Scope and Sequence: Grade Level Map

7: Ratios and Proportionality

Module 1 Ratios and Proportional Relationships	Module 2 Operations with Rational Numbers	Module 3 Expressions, Equations, and Inequalities	Module 4 Percent and Applications of Percent	Module 5 Probability and Populations	Module 6 Geometry
Topic A: Understanding Proportional Relationships **Lesson 1:** An Experiment with Ratios and Rates • Compare different relationships in situations by using ratio and rate reasoning. NY-7.RP.1, NY-7.RP.2a, MP8, 7.Mod1.AD1, 7.Mod1.AD2 **Lesson 2:** Exploring Tables of Proportional Relationships • Identify proportional relationships represented in tables by calculating constant unit rates. NY-7.RP.1, NY-7.RP.2a, NY-7.RP.2c, MP2, 7.Mod1.AD1, 7.Mod1.AD2, 7.Mod1.AD4 **Lesson 3:** Identifying Proportional Relationships in Tables • Analyze tables to identify proportional relationships. • Determine the unit rate associated with a ratio of fractions by evaluating a complex fraction. NY-7.RP.1, NY-7.RP.2a, NY-7.RP.2c, MP8, 7.Mod1.AD1, 7.Mod1.AD2, 7.Mod1.AD4	**Topic A: Adding Rational Numbers** **Lesson 1:** Combining Opposites • Represent positive and negative numbers on a number line. • Recognize that opposite integers sum to zero. NY-7.NS.1a, NY-7.NS.1b, MP8, 7.Mod2.AD2, 7.Mod2.AD4 **Lesson 2:** Adding Integers • Write addition expressions involving integers. • Add integers by using a model. NY-7.NS.1b, MP8, 7.Mod2.AD3 **Lesson 3:** Adding Integers Efficiently • Describe a number and its opposite as additive inverses because they sum to zero. • Evaluate addition expressions with two or more addends. NY-7.NS.1b, NY-7.NS.1c, MP8, 7.Mod2.AD3, 7.Mod2.AD4, 7.Mod2.AD5 **Lesson 4:** KAKOOMA® • Add integers to solve and create puzzles. NY-7.NS.1d, MP1, 7.Mod2.AD8	**Topic A: Equivalent Expressions** **Lesson 1:** Equivalent Expressions • Generate equivalent expressions by using properties of operations. NY-7.EE.1, MP3, 7.Mod3.AD1 **Lesson 2:** The Distributive Property and the Tabular Model • Generate equivalent expressions containing rational numbers by using the tabular model to represent the distributive property. NY-7.EE.1, NY-7.EE.2, MP3, 7.Mod3.AD1, 7.Mod3.AD2 **Lesson 3:** The Distributive Property and Combining Like Terms • Generate equivalent expressions by applying the distributive property to combine like terms. NY-7.EE.1, MP6, 7.Mod3.AD1 **Lesson 4:** Adding and Subtracting Expressions • Generate equivalent expressions by using properties of operations to add and subtract expressions. NY-7.EE.1, NY-7.EE.2, MP7, 7.Mod3.AD1, 7.Mod3.AD2	**Topic A: Proportion and Percent** **Lesson 1:** Racing for Percents • Identify proportional relationships and write the constant of proportionality as a percent. • Identify percent as a rate per 100. NY-7.RP, NY-7.RP.3, MP7, 7.Mod4.AD8, 7.Mod4.AD10 **Lesson 2:** Percent as a Rate per 100 • Interpret percent as a rate per 100 when solving percent problems. NY-7.RP.3, MP5, 7.Mod4.AD10 **Lesson 3:** Proportion and Percent • Solve percent problems by using equations in the forms $y = kx$ and $\frac{a}{b} = \frac{c}{d}$. NY-7.RP.2c, NY-7.RP.3, MP3, 7.Mod4.AD9, 7.Mod4.AD10	**Topic A: Chance Experiments and Simulations** **Lesson 1:** Probability Revisited • Use lists and tables to organize and represent the outcomes in the sample space of a multistage experiment. • Calculate theoretical and empirical probabilities for simple multistage experiments. NY-7.SP.8, NY-7.SP.8a, NY-7.SP.8b, MP6, 7.Mod5.AD11 **Lesson 2:** Multistage Experiments • Use tree diagrams to organize and represent the outcomes in the sample space of a multistage experiment. NY-7.SP.8, NY-7.SP.8a, NY-7.SP.8b, MP7, 7.Mod5.AD11 **Lesson 3:** Probability Simulations • Use a simulation to generate empirical probabilities for events. NY-7.SP.8c, MP1, MP4, 7.Mod5.AD12 **Lesson 4:** Simulations with Random Number Tables • Conduct simulations with a random number table. NY-7.SP.8c, MP5, 7.Mod5.AD12	**Topic A: Constructing Geometric Figures** **Lesson 1:** Sketching, Drawing, and Constructing Geometric Figures • Construct geometric figures with given conditions. • Construct geometric figures by using technology. MP5 **Lesson 2:** Constructing Parallelograms and Other Quadrilaterals • Construct parallelograms and other quadrilaterals, given conditions. MP6 **Lesson 3:** Side Lengths of a Triangle • Determine whether a triangle with three given side lengths exists. • Determine the relationship between the sum of two side lengths of a triangle and its third side length. NY-7.G.2, MP2, 7.Mod6.AD13, 7.Mod6.AD14 **Lesson 4:** Angles of a Triangle • Determine whether a triangle can be formed with two given angle measures. NY-7.G.2, MP3, 7.Mod6.AD13, 7.Mod6.AD14

