

1 Ratios and Rates

This chapter begins with a review of ratio and unit rate concepts, and scaling up and scaling down strategies to determine equivalent ratios. The means and extremes strategy for solving proportions is introduced and connected to the students' previous understanding of equivalent ratios.

Standards: 7.4A, 7.4B, 7.4D

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
1.1	Show Someone You Care — Send Flowers!	Introduction to Ratios and Rates	7.4A 7.4B	<ul style="list-style-type: none"> Identify ratios, rates, and unit rates. Use ratios, rates, and unit rates to analyze problems. 	<ul style="list-style-type: none"> Ratio Rate Proportion Equivalent ratios Unit rate Scaling up Scaling down
1.2	Making Punch	Ratios, Rates, and Mixture Problems	7.4A 7.4B 7.4D	<ul style="list-style-type: none"> Use ratios to make comparisons. Use rates and proportions to solve mixture problems. 	
1.3	For the Birds	Rates and Proportions	7.4A 7.4B 7.4D	<ul style="list-style-type: none"> Write ratios and rates. Write proportions. Scale up and scale down proportions. 	<ul style="list-style-type: none"> Convert
1.4	Tutor Time!	Using Tables to Solve Problems	7.4A 7.4B 7.4D	<ul style="list-style-type: none"> Use tables to represent equivalent ratios. Solve proportions using unit rates. 	
1.5	Looks Can Be Deceiving!	Using Proportions to Solve Problems	7.4A 7.4D	<ul style="list-style-type: none"> Solve proportions using the scaling method. Solve proportions using the unit rate method. Solve proportions using the means and extremes method. Estimate and calculate values using rates. Use unit rates to determine the best buy. 	<ul style="list-style-type: none"> Variable Means and extremes Solve a proportion Inverse operations
1.6	The Price Is . . . Close	Using Unit Rates in Real World Applications	7.4A 7.4B 7.4D	<ul style="list-style-type: none"> Estimate and calculate values using rates. Use unit rates to determine the best buy. 	
1.7	They're Saying the Same Thing?	Moving Between Measurement Systems	7.4A 7.4E	<ul style="list-style-type: none"> Select appropriate types of measurement between customary and metric measurement systems. Select appropriate units for each type of measurement. Convert from one unit to another in different systems. 	

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
	Learning Individually with MATHia or Skills Practice		7.4A 7.4D 7.4E	In the MATHia software, students use tables, double number lines, and graphs to solve real-world and mathematical problems involving equivalent ratios and rates. They use proportions to write equations and learn the means and extremes method to solve for an unknown value. Students solve problems using proportions, including converting between Customary and metric units.	

2 Direct Variation and Constant of Proportionality

This chapter develops the representations of proportional relationships between quantities using words, tables, equations, and graphs. The constant of proportionality is introduced and used to solve various real-world problems.

Standards: 7.4A, 7.4C, 7.4D

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
2.1	What Makes You Tap Your Feet?	Introduction to Direct Variation	7.4A 7.4D	<ul style="list-style-type: none"> Determine how quantities in different situations vary. Use multiple representations to explore the types of variation. 	<ul style="list-style-type: none"> Direct variation (direct proportion) Origin
2.2	Building Bird Feeders Is for the Birds!	Determining Equivalent Ratios	7.4A 7.4D	<ul style="list-style-type: none"> Determine if the points on a graph are equivalent ratios. 	
2.3	Kids Just Wanna Have Fun!	Determining and Applying the Constant of Proportionality	7.4A 7.4C 7.4D	<ul style="list-style-type: none"> Determine the constant of proportionality. Solve problems using the proportional relationship between two variables. 	<ul style="list-style-type: none"> Constant of proportionality
2.4	Stop That Speeding Snail?	Using the Constant of Proportionality to Solve Proportions	7.4A 7.4C 7.4D	<ul style="list-style-type: none"> Determine if there is a constant of proportionality between two variables. 	
2.5	The Man Who Ran from Marathon to Athens	Graphing Direct Proportions	7.4A 7.4C 7.4D	<ul style="list-style-type: none"> Graph relationships that are directly proportional. Interpret the graphs of relationships that are directly proportional. 	
2.6	Racing to the Finish Line!	Using Direct Proportions	7.4A 7.4C 7.4D	<ul style="list-style-type: none"> Determine if two variables are directly proportional or vary directly. Interpret relationships that are direct proportions. Solve direct variation problems using the equation $y = kx$. 	
2.7	Connecting Representations of Proportional Relationships	Interpreting Multiple Representations of Direct Proportions	7.4A 7.4C 7.4D	<ul style="list-style-type: none"> Determine if relationships represented in words, tables, equations, or graphs are directly proportional. Interpret the meaning of direct proportions represented in words, tables, equations, and graphs. Determine and interpret the constant of proportionality for variables that are directly proportional and represented in words, tables, equations, and graphs. 	
Learning Individually with MATHia or Skills Practice			7.4C 7.4D	In the MATHia software, students determine the constant of proportionality between varying quantities and use it to write an equation modeling the proportional relationship. They convert between different forms of proportional relationships. Students model the constant of proportionality by graphing the equation of a line that represents a proportional relationship.	

