2023-2024 Math 7 Curriculum Map
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Unit 1 - Integers

Lessons	Topics	Standards	Objectives	Essential Questions	Vocabulary
5 lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Integers and Absolute Value Adding Integers Subtracting Integers Multiplying Integers Dividing Integers	7.NS.1a 7.NS.1b 7.NS.1c 7.NS.1d 7.NS.2a 7.NS.2b 7.NS.2c 7.NS.3	To define the absolute value of a number. To find the absolute values of numbers. To add integers. To show that the sum of a number and its opposite is 0. Subtract Integers. To multiply integers. To divide integers. To solve real life problems.	How can you use integers to represent the velocity and the speed of an object? Is the sum of two integers positive, negative or zero? How can you tell? How are adding and subtracting integers related? Is the product of two integers positive, negative or zero? How can you tell? Is the quotient of two integers positive, negative or zero? How can you tell?	Integers Absolute Value Opposites

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Chapter 2 - Rational Numbers

Lesson	Topics	Standards	Objectives	Essential Questions	Vocabulary
4 Lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Rational Numbers Adding Rational Numbers Subtracting Rational Numbers Multiplying and Dividing Rational Numbers	7.NS.1a 7.NS.1b 7.NS.1c 7.NS.1d 7.NS.2a 7.NS.2b 7.NS.2c 7.NS.2d 7.NS.3	To understand that a rational number is an integer divided by an integer. To convert rational numbers to decimals. To add rational numbers. To subtract rational numbers. To multiply Rational numbers. To divide rational numbers. To solve real life problems.	How can you use a number line to order rational numbers? How can you use what you know about adding integers to add rational numbers? How can you use what you know about subtracting integers to subtract rational numbers? Why is the product of two negative rational numbers positive?	Rational Numbers Terminating Decimals Repeating Decimals Reciprocal

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Unit 3 - Expressions and Equations

Lessons	Topics	Standards	Objectives	Essential Questions	Vocabulary
8 lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Algebraic Expressions Adding and Subtracting Linear Expressions Factoring Expressions Solving Equations Using Addition and Subtraction Solving Equations Using Multiplication and Division Solving Two-step Equations	7.EE.1 7.EE.2 7.EE.4a 7.EE.5a	To apply properties of operations to simplify algebraic expressions. To apply properties of operations to add and subtract linear expressions. To write simple equations. To solve equations using addition or subtraction. To factor linear expressions. To solve equations using multiplication and division. To solve two-step equations. To solve real life problems.	How can you simplify an algebraic expression? How can you use algebraic tiles to add or subtract algebraic expressions? How can you use algebraic tiles to solve addition or subtraction equations? How can you use multiplication or division to solve equations? How can you use algebraic tiles to solve two-step equations?	Like terms Simplest Form Linear Expressions Factoring an Expression Equivalent Equations

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Chapter 4 - Inequalities

Lesson	Topics	Standards	Objectives	Essential Questions	Vocabulary
4 Lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Writing and Graphing Inequalities Solving Inequalities Using Addition and Subtraction Solving Inequalities Using Multiplication and Division Solving Two-Step Inequalities	7.EE.4b	To write and graph inequalities. To use substitution to check whether a number is a solution of an inequality. To solve inequalities using addition or subtraction. To solve inequalities using multiplication and division. To solve multi-step inequalities