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Lesson 4: Exploring Graphs of Proportional Relationships • Identify proportional relationships represented as graphs. • Interpret and make sense of the point $(0, 0)$ in context. NY-7.RP.2a, NY-7.RP.2b, NY-7.RP.2d, MP8, 7.Mod1.AD2, 7.Mod1.AD3, 7.Mod1.AD5 **Lesson 5:** Analyzing Graphs of Proportional Relationships • Analyze graphs or sets of ratios to determine whether they represent proportional relationships. • Identify the point on a graph that best shows the constant of proportionality k and explain the meaning of the point in context. NY-7.RP.2a, NY-7.RP.2b, NY-7.RP.2d, MP2, 7.Mod1.AD2, 7.Mod1.AD3, 7.Mod1.AD5 **Lesson 6:** Identifying Proportional Relationships in Written Descriptions • Determine whether a written description represents a proportional relationship. NY-7.RP.2a, NY-7.RP.2b, MP2, 7.Mod1.AD2, 7.Mod1.AD3	**Lesson 5:** Decomposing Rational Numbers to Make Addition More Efficient • Add rational numbers by decomposing them. NY-7.NS.1b, NY-7.NS.1d, MP3, 7.Mod2.AD3, 7.Mod2.AD8 **Lesson 6:** Adding Rational Numbers • Fluently add rational numbers. NY-7.NS.1b, NY-7.NS.1d, MP5, 7.Mod2.AD3, 7.Mod2.AD8 **Topic B: Subtracting Rational Numbers** **Lesson 7:** What Subtraction Means • Show that the distance between two integers on the number line is the absolute value of their difference. • Evaluate integer subtraction expressions by finding the unknown addends. NY-7.NS.1c, MP7, 7.Mod2.AD7 **Lesson 8:** Subtracting Integers, Part 1 • Use expressions, number lines, and patterns to model contextual problems involving subtraction. • Write subtraction expressions as equivalent addition expressions. NY-7.NS.1b, NY-7.NS.1c, MP2, 7.Mod2.AD5, 7.Mod2.AD6, 7.Mod2.AD7	**Lesson 5:** Factoring Expressions • Generate equivalent expressions by using the distributive property to factor. NY-7.EE.1, NY-7.EE.2, MP2, 7.Mod3.AD1, 7.Mod3.AD2 **Lesson 6:** Comparing Expressions • Use properties of operations to determine whether expressions are equivalent. NY-7.EE.1, NY-7.EE.2, MP7, 7.Mod3.AD1, 7.Mod3.AD2 **Topic B: Unknown Angle Measurements** **Lesson 7:** Angle Relationships and Unknown Angle Measures • Identify and describe angle relationships given in diagrams. • Write and solve equations that use angle relationships to find unknown angle measures. NY-7.EE.4a, NY-7.G.5, MP5, 7.Mod3.AD8, 7.Mod3.AD12 **Lesson 8:** Strategies to Determine Unknown Angle Measures • Identify and describe angle relationships