing Proportions to Solve Percent Problems
					8: Introducing Proportions to Solve Percent Problems
					9: Calculating Sales Tax and Discounts
					9: Calculating Sales Tax and Discounts
					9: Calculating Sales Tax and Discounts
					10: Percent Increase and Percent Decrease
<b>7.NS.1</b>	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	Textbook	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	1: Math Football: Using Models to Understand Integer Addition pp. M2-7–M2-16
<b>7.NS.1.a</b>	Show that a number and its opposite have a sum of 0 (additive inverses). Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.	Textbook	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	3: Two-Color Counters: Adding Integers, Part II pp. M2-31–M2-48
		MATHia Software	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	1: Using Models to Understand Integers
<b>7.NS.1.b</b>	Understand addition of rational numbers ( $p + q$ as the number located a distance $ q $ from $p$ , in the positive or negative direction depending on whether $q$ is positive or negative). Interpret sums of rational numbers by describing real-world contexts.	Textbook	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	2: Walk the Line: Adding Integers, Part I pp. M2-17–M2-30
		MATHia Software	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	3: Two-Color Counters: Adding Integers, Part II pp. M2-31–M2-48
					1: Using Models to Understand Integers
					2: Adding and Subtracting Integers
					2: Adding and Subtracting Integers
					2: Adding and Subtracting Integers
2: Multiplying and Dividing Rational Numbers	3: Multiplying and Dividing Integers				

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7.NS.1.c	Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$ . Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	Textbook	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	4: What's the Difference?: Subtracting Integers pp. M2-49–M2-68
		MATHia Software	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	2: Adding and Subtracting Integers
					2: Adding and Subtracting Integers
7.NS.1.d	Apply properties of operations as strategies to add and subtract rational numbers.	Textbook	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	4: Properties Schmoerties: Using Number Properties to Interpret Expressions with Signed Numbers pp. M2-125–M2-134
		MATHia Software	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	3: Multiplying and Dividing Integers
					3: Multiplying and Dividing Integers
7.NS.2.a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.	Textbook	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	1: Equal Groups: Multiplying and Dividing Integers pp. M2-89–M2-102
7.NS.2.b	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If $p$ and $q$ are integers, then $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational numbers by describing real-world contexts.	Textbook	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	2: Be Rational!: Quotients of Integers pp. M2-103–M2-112
7.NS.2.c	Apply and name properties of operations used as strategies to multiply and divide rational numbers.	Textbook	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	4: Properties Schmoerties: Using Number Properties to Interpret Expressions with Signed Numbers pp. M2-125–M2-134
		MATHia Software	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	3: Multiplying and Dividing Integers 3: Multiplying and Dividing Integers

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
<b>7.NS.2.d</b>	Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	Textbook	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	2: Be Rational!: Quotients of Integers pp. M2-103–M2-112
		MATHia Software	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	4: Quotients of Integers
<b>7.NS.2.e</b>	Convert between equivalent fractions, decimals, or percents.	Textbook	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	2: Be Rational!: Quotients of Integers pp. M2-103–M2-112
<b>7.NS.3</b>	Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.) For example, use models, explanations, number lines, real life situations, describing or illustrating the effect of arithmetic operations on rational numbers (fractions, decimals).	Textbook	2: Operating with Signed Numbers	1: Adding and Subtracting Rational Numbers	5: All Mixed Up: Adding and Subtracting Rational Numbers pp. M2-69–M2-80
				2: Multiplying and Dividing Rational Numbers	1: Equal Groups: Multiplying and Dividing Integers pp. M2-89–M2-102
					3: Building a Wright Brothers' Flyer: Simplifying Expressions to Solve Problems pp. M2-113–M2-124
					4: Properties of Properties: Using Number Properties to Interpret Expressions with Signed Numbers pp. M2-125–M2-134
		MATHia Software	2: Operating with Signed Numbers	2: Multiplying and Dividing Rational Numbers	3: Multiplying and Dividing Integers
					5: Rewriting Numeric Expressions
					5: Rewriting Numeric Expressions
					5: Rewriting Numeric Expressions
					5: Rewriting Numeric Expressions
					5: Rewriting Numeric Expressions
<b>7.EE.1</b>	Apply properties of operations as strategies to add, subtract, factor, expand and simplify linear expressions with rational coefficients.	Textbook	3: Reasoning Algebraically	1: Algebraic Expressions	2: Mathematics Gymnastics: Rewriting Expressions Using the Distributive Property pp. M3-19–M3-32
					3: All My Xs: Combining Like Terms pp. M3-33–M3-43
		MATHia Software	3: Reasoning Algebraically	1: Algebraic Expressions	1: Rewriting Variable Expressions Using the Distributive Property
					2: Combining Like Terms
					2: Combining Like Terms
					2: Combining Like Terms
2: Combining Like Terms					