3 Rates and Percents

This chapter extends the use of proportional reasoning to solve percent problems.

Standards: 7.4D

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
3.1	Give Me a Ballpark Figure of the Cost	Estimating and Calculating with Percents and Rates	7.4D	<ul style="list-style-type: none"> Estimate and calculate values using rates. Estimate and calculate the values of percents. 	
3.2	One Size Fits All?	Solving Percent Problems	7.4D	<ul style="list-style-type: none"> Solve problems involving percents. 	
3.3	Mathematics and Nutrition	Using Proportions and Percent Equations	7.4D	<ul style="list-style-type: none"> Solve proportions. Solve percent equations. 	<ul style="list-style-type: none"> Percent equation
3.4	Be Mindful of the Fees!	Using Percents	7.4D	<ul style="list-style-type: none"> Calculate simple interest. Calculate the percent of increase. Calculate the percent of decrease. Calculate discount of base price. Calculate tax on a purchase. Calculate depreciate. 	<ul style="list-style-type: none"> Interest Principal Simple interest Percent increase Percent decrease Depreciate
3.5	Shoe Super Store	Solving Percent Problems Involving Proportions	7.4D	<ul style="list-style-type: none"> Solve percent problems using direct variation. Write equations to show the constant of proportionality. 	<ul style="list-style-type: none"> Commission
Learning Individually with MATHia or Skills Practice			7.4D	In the MATHia software, students convert between fractions, decimals, and percents. They solve a variety of percent problems, including percent change and problems involving sales tax and discounts.	

4 Financial Literacy: Tax, Interest, and Budgets

This chapter focuses on students' financial literacy as they investigate taxes, interest, net worth, and budgeting. Net worth is defined with regard to assets and liabilities, and students are introduced to different types of savings plans as well as some of the complexities of household budgeting.
Standards: 7.4D, 7.13A, 7.13B, 7.13C, 7.13D, 7.13E, 7.13F

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
4.1	Some Interest in Your Business	Sales Tax and Income Tax	7.4D 7.13A 7.13F	<ul style="list-style-type: none"> Compare tax rates using multiple representations. Calculate taxes and tax rates for a given purchase. Analyze and compare monetary incentives such as sales, rebates, and coupons. Calculate income tax and tax rates for earned wages. 	<ul style="list-style-type: none"> Sales tax Sale Coupon Rebate Income tax
4.2	Student Interest	Simple and Compound Interest	7.13E	<ul style="list-style-type: none"> Determine the difference between simple interest and compound interest. Calculate simple interest earned for a given balance and interest rate. Calculate the compound interest earned for a given balance and interest rate. Compare money earned from simple and compound interest. 	<ul style="list-style-type: none"> Principal Simple interest Compound interest
4.3	Aren't Peace, Love, and Understanding Worth Anything?	Net Worth Statements	7.13C	<ul style="list-style-type: none"> Create and organize a financial assets and liabilities record. Construct a net worth statement. 	<ul style="list-style-type: none"> Net worth Asset Liability 401(k) plan 403(b) plan
4.4	Living Within Your Means	Personal Budgets	7.4D 7.13B 7.13D	<ul style="list-style-type: none"> Identify the components of a personal budget. Calculate the percentage of each category within a total budget. Estimate the minimum household budget and average hourly wage needed for a typical family to meet its basic needs. 	<ul style="list-style-type: none"> Personal budget Fixed expenses Variable expenses Family Budget Estimator
Learning Individually with MATHia or Skills Practice			7.4D 7.13A 7.13E	In the MATHia software, students solve personal finance problems involving both sales tax and discounts, income tax, and simple and compound interest.	