given in diagrams. • Write and solve two-step equations that use angle relationships to find unknown angle measures. NY-7.EE.4a, NY-7.G.5, MP6, 7.Mod3.AD8, 7.Mod3.AD12	**Lesson 4:** Common Denominators or Common Numerators • Solve percent problems by using strategies that involve finding common denominators or common numerators to solve proportions. NY-7.RP.2c, NY-7.RP.3, MP5, 7.Mod4.AD9, 7.Mod4.AD10 **Topic B: Part of 100** **Lesson 5:** Finding Commission • Apply percents in the real-world context of commission. NY-7.RP.3, MP1, 7.Mod4.AD10, 7.Mod4.AD11 **Lesson 6:** Finding Discounts • Apply percents in the real-world context of discounts. NY-7.RP, NY-7.RP.3, MP1, 7.Mod4.AD8, 7.Mod4.AD10, 7.Mod4.AD11 **Lesson 7:** Determining Fees • Apply percents in the real-world context of fees. NY-7.RP.3, MP3, 7.Mod4.AD10, 7.Mod4.AD11 **Lesson 8:** Tax as a Fee • Apply percents in the real-world context of taxes. NY-7.RP.3, MP1, 7.Mod4.AD10, 7.Mod4.AD11	**Topic B: Interquartile Range and Box Plots** **Lesson 5:** Using the Interquartile Range to Describe Variability • Calculate quartiles of a data distribution and describe the variability by using the interquartile range. NY-7.SP.1, NY-7.SP.4, MP6, 7.Mod5.AD8, 7.Mod5.AD10 **Lesson 6:** Using a Box Plot to Summarize a Distribution • Describe a data distribution by using the five-number summary and the interquartile range. • Construct and interpret a box plot from a five-number summary. NY-7.SP.1, MP7, 7.Mod5.AD8 **Lesson 7:** More Practice with Box Plots • Construct and use box plots to analyze data distributions. NY-7.SP.1, NY-7.SP.4, MP7, MP8, 7.Mod5.AD8, 7.Mod5.AD10	**Lesson 5:** Constructing Quadrilaterals and Triangles • Construct quadrilaterals given four side lengths and determine whether a unique quadrilateral is formed. • Construct triangles given three side lengths and determine whether a unique triangle is formed. NY-7.G.2, MP8, 7.Mod6.AD13, 7.Mod6.AD14 **Topic B: Constructing Triangles** **Lesson 6:** Unique Triangles • Determine that at least three conditions are needed to guarantee a unique triangle. • Determine that three angle measures alone do not guarantee a unique triangle. NY-7.G.2, MP3, 7.Mod6.AD13, 7.Mod6.AD14 **Lesson 7:** Two Angles and One Side • Determine whether two angle measures and an included side length guarantee a unique triangle. • Determine whether two angle measures and a non-included side length guarantee a unique triangle. NY-7.G.2, MP3, 7.Mod6.AD13, 7.Mod6.AD14