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.	Textbook	3: Reasoning Algebraically	1: Algebraic Expressions	3: All My Xs: Combining Like Terms pp. M3-33–M3-43
				3: Multiple Representations of Equations	2: Stretches, Stacks, and Structure: Structure of Linear Equations pp. M3-139–M3-153
7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Textbook	3: Reasoning Algebraically	1: Algebraic Expressions	1: No Substitution for Hard Work: Evaluating Algebraic Expressions pp. M3-7–M3-18
		MATHia Software	1: Thinking Proportionally	3: Proportional Relationships	9: Calculating Sales Tax and Discounts
			3: Reasoning Algebraically	3: Multiple Representations of Equations	7: Building Inequalities and Equations to Solve Problems
					7: Building Inequalities and Equations to Solve Problems
7.EE.4	Use variables to represent quantities in a real-world or mathematical problem, and construct multi-step equations and inequalities to solve problems by reasoning about the quantities.	Textbook	3: Reasoning Algebraically	3: Multiple Representations of Equations	3: Deep Flight I: Building Inequalities and Equations to Solve Problems pp. M3-155–M3-168
		MATHia Software	3: Reasoning Algebraically	3: Multiple Representations of Equations	4: Texas Tea and Temperature: Using Multiple Representations to Solve Problems pp. M3-169–M3-180
7: Building Inequalities and Equations to Solve Problems					
					7: Building Inequalities and Equations to Solve Problems

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
<b>7.EE.4.a</b>	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ , where $p$ , $q$ , and $r$ are specific rational numbers. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?	Textbook	3: Reasoning Algebraically	2: Two-Step Equations and Inequalities	1: Picture Algebra: Modeling Equations by Equal Expressions pp. M3-53–M3-63
					2: Expressions That Play Together?: Solving Equations on a Double Number Line pp. M3-65–M3-75
					3: Formally Yours: Using Inverse Operations to Solve Equations pp. M3-77–M3-94
				3: Multiple Representations of Equations	1: Put It on the Plane: Representing Equations with Tables and Graphs pp. M3-125–M3-138
					2: Stretches, Stacks, and Structure: Structure of Linear Equations pp. M3-139–M3-153
					3: Modeling Equations by Equal Expressions
		MATHia Software	3: Reasoning Algebraically	2: Two-Step Equations and Inequalities	3: Modeling Equations by Equal Expressions
					3: Modeling Equations by Equal Expressions
					3: Modeling Equations by Equal Expressions
					3: Modeling Equations by Equal Expressions
					3: Modeling Equations by Equal Expressions
					4: Using Inverse Operations to Solve Equations
					4: Using Inverse Operations to Solve Equations
					4: Using Inverse Operations to Solve Equations
					4: Using Inverse Operations to Solve Equations
3: Multiple Representations of Equations	6: Representing Equations with Tables and Graphs				
	6: Representing Equations with Tables and Graphs				
	7: Building Inequalities and Equations to Solve Problems				
	7: Building Inequalities and Equations to Solve Problems				



Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
7.EE.4.b	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$ , where $p$ , $q$ , and $r$ are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$Write an inequality for the number of sales you need to make, and describe the solutions.	Textbook	3: Reasoning Algebraically	2: Two-Step Equations and Inequalities	4: Be Greater Than: Solving Inequalities with Inverse Operations pp. M3-95–M3-116
		MATHia Software	3: Reasoning Algebraically	2: Two-Step Equations and Inequalities	5: Solving Inequalities with Inverse Operations
					5: Solving Inequalities with Inverse Operations
7.G.1	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Textbook	1: Thinking Proportionally	4: Proportional Relationships	5: Pound for Pound, Inch for Inch: Scale and Scale Drawings pp. M1-223–M1-240
		MATHia Software	1: Thinking Proportionally	3: Proportional Relationships	11: Scale and Scale Drawings
					11: Scale and Scale Drawings
7.G.2	Draw (freehand, with ruler and protractor, and with technology) geometric shapes including polygons and circles with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Textbook	5: Constructing and Measuring	1: Angles and Triangles	1: Here's Lookin' at Euclid: Geometric Constructions pp. M5-7–M5-18
					3: Consider Every Side: Constructing Triangles Given Sides pp. M5-39–M5-52
					4: Unique or Not?: Constructing Triangles Given Angles pp. M5-53–M5-66
7.G.3	Describe the two-dimensional figures, i.e., cross-section, that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	Textbook	5: Constructing and Measuring	2: Three-Dimensional Figures	1: Slicing and Dicing: Cross-Sections of Rectangular Prisms pp. M5-75–M5-96
		MATHia Software	5: Constructing and Measuring	2: Three-Dimensional Figures	2: Dissecting a Pyramid: Cross-Sections of Rectangular Pyramids pp. M5-97–M5-106 3: Hey, Mister, Got Some Bird Seed?: Volume of Pyramids pp. M5-107–M5-127
					2: Cross-Sections

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7.G.4	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	Textbook	1: Thinking Proportionally	1: Circles and Ratios	1: Pi: The Ultimate Ratio: Exploring the Ratio of Circle Circumference to Diameter pp. M1-7–M1-18
					2: That's a Spicy Pizza!: Area of Circles pp. M1-19–M1-32
					3: Circular Reasoning: Solving Area and Circumference Problems pp. M1-33–M1-42
		MATHia Software	1: Thinking Proportionally	1: Circles and Ratio	1: Exploring the Ratio of Circle Circumference to Diameter
					1: Exploring the Ratio of Circle Circumference to Diameter
					1: Exploring the Ratio of Circle Circumference to Diameter
7.G.5	Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	Textbook	5: Constructing and Measuring	1: Angles and Triangles	2: Special Delivery: Special Angle Relationships pp. M5-19–M5-38
					MATHia Software
		1: Special Angle Relationships			
		1: Special Angle Relationships			
7.G.6	Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	Textbook	1: Thinking Proportionally	4: Proportional Relationships	4: More Ups and Downs: Percent Increase and Percent Decrease pp. M1-209–M1-222
			5: Constructing and Measuring	2: Three-Dimensional Figures	4: The Sound of Surface Area: Surface Area of Pyramids pp. M5-129–M5-142
		MATHia Software	5: Constructing and Measuring	2: Three-Dimensional Figures	5: More Than Four Sides of the Story: Volume and Surface Area of Prisms and Pyramids pp. M5-143–M5-156
					3: Volume of Prisms and Pyramids
					3: Volume of Prisms and Pyramids
					3: Volume of Prisms and Pyramids
					3: Volume of Prisms and Pyramids
					4: Surface Area of Pyramids and Prisms

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
7.SP.1	Understand that statistics can be used to gain information about a population by examining a reasonably sized sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.	Textbook	4: Analyzing Populations and Probabilities	3: Drawing Inferences	1: We Want to Hear From You!: Collecting Random Samples pp. M4-133–M4-149 2: Tiles, Gumballs, and Pumpkins: Using Random Samples to Draw Inferences pp. M4-151–M4-167
		MATHia Software	4: Analyzing Populations and Probabilities	3: Drawing Inferences	3: Drawing Inferences
7.SP.2	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	Textbook	4: Analyzing Populations and Probabilities	3: Drawing Inferences	2: Tiles, Gumballs, and Pumpkins: Using Random Samples to Draw Inferences pp. M4-151–M4-167
		MATHia Software	4: Analyzing Populations and Probabilities	3: Drawing Inferences	3: Drawing Inferences
7.SP.3	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.	Textbook	4: Analyzing Populations and Probabilities	3: Drawing Inferences	3: Dark or Spicy?: Comparing Two Populations pp. M4-169–M4-180 4: Finding Your Spot to Live: Using Random Samples from Two Populations to Draw Conclusions pp. M4-181–M4-204
		MATHia Software	4: Analyzing Populations and Probabilities	3: Drawing Inferences	4: Comparing Two Populations 4: Comparing Two Populations