5 Numerical and Algebraic Expressions and Equations

This chapter begins with operations with rational numbers, then moves to evaluating algebraic expressions, simplifying algebraic expressions, and determining whether algebraic expressions are equivalent. Using the distributive properties and factoring is also addressed.

Standards: 6.7C, 7.2A, 7.3A, 7.3B

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
5.1	It Must Be a Sign!	Operating with Rational Numbers	7.2A 7.3A 7.3B	<ul style="list-style-type: none"> • Model addition and subtraction on a number line. • Add and subtract integers. • Multiply and divide integers. • Sketch a Venn diagram to show relationships between sets of numbers. • Operate with rational numbers. • Solve real-world problems involving rational numbers. 	
5.2	What's It Really Saying?	Evaluating Algebraic Expressions	7.3B	<ul style="list-style-type: none"> • Evaluate algebraic expressions. 	<ul style="list-style-type: none"> • Variable • Algebraic expression • Evaluate an algebraic expression
5.3	Express Math	Simplifying Expressions Using Distributive Properties	7.3B	<ul style="list-style-type: none"> • Write and use the distributive properties. • Use distributive properties to simplify expressions. 	<ul style="list-style-type: none"> • Distributive Property of Multiplication over Addition • Distributive Property of Multiplication over Subtraction • Distributive Property of Division over Addition • Distributive Property of Division over Subtraction
5.4	Reverse Distribution	Factoring Algebraic Expressions	7.3B	<ul style="list-style-type: none"> • Use the distributive properties to factor expressions. • Combine like terms to simplify expressions. 	<ul style="list-style-type: none"> • Factor • Common factor • Greatest common factor (GCF) • Coefficient • Like terms • Combining like terms
5.5	Are They the Same or Different?	Verifying That Expressions Are Equivalent	6.7C	<ul style="list-style-type: none"> • Simplify algebraic expressions. • Verify that algebraic expressions are equivalent by graphing, simplifying, and evaluating expressions. 	
5.6	It Is Time To Justify!	Simplifying Algebraic Expressions Using Operations and Their Properties	7.3B	<ul style="list-style-type: none"> • Simplify algebraic expressions using operations and their properties. 	

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
			7.3A	<p>In the MATHia software, students describe situations in which opposite quantities combine to make 0. They identify $p + q$ as the number located a distance q from p. Students add and subtract integers using a number line and an algorithm. They use fact families to explore dividing integers. Students operate with rational numbers to solve mathematical and real-world problems. Students evaluate numeric expressions involving integers using the Order of Operations.</p>	

6 Solving Equations and Inequalities

This chapter uses models, properties of rational numbers, and operations to develop strategies for solving equations and inequalities. Algebraic reasoning is used to solve real-world problems.