Module 1

Topic B: Working with Proportional Relationships

Lesson 7: Handstand Sprint
- Model a situation by using a proportional relationship to solve a problem.

NY-7.RP.3, MP4, MP5, 7.Mod1.AD6

Lesson 8: Relating Representations of Proportional Relationships
- Relate information among tables, graphs, equations, and situations to display a proportional relationship.
- Identify the constant of proportionality in different representations of a proportional relationship.

NY-7.RP.2b, NY-7.RP.2c, MP7, 7.Mod1.AD3, 7.Mod1.AD4

Lesson 9: Comparing Proportional Relationships
- Explain how to use the point $(1, r)$ to find the unit rate of a proportional relationship.
- Relate the unit rate to the steepness of the line representing the proportional relationship by using the unit rate triangle with vertices $(0, 0)$, $(1, 0)$, and $(1, r)$.

NY-7.RP.2b, NY-7.RP.2d, MP7, 7.Mod1.AD3, 7.Mod1.AD5

Module 2

Lesson 9: Subtracting Integers, Part 2
- Express subtraction of a number as addition of its opposite.
- Subtract integers by using equivalent addition expressions.

NY-7.NS.1c, NY-7.NS.1d, MP8, 7.Mod2.AD6, 7.Mod2.AD8

Lesson 10: Subtracting Rational Numbers, Part 1
- Evaluate expressions involving subtraction of rational numbers.
- Use properties of operations to make a simpler expression.

NY-7.NS.1c, NY-7.NS.1d, MP7, 7.Mod2.AD6, 7.Mod2.AD8

Lesson 11: Subtracting Rational Numbers, Part 2
- Subtract rational numbers by writing equivalent addition expressions and evaluating them.
- Use properties of operations to make a simpler expression.

NY-7.NS.1c, NY-7.NS.1d, MP1, 7.Mod2.AD6, 7.Mod2.AD8

Lesson 12: The Integer Game
- Apply strategies of integer addition and subtraction.
- Recognize when opposites combine to make zero.

NY-7.NS.1a, NY-7.NS.1d, MP6, 7.Mod2.AD2, 7.Mod2.AD8

Module 3

Lesson 9: Solving Equations to Determine Unknown Angle Measures
- Identify and describe angle relationships given in diagrams.
- Write and solve two-step equations that use angle relationships to find unknown angle measures.

NY-7.EE.2, NY-7.EE.3, MP7, 7.Mod3.AD2, 7.Mod3.AD3

Lesson 10: Problem Solving with Unknown Angle Measures
- Solve multi-step problems to determine unknown angle measures by using all known angle relationships.

NY-7.EE.3, NY-7.G.5, MP1, 7.Mod3.AD3, 7.Mod3.AD12

Topic C: Solving Equations

Lesson 11: Dominoes and Dominoes
- Compare different ways of solving a problem.
- Use equations as mathematical models to estimate the number of dominoes in a tower.

NY-7.EE.3, NY-7.EE.4, MP1, MP4, 7.Mod3.AD3, 7.Mod3.AD4, 7.Mod3.AD5

Module 4

Topic C: More or Less Than 100%

Lesson 9: Percent Increase
- Solve percent problems in a real-world context that involves percent increase.

NY-7.RP.3, NY-7.EE.2, MP2, 7.Mod4.AD11, 7.Mod4.AD12, 7.Mod4.AD13

Lesson 10: Percent Decrease
- Solve percent problems in a real-world context that involves percent decrease.

NY-7.RP.3, NY-7.EE.2, MP2, 7.Mod4.AD11, 7.Mod4.AD12, 7.Mod4.AD13

Lesson 11: More Discounts
- Use equations to solve percent problems that involve the real-world context of discounts.

NY-7.RP.3, NY-7.EE.2, MP6, 7.Mod4.AD11, 7.Mod4.AD12, 7.Mod4.AD13

Lesson 12: What Is the Best Deal?
- Use equations to calculate multiple discounts and discounted prices.

NY-7.RP.3, MP1, MP2, 7.Mod4.AD11

Module 5

Topic C: Drawing Conclusions from Data

Lesson 8: Interpreting Box Plots
- Summarize a data distribution by using a box plot, the median, and the interquartile range.
- Use box plots to compare two data distributions.

NY-7.SP.1, NY-7.SP.4, MP7, 7.Mod5.AD8, 7.Mod5.AD10

Lesson 9: Comparing Samples
- Use box plots, dot plots, and histograms to compare two data distributions.
- Use samples to draw informal conclusions about two populations.

NY-7.SP.3, NY-7.SP.4, MP2, 7.Mod5.AD9, 7.Mod5.AD10

Lesson 10: Comparing Sample Means
- Determine whether there is convincing evidence to conclude that two population means differ based on sample estimates.

NY-7.SP.3, NY-7.SP.4, MP3, 7.Mod5.AD9, 7.Mod5.AD10

Module 6

Lesson 8: Two Sides and One Angle
- Determine whether two side lengths and an included angle measure guarantee a unique triangle.
- Determine whether two side lengths and a non-included angle measure guarantee a unique triangle.