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7.SP.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.	Textbook	4: Analyzing Populations and Probabilities	3: Drawing Inferences	4: Finding Your Spot to Live: Using Random Samples from Two Populations to Draw Conclusions pp. M4-181–M4-204
		MATHia Software	4: Analyzing Populations and Probabilities	3: Drawing Inferences	4: Comparing Two Populations
7.SP.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	Textbook	4: Analyzing Populations and Probabilities	1: Introduction to Probability	1: Rolling, Rolling, Rolling?: Defining and Representing Probability pp. M4-7–M4-22
		MATHia Software	4: Analyzing Populations and Probabilities	1: Introduction to Probability	1: Introduction to Probability
7.SP.6	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.	Textbook	4: Analyzing Populations and Probabilities	1: Introduction to Probability	3: Toss the Cup: Determining Experimental Probability of Simple Events pp. M4-33–M4-46
				2: Compound Probability	4: A Simulating Conversation: Simulating Simple Experiments pp. M4-47–M4-64
		MATHia Software	4: Analyzing Populations and Probabilities	1: Introduction to Probability	1: Evens or Odds?: Using Arrays to Organize Outcomes pp. M4-73–M4-88
				1: Introduction to Probability	4: On a Hot Streak: Simulating Probability of Compound Events pp. M4-113–M4-124
7.SP.7	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	Textbook	4: Analyzing Populations and Probabilities	1: Introduction to Probability	2: Give the Models a Chance: Probability Models pp. M4-23–M4-32
				2: Compound Probability	2: Three Girls and No Boys?: Using Tree Diagrams pp. M4-89–M4-100

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
7.SP.7.a	Design a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.	Textbook	4: Analyzing Populations and Probabilities	1: Introduction to Probability	4: A Simulating Conversation: Simulating Simple Experiments pp. M4-47–M4-64
		MATHia Software	4: Analyzing Populations and Probabilities	1: Introduction to Probability	1: Introduction to Probability
				2: Compound Probability	2: Compound Probability
7.SP.7.b	Design a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?	Textbook	4: Analyzing Populations and Probabilities	1: Introduction to Probability	3: Toss the Cup: Determining Experimental Probability of Simple Events pp. M4-33–M4-46
				2: Compound Probability	1: Evens or Odds?: Using Arrays to Organize Outcomes pp. M4-73–M4-88
		MATHia Software	4: Analyzing Populations and Probabilities	1: Introduction to Probability	3: Pet Shop Probability: Determining Compound Probability pp. M4-101–M4-112
7.SP.8	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.	Textbook	4: Analyzing Populations and Probabilities	2: Compound Probability	3: Pet Shop Probability: Determining Compound Probability pp. M4-101–M4-112
7.SP.8.a	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.	Textbook	4: Analyzing Populations and Probabilities	2: Compound Probability	1: Evens or Odds?: Using Arrays to Organize Outcomes pp. M4-73–M4-88
					3: Pet Shop Probability: Determining Compound Probability pp. M4-101–M4-112
7.SP.8.b	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., rolling double sixes), identify the outcomes in the sample space which compose the event.	Textbook	4: Analyzing Populations and Probabilities	2: Compound Probability	1: Evens or Odds?: Using Arrays to Organize Outcomes pp. M4-73–M4-88
		MATHia Software	4: Analyzing Populations and Probabilities	2: Compound Probability	2: Three Girls and No Boys?: Using Tree Diagrams pp. M4-89–M4-100
					3: Pet Shop Probability: Determining Compound Probability pp. M4-101–M4-112
					2: Compound Probability

Standard ID	Description	Location	Module	Topic (Textbook)/ Unit (MATHia Software)	Lesson (Textbook) / Workspace (MATHia Software)
7.SP.8.c	Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?	Textbook	4: Analyzing Populations and Probabilities	2: Compound Probability	4: On a Hot Streak: Simulating Probability of Compound Events pp. M4-113–M4-124
		MATHia Software	4: Analyzing Populations and Probabilities	1: Introduction to Probability 2: Compound Probability	1: Introduction to Probability 2: Compound Probability