Standards: 7.3A, 7.7A, 7.10A, 7.10B, 7.10C, 7.11A, 7.11B, 7.11C

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
6.1	Picture This	Picture Algebra	7.7A 7.10A 7.11A	<ul style="list-style-type: none"> Use drawings to represent daily life situations. Develop different methods to represent daily life situations mathematically. 	• Equation
6.2	Maintaining a Balance	Solving Equations	7.10B 7.11A 7.11B	<ul style="list-style-type: none"> Develop an understanding of equality. Use properties of equality to solve equations represented with algebra tiles. Solve one-step equations. 	• Properties of Equality
6.3	Planning a Graduation Party	Solving Two-Step Equations	7.7A 7.10A 7.10B 7.10C 7.11A	<ul style="list-style-type: none"> Write two-step equations. Solve two-step equations. Check solutions algebraically. Verify solutions within a problem context. 	• Two-step equation
6.4	Solving in Big-Time Style	Using Two-Step Equations	7.7A 7.10A 7.11C	<ul style="list-style-type: none"> Write two-step equations. Solve two-step equations. Verify solutions within a problem context. 	
6.5	We're Shipping Out!	Solving and Graphing Inequalities in One Variable	7.10A 7.10B 7.10C 7.11A 7.11B	<ul style="list-style-type: none"> Write simple inequalities. Graph one-variable inequalities. Solve one-variable inequalities. 	• Solve an inequality
Learning Individually with MATHia or Skills Practice			7.3A 7.10A 7.10B 7.11A 7.11B	In the MATHia software, students rewrite algebraic expressions involving integer coefficients using the Distributive Property and Order of Operations. They create visual models to represent real-world situations and solve using reasoning. Students write and solve expressions from given real-world problems using tables. They solve a variety of two-step equations and inequalities using formal strategies.	

7 Solving Problems with Equations and Inequalities

This chapter focuses on the use of algebraic reasoning to solve real-world problems posed with positive and negative rational numbers. Tables, graphs, and equations are used throughout.

Standards: 7.7A, 7.10A, 7.11A

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
7.1	Some Places Are Expensive; Some Places Are More Affordable	Multiple Representations of Problem Situations	7.7A 7.10A	<ul style="list-style-type: none"> Use different methods to represent a problem situation. Identify advantages and disadvantages of using a particular representation. Solve two-step equations. 	
7.2	Plastic Containers	Using Two-Step Equations	7.7A 7.10A	<ul style="list-style-type: none"> Write and use two-step equations. Compare two problem situations. 	
7.3	Just Another Saturday	Solving More Complicated Equations	7.7A 7.10A	<ul style="list-style-type: none"> Solve equations containing fractions. Solve equations with variables on both sides. Verify solutions within a problem context. 	<ul style="list-style-type: none"> Multiplicative inverse Multiplying by the reciprocal
7.4	Climbing El Capitan	Making Sense of Negative Solutions	7.7A 7.10A	<ul style="list-style-type: none"> Use multiple representations to analyze problem situations. Interpret negative solutions to problem situations. Identify independent and dependent variables. Evaluate algebraic expressions. Solve algebraic equations. 	
7.5	Flying in the Ocean	Rate of Change	7.7A 7.10A 7.11A	<ul style="list-style-type: none"> Calculate the unit rate of change. Interpret the unit rate of change in a problem situation. 	<ul style="list-style-type: none"> Unit rate of change
7.6	Emptying a Tank	Using Multiple Representations to Solve Problems	7.7A 7.10A	<ul style="list-style-type: none"> Use multiple representations to analyze problem situations. 	
Learning Individually with MATHia or Skills Practice			7.10A 7.11A	In the MATHia software, students write and solve equations and inequalities to solve real-world problems. They model and analyze graphs of linear equations to solve and interpret real-world problem	

8 Scale Drawings and Scale Factor

This chapter explores scale drawings, scale models, and scale factors through real-world problems.

Standards: 7.5A, 7.5C

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
8.1	Bigger and Smaller	Scale Drawings, Scale Models, and Scale Factors	7.5A 7.5C	<ul style="list-style-type: none"> Use scale models to calculate measurements. Use scale factors to enlarge and shrink models. 	<ul style="list-style-type: none"> Scale factor
8.2	Say Cheese!	Applications of Ratio	7.5A 7.5C	<ul style="list-style-type: none"> Work with applications of similarity and scale factor. 	<ul style="list-style-type: none"> Aspect ratio
8.3	No GPS? Better Get the Map Out!	Exploring Scale Drawings	7.5A 7.5C	<ul style="list-style-type: none"> Work with applications of similarity and scale factor. Use scale drawings and maps. 	<ul style="list-style-type: none"> Scale drawings
8.4	House for Our Feathered Friends	Creating Blueprints	7.5C	<ul style="list-style-type: none"> Use scale drawings to create three-dimensional models. Use three-dimensional models to create blueprints. 	
Learning Individually with MATHia or Skills Practice			7.5A 7.5C	In the MATHia software, students use the attributes of similar figures to identify similar figures. They use scale factors to determine unknown measures given real-life situations.	