NY-7.G.2, MP8, 7.Mod6.AD13, 7.Mod6.AD14

Topic C: Circumference and Area of Circles

Lesson 9: Constructing a Circle
- Define and construct circles given a radius or a diameter.

MP6

Lesson 10: The Outside of a Circle
- Describe the relationship between the circumference and diameter of any circle as a proportional relationship.
- Find the approximate circumference of a circle by using the value 3.1 as the constant of proportionality.

NY-7.G.4, MP8, 7.Mod6.AD16

Lesson 11: The Inside of a Circle
- Estimate the area of a circle.

NY-7.G.4, MP7, 7.Mod6.AD16

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Lesson 10: Applying Proportional Reasoning • Represent proportional relationships as equations. • Solve problems by applying proportional reasoning. **NY-7.RP.2c, NY-7.RP.3, MP2, 7.Mod1.AD4, 7.Mod1.AD6** **Lesson 11:** Constant Rates • Represent rate problems as proportional relationships with equations. • Solve rate problems. **NY-7.RP.2b, NY-7.RP.2c, NY-7.RP.3, MP1, 7.Mod1.AD3, 7.Mod1.AD4, 7.Mod1.AD6** **Lesson 12:** Multi-Step Ratio Problems, Part 1 • Solve multi-step ratio problems by using proportional reasoning. **NY-7.RP.2b, NY-7.RP.2c, NY-7.RP.3, MP7, 7.Mod1.AD3, 7.Mod1.AD4, 7.Mod1.AD6** **Lesson 13:** Multi-Step Ratio Problems, Part 2 • Solve multi-step ratio problems by using proportional reasoning. **NY-7.RP.2b, NY-7.RP.2c, NY-7.RP.3, MP5, 7.Mod1.AD3, 7.Mod1.AD4, 7.Mod1.AD6**	**Topic C: Multiplying Rational Numbers** **Lesson 13:** Understanding Multiples of Negative Numbers • Interpret multiplication as repeated addition by using the distributive property. • Informally verify that multiplying two numbers with opposite signs results in a negative product. **NY-7.NS.2a, NY-7.NS.2c, MP2, 7.Mod2.AD9, 7.Mod2.AD12** **Lesson 14:** Understanding the Product of Two Negative Numbers • Informally verify that multiplying two numbers with the same sign results in a positive product. • Predict the sign of a product with multiple factors. **NY-7.NS.2a, NY-7.NS.2b, NY-7.NS.2c, MP3, 7.Mod2.AD9, 7.Mod2.AD11, 7.Mod2.AD12** **Lesson 15:** Multiplying Rational Numbers • Extend knowledge of multiplying integers to multiply rational numbers. **NY-7.NS.2a, NY-7.NS.2c, MP7, 7.Mod2.AD9, 7.Mod2.AD12**	**Lesson 12:** Solving Problems Algebraically and Arithmetically • Use if–then moves to solve word problems leading to equations of the forms $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. **NY-7.EE.4, NY-7.EE.4a, MP2, 7.Mod3.AD5, 7.Mod3.AD7, 7.Mod3.AD8** **Lesson 13:** Solving Equations—Puzzles • Use if–then moves to solve equations of the forms $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. **NY-7.EE.4, NY-7.EE.4a, MP7, 7.Mod3.AD5, 7.Mod3.AD7** **Lesson 14:** Solving Equations—Scavenger Hunt • Solve equations of the forms $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. **NY-7.EE.4a, MP7, 7.Mod3.AD7** **Lesson 15:** Solving Equations Fluently • Fluently solve equations of the forms $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. **NY-7.EE.4a, MP1, 7.Mod3.AD7**	**Lesson 13:** Scale Factor—Percent Increase and Decrease • Apply scale factor expressed as a percent, a percent decrease, or a percent increase. • Construct a scale drawing by using a scale factor given as a percent, a percent decrease, or a percent increase. **NY-7.RP, NY-7.EE.2, NY-7.G.1, MP1, 7.Mod4.AD8, 7.Mod4.AD13, 7.Mod4.AD14** **Topic D: Applications of Percent** **Lesson 14:** Tips and Taxes • Calculate percent increases such as tax and tip. • Calculate the total from the subtotal, tax, and tip. **NY-7.RP.3, NY-7.EE.2, MP7, 7.Mod4.AD11, 7.Mod4.AD12, 7.Mod4.AD13** **Lesson 15:** Markups and Discounts • Determine retail prices by using markups. • Determine discounted prices by using discounts. **NY-7.RP.3, NY-7.EE.2, MP7, 7.Mod4.AD11, 7.Mod4.AD12, 7.Mod4.AD13** **Lesson 16:** Simple Interest and Proportionality • Calculate simple interest given principal, time, and interest rate. **NY-7.RP.3, MP7, 7.Mod4.AD11**		**Lesson 12:** Exploring the Area and Circumference of a Circle • Model and describe the relationship between the circumference and the area of a circle. **NY-7.G.4, MP7, 7.Mod6.AD16** **Lesson 13:** Finding Areas of Circular Regions • Solve problems by using the formula for the area of a circle. • Model and describe the relationship between the areas of circles and the areas of semicircular and quarter-circular regions. **NY-7.G.4, MP7, 7.Mod6.AD16**

Module 1

Topic C: Scale Drawings and Proportional Relationships

Lesson 14: Extreme Bicycles
- Compare objects of different sizes by using proportional reasoning.

NY-7.RP.2a, MP1, MP5, 7.Mod1.AD2

Lesson 15: Scale Drawings
- Determine one-to-one correspondence of points in related figures.
- Recognize that corresponding lengths in scale drawings are in a proportional relationship with a constant of proportionality called a scale factor.

NY-7.G.1, MP7, 7.Mod1.AD7

Lesson 16: Using a Scale Factor
- Determine whether a scale factor produces an enlargement or a reduction.
- Create a scale drawing by using the proportional relationship that exists between corresponding distances.

NY-7.RP.2b, NY-7.G.1, MP3, 7.Mod1.AD3, 7.Mod1.AD7, 7.Mod1.AD8

Lesson 17: Finding Actual Distances from a Scale Drawing
- Find measurements of a figure when given a scale factor and either the scale drawing or the original figure.

NY-7.G.1, MP6, 7.Mod1.AD8

Module 2

Lesson 16: Exponential Expressions with Rational Numbers
- Extend knowledge of multiplying integers to multiply rational numbers in all forms.
- Evaluate exponential expressions containing rational bases.

NY-7.NS.2a, NY-7.NS.2c, MP6, 7.Mod2.AD9, 7.Mod2.AD12

Topic D: Dividing Rational Numbers

Lesson 17: Understanding Negative Dividends
- Model division and recognize limitations of the models when dividing integers.

NY-7.NS.2c, MP7, 7.Mod2.AD12

Lesson 18: Understanding Negative Divisors
- Write division expressions as unknown factor equations to determine the value of the quotient.
- Write rational numbers as quotients of integers.

NY-7.NS.2b, NY-7.NS.2c, MP7, 7.Mod2.AD10, 7.Mod2.AD12

Module 3

Lesson 16: Using Equations to Solve Rate Problems
- Create and solve word problems containing rates by using equations of the forms $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers.

NY-7.EE.3, NY-7.EE.4, NY-7.EE.4a, MP2, 7.Mod3.AD3, 7.Mod3.AD5, 7.Mod3.AD8

Lesson 17: Using Equations to Solve Problems
- Write and solve equations in the form $\frac{a}{b} = \frac{c}{d}$, where either a, b, c, or d is unknown and the other three are specific rational numbers.

NY-7.EE.3, NY-7.EE.4, MP7, 7.Mod3.AD3, 7.Mod3.AD4, 7.Mod3.AD5

Topic D: Inequalities

Lesson 18: Understanding Inequalities and Their Solutions
- Find solutions to inequalities by testing numbers and graphing them on a number line.

NY-7.EE.4, NY-7.EE.4b, MP6, 7.Mod3.AD6, 7.Mod3.AD10, 7.Mod3.AD11

Module 4

Lesson 17: Simple Interest—Solving for Unknown Values
- Calculate simple interest, principal, time, and interest rate.

NY-7.RP.3, MP8, 7.Mod4.AD11

Lesson 18: Applying Percent Error
- Use absolute error to define percent error.
- Apply percent error to real-world contexts.

NY-7.RP.3, MP2, 7.Mod4.AD11

Topic E: Problems Involving Percent

Lesson 19: Making Money, Day 1
- Model and solve a real-world problem involving percent.

NY-7.RP.3, MP4, 7.Mod4.AD11

Lesson 20: Making Money, Day 2
- Model and solve a real-world problem involving percent.

NY-7.RP.3, MP1, 7.Mod4.AD11

Lesson 21: Making Mixtures
- Develop and compare mixtures made from percents of two or more liquids.

NY-7.RP.3, MP7, 7.Mod4.AD11

Module 5

Module 6

Lesson 14: Composite Figures with Circular Regions
- Solve problems involving area and perimeter of composite figures.

NY-7.G.4, NY-7.G.6, MP7, 7.Mod6.AD16, 7.Mod6.AD17

Lesson 15: Watering a Lawn
- Model a situation by using rectangular, circular, semicircular, and quarter-circular regions and calculate area to solve problems.

NY-7.G.4, MP1, MP4, 7.Mod6.AD16

Topic D: Area and Surface Area

Lesson 16: Solving Area Problems by Composition and Decomposition
- Calculate the area of composite figures in real-world and mathematical problems by using composition and decomposition.

NY-7.G.6, MP1, 7.Mod6.AD17

Lesson 17: Surface Area of Right Rectangular and Right Triangular Prisms
- Calculate the surface area of right rectangular and right triangular prisms.

NY-7.G.6, MP6, 7.Mod6.AD18

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Lesson 18: Relating Areas of Scale Drawings • Describe the area of a scale drawing with scale factor r as r^2 times the area of the original figure. NY-7.RP.2b, NY-7.G.1, MP8, 7.Mod1.AD3, 7.Mod1.AD8 **Lesson 19:** Scale and Scale Factor • Describe the difference between a scale and a scale factor. • Find unknown measurements in scale drawings through the appropriate use of scales and scale factors. NY-7.G.1, MP4, 7.Mod1.AD7, 7.Mod1.AD8 **Lesson 20:** Creating Multiple Scale Drawings • Draw a scale drawing of another scale drawing by using a new scale factor. • Write an equation for the proportional relationship relating scale drawings that have different scale factors and use the equation to find unknown distances. NY-7.G.1, MP3, 7.Mod1.AD7, 7.Mod1.AD8 ■	**Lesson 19:** Rational Numbers as Decimals, Part 1 • Calculate quotients of integers where the divisor is a product of 2's and/or 5's and express them as terminating decimals. NY-7.NS.2d, MP8, 7.Mod2.AD13 **Lesson 20:** Rational Numbers as Decimals, Part 2 • Calculate quotients where the divisor contains factors other than 2 and 5 and express those quotients as repeating decimals. • Write rational numbers as either terminating decimals or repeating decimals. NY-7.NS.2d, MP8, 7.Mod2.AD13, 7.Mod2.AD14 **Lesson 21:** Comparing and Ordering Rational Numbers • Compare and order rational numbers, including those written as repeating decimals. NY-7.NS.2a, NY-7.NS.2b, NY-7.NS.2d, MP5, 7.Mod2.AD11, 7.Mod2.AD13, 7.Mod2.AD14	**Lesson 19:** Using Equations to Solve Inequalities • Solve inequalities and graph their solution sets on number lines. • Describe similarities and differences between inequalities and equations. NY-7.EE.4b, MP7, 7.Mod3.AD9, 7.Mod3.AD10, 7.Mod3.AD11 **Lesson 20:** Preserving and Reversing • Solve one-step inequalities and graph their solution sets on number lines. • Identify when to reverse the inequality symbol in an inequality to produce an equivalent inequality. NY-7.EE.4b, MP8, 7.Mod3.AD9, 7.Mod3.AD10 **Lesson 21:** Solving Two-Step Inequalities • Write and solve inequalities to represent context problems and identify restrictions to their solution sets. NY-7.EE.4, NY-7.EE.4b, MP2, 7.Mod3.AD6, 7.Mod3.AD9, 7.Mod3.AD11	**Lesson 22:** Percents of Percents • Solve context problems involving percents related to a percent of the whole or unknown. NY-7.RP.3, NY-7.EE.2, MP2, 7.Mod4.AD11, 7.Mod4.AD13 **Lesson 23:** Counting Problems • Solve counting problems related to computing percent. NY-7.RP, MP6, 7.Mod4.AD8 ■		**Lesson 18:** Surface Area of Right Prisms • Calculate the surface area of right prisms by determining an efficient strategy for finding the sum of the areas of the lateral faces and bases. NY-7.G.6, MP7, 7.Mod6.AD18 **Lesson 19:** Surface Area of Cylinders (Optional) • Calculate the surface area of right circular cylinders. NY-7.G.6, MP8, 7.Mod6.AD18 **Lesson 20:** Surface Area of Right Pyramids • Calculate the surface area of right pyramids. NY-7.G.6, MP6, 7.Mod6.AD18 **Lesson 21:** Surface Area of Other Solids • Calculate the surface area of solids composed of right prisms and right pyramids. NY-7.G.6, MP6, 7.Mod6.AD18 **Topic E: Cross Sections and Volume** **Lesson 22:** Understanding Planes and Cross Sections • Sketch cross sections of right prisms and right pyramids cut by a plane parallel or perpendicular to the base. NY-7.G.3, MP7, 7.Mod6.AD15

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
	Lesson 22: Multiplication and Division Expressions • Calculate quotients of rational numbers, including non-integer rational numbers. • Write expressions with division as equivalent expressions with multiplication by using multiplicative inverses. NY-7.NS.2c, MP7, 7.Mod2.AD12 **Topic E: Numerical Expressions with Rational Numbers** **Lesson 23:** Properties of Operations with Rational Numbers • Evaluate expressions involving rational numbers by applying properties of operations. NY-7.NS.A, MP7, 7.Mod2.AD1 **Lesson 24:** Order of Operations with Rational Numbers • Evaluate expressions containing exponents. • Use the order of operations to evaluate numerical expressions containing rational numbers. NY-7.NS.A, NY-7.NS.2c, MP6, 7.Mod2.AD1, 7.Mod2.AD12	**Lesson 22:** Solving Problems Involving Inequalities • Write and solve inequalities comparing $px + q$ and r, where p, q, and r are specific rational numbers, and graph the solution sets. • Write and solve inequalities to represent context problems and identify restrictions to their solution sets. NY-7.EE.4, NY-7.EE.4b, MP6, 7.Mod3.AD6, 7.Mod3.AD9, 7.Mod3.AD11 **Lesson 23:** Inequalities vs. Equations • Determine whether a situation should be modeled with an equation or with an inequality. • Write a context that can be modeled by a given inequality. NY-7.EE.4, NY-7.EE.4b, MP2, 7.Mod3.AD5, 7.Mod3.AD6, 7.Mod3.AD11 ■			**Lesson 23:** Cross Section Scavenger Hunt (Optional) • Explore cross sections formed when a right prism or a right pyramid is cut by a plane at an angle other than $90°$ to the base. NY-7.G.3, MP7, 7.Mod6.AD15 **Lesson 24:** Volume of Prisms • Determine a formula for finding the volume of any right prism. • Find the volume of a right prism. NY-7.G.6, MP7, 7.Mod6.AD18 **Lesson 25:** Volume of Composite Solids • Find the volume of composite solids. NY-7.G.6, MP7, 7.Mod6.AD18 **Lesson 26:** Designing a Fish Tank • Model real-world problems involving surface area and volume. NY-7.G.6, MP4, 7.Mod6.AD18 ■

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	Lesson 25: Writing and Evaluating Expressions with Rational Numbers, Part 1 • Write numerical expressions given mathematical and real-world contexts. • Evaluate expressions and interpret their value in context. **NY-7.NS.3, NY-7.EE.3, MP2, 7.Mod2.AD15** **Lesson 26:** Writing and Evaluating Expressions with Rational Numbers, Part 2 • Write and evaluate numerical expressions and interpret their value in context. **NY-7.NS.3, NY-7.EE.3, MP4, 7.Mod2.AD15**				