9 Circles

This chapter develops the formula for the area of a circle. Problems are solved involving circles and circle formulas.

Standards: 4.6A, 7.5B, 7.8C, 7.9B, 7.9C

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
9.1	Introduction to Circles	Circles, Radius, and Diameter	4.6A	<ul style="list-style-type: none"> Define circle. Identify the center, radius, and diameter of a circle. 	<ul style="list-style-type: none"> Circle Center of a circle Radius of a circle Diameter of a circle
9.2	But Most of All, I Like Pi!	Circumference of a Circle	7.5B 7.8C 7.9B	<ul style="list-style-type: none"> Measure the circumference of a circle. Explore the relationship between the diameter and the circumference of a circle. Write a formula for the circumference of a circle. Use a formula to determine the circumference of a circle. 	<ul style="list-style-type: none"> Pi
9.3	One Million Sides!	Area of a Circle	7.8B 7.8C	<ul style="list-style-type: none"> Explore the circumference and area of circles inscribed in regular polygons. Write a formula for the area of a polygon in terms of the perimeter. Explore the relationship between the circumference of a circle and the area of a circle. 	<ul style="list-style-type: none"> Concentric circles Annulus Inscribed circle
9.4	It's About Circles!	Unknown Measurements	7.9B 7.9C	<ul style="list-style-type: none"> Use the area and circumference formulas to solve for unknown measurements. Use composite figures to solve for unknown measurements. 	
Learning Individually with MATHia or Skills Practice			7.5B 7.8C 7.9B	In the MATHia software, students identify parts of a circle. They practice solving problems involving area and circumference of circles.	

10 Volume and Surface Area of Prisms and Pyramids

This chapter develops an understanding of three-dimensional figures using nets of rectangular and triangular prisms and pyramids. Nets are then used to determine surface area. Estimation is emphasized prior to calculations and real world problems are solved using volume, surface area, and lateral area formulas.

Standards: 7.8A, 7.8B, 7.8C, 7.9A, 7.9D

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
10.1	Cubes Aren't Two-Faced . . . They're Six-Faced!	Cubes	7.9A 7.9D	<ul style="list-style-type: none"> • Create a model of a cube from a net. • Construct a model of a geometric solid from a net. • Use nets to provide two-dimensional representations of a cube. • Estimate the volume and surface area of a cube. • Use nets to compute the volume and surface area of a cube. • Use a formula to determine the volume of a cube. • Use unit cubes to estimate the surface area and volume of larger cubes. • Use appropriate units of measure when computing the surface area and volume of a cube. • Explore how doubling the dimensions of a cube affects the volume of the cube. 	<ul style="list-style-type: none"> • Point • Line segment • Polygon • Geometric solid • Polyhedron • Face of a polyhedron • Edge of a polyhedron • Vertex of a polyhedron • Regular polyhedron • Congruent • Cube • Unit cube • Diameter • Net • Surface area • Volume
10.2	Cut, Fold, and Voila!	Prisms and Pyramids with Triangular and Rectangular Bases	7.9D	<ul style="list-style-type: none"> • Sketch various views of a solid figure to provide a two-dimensional representation of a three-dimensional figure. • Construct a net from a model of a geometric solid. • Construct a model of a geometric solid from a net. • Use nets to provide two-dimensional representations of a geometric solid • Determine the characteristics of prisms. • Determine the characteristics of pyramids. 	<ul style="list-style-type: none"> • Prototype • Prism • Bases of a prism • Lateral faces of a prism • Height of a prism • Rectangular prism • Right prism • Pyramid • Vertex of a pyramid • Apex of a pyramid • Height of a pyramid • Slant height of a pyramid
10.3	And the Winning Prototype Is . . . ?	Identifying Geometric Solids in Everyday Occurrences	7.9D	<ul style="list-style-type: none"> • Use nets to compute the surface area of prisms and pyramids. • Compare and contrast the surface area of prisms and pyramids. • Use surface area to solve real-world problems. 	
10.4	These Solids Are Strictly for the Birds!	Volume of Prisms and Pyramids	7.8A 7.8B 7.9A	<ul style="list-style-type: none"> • Determine the volume of prisms. • Determine the volume of pyramids. • Determine how volume is affected when other dimensions are doubled or tripled. 	

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
10.5	The Acoustics in this Lesson Are Outstanding!	Using Volume, Surface Area, and Lateral Area	7.9A 7.9D	<ul style="list-style-type: none"> • Compare and contrast the surface area of geometric solids. • Compare and contrast the lateral area of geometric solids. • Apply volume, surface area, and lateral area concepts to real-world situations. 	<ul style="list-style-type: none"> • Lateral area of a pyramid • Regular pyramid
Learning Individually with MATHia or Skills Practice			7.8A 7.8B 7.8C 7.9A 7.9D	In the MATHia software, students calculate the volumes of right prisms and pyramids in mathematical and real-world contexts. They determine the surface area of right prisms using nets and then calculate the surface area of given right prisms.	

11 Data Collection

This chapter emphasizes data collection, sampling, random samples, and frequencies.

Standards: 7.6F, 7.6G, 7.12B

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
11.1	We Want to Hear from You!	Formulating Questions and Collection Data	7.6F	<ul style="list-style-type: none"> Collect data from a survey and analyze the results. Differentiate between a census and a sample. Differentiate between a parameter and a statistic. 	<ul style="list-style-type: none"> Survey Data Population Census Sample Parameter Statistic
11.2	Dealing with Data: Selecting a Sample	Collecting Data through Random Sampling	7.6F	<ul style="list-style-type: none"> Differentiate between a random sample and a sample that is not chosen randomly. Use several methods to select a random sample. 	<ul style="list-style-type: none"> Random sample Random number generator Random number table
11.3	Floor Plans and Tiles	Random Sampling	7.6F 7.6G 7.12B	<ul style="list-style-type: none"> Investigate how results from a random sample are more reliable in representing the population than results from a sample that is not random. Use sampling and proportional reasoning to predict the value of a population parameter. 	<ul style="list-style-type: none"> Dot plot (line plot)
11.4	What Does the Data Mean?	Using Samples, Centers, and Spreads to Describe Data	7.6F 7.6G 7.12B	<ul style="list-style-type: none"> Analyze measures of center for samples from a population. Analyze measures of variation for samples from a population. 	<ul style="list-style-type: none"> Variability Spread Range Mean absolute deviation Deviation from the mean
11.5	Taking a Survey	Using Sample Size	7.6F 7.6G	<ul style="list-style-type: none"> Investigate the sample size of a survey. Investigate the concept that as the sample size increases, the statistic obtained gets closer to the actual population parameter. 	<ul style="list-style-type: none"> Sample size
Learning Individually with MATHia or Skills Practice			7.6F 7.12B	In the MATHia software, students use statistics to gain information about a population.	

12 Comparing Populations

This chapter uses measures of variability to compare inferences across two populations.

Standards: 7.6G, 7.6H, 7.12A, 7.12C

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
12.1	A Picture Is Worth a Thousand Words	Bar Graphs	7.6G 7.6H 7.12C	<ul style="list-style-type: none"> Organize data into single bar graphs, double bar graphs, and stacked bar graphs. Analyze data and interpret results of data analysis from single bar graphs, double bar graphs, and stacked bar graphs. 	<ul style="list-style-type: none"> Bar graph Double bar graph Stacked bar graph
12.2	Checking the Papers and the Blogs	Comparing Measures of Center of Two Populations	7.6G 7.12A	<ul style="list-style-type: none"> Calculate the measures of center and measures of variability for two populations. Compare the difference of the measures of center for two populations to their measures of variability. 	
12.3	Can Podcasts Affect Ratings?	Comparing Measures of Center of Two Populations	7.6G 7.6H 7.12A 7.12C	<ul style="list-style-type: none"> Compare the measures of center for random samples from two populations. Use measures of center to draw conclusions about two populations. 	
12.4	Finding Your Spot to Live	Drawing Conclusions About Two Populations	7.6G 7.12A 7.12C	<ul style="list-style-type: none"> Compare the measures of variability for random samples from two populations. Use measures of variability to draw conclusions about two populations. 	
Learning Individually with MATHia or Skills Practice			7.12A 7.12B	In the MATHia software, students compare the characteristics of data displays and use data displays to compare populations.	

13 Introduction to Probability

This chapter investigates experimental and theoretical probabilities. Probability models are developed and used to calculate probabilities of events. measures of variability to compare inferences across two populations.

Standards: 7.6A, 7.6B, 7.6C, 7.6D, 7.6E, 7.6H, 7.6I

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
13.1	Rolling, Rolling, Rolling . . .	Defining and Representing Probability	7.6A 7.6D 7.6E 7.6H	<ul style="list-style-type: none"> Differentiate between an outcome and an event for an experiment. List the sample space for an experiment. Determine the probability for an event. Understand that the probability for an event is between 0 and 1 that can be expressed as a fraction, decimal, or percent. Determine that the sum of the probabilities of the outcomes of an experiment is always 1. 	<ul style="list-style-type: none"> Outcome Experiment Sample space Event Simple event Probability Equally likely
13.2	Toss the Cup	Determining Experimental Probability	7.6A 7.6B 7.6C 7.6H 7.6I	<ul style="list-style-type: none"> Conduct trials of an experiment. Predict the experimental probability of an event using the results from the trials of an experiment. Use proportional reasoning to predict the probability of random events. 	<ul style="list-style-type: none"> Experimental probability
13.3	Double Your Fun	Determining Theoretical Probability	7.6A 7.6D 7.6I	<ul style="list-style-type: none"> Calculate the experimental and theoretical probability of an experiment. Determine the difference between experimental and theoretical probability. Use proportional reasoning to predict probability of random events. 	<ul style="list-style-type: none"> Theoretical probability
13.4	A Toss of a Coin	Simulating Experiments	7.6A 7.6B 7.6C 7.6H	<ul style="list-style-type: none"> Conduct trials using a simulation to determine probability. Conduct a large number of trials to demonstrate that experimental probability approaches theoretical probability. 	<ul style="list-style-type: none"> Simulation Trial
13.5	Roll the Cubes Again	Using Technology for Simulations	7.6B 7.6C 7.6H 7.6I	<ul style="list-style-type: none"> Use technology to simulate a large number of trials of an experiment. 	<ul style="list-style-type: none"> Spreadsheet
Learning Individually with MATHia or Skills Practice			7.6B 7.6D 7.6E	<p>In the MATHia software, students construct and interpret probability models of simple events. They use proportions to make predictions based on samples and theoretical probabilities. Students use results of probability experiments to make conjectures about theoretical probabilities. They select simulations to represent simple events.</p>	

14 Probability of Compound Events

This chapter focuses on probabilities of compound events. Simulations are used to generate frequencies for compound events.

Standards: 7.6A, 7.6B, 7.6C, 7.6D, 7.6I

Lesson	Lesson Title / Subtitle	Lesson Subtitle	TEKS	Key Math Objectives	Key Terms
14.1	Is it Better to Guess?	Using Models for Probability	7.6D	<ul style="list-style-type: none"> Determine the probability model for an experiment. Construct and interpret a uniform probability model. Construct and interpret a non-uniform probability model. 	<ul style="list-style-type: none"> Probability model Uniform probability model Non-uniform probability model
14.2	Three Girls and No Boys?	Creating and Using Probability Models	7.6A 7.6B 7.6D	<ul style="list-style-type: none"> Determine the probability model for an experiment. Construct and interpret a non-uniform probability model. 	<ul style="list-style-type: none"> Tree diagram Complementary events
14.3	Pet Shop Probability	Determining Compound Probability	7.6A 7.6D 7.6I	<ul style="list-style-type: none"> Use probability models to calculate compound probabilities. 	<ul style="list-style-type: none"> Compound event
14.4	What Type of Blood Do You Have?	Simulating Probability of Compound Events	7.6A 7.6B 7.6C 7.6I	<ul style="list-style-type: none"> Use simulations to estimate compound probabilities. 	
Learning Individually with MATHia or Skills Practice			7.6A 7.6B 7.6C 7.6D 7.6I	In the MATHia software, students use simulations, tree diagrams, organized lists, and tables to determine compound probabilities. They select simulations to represent compound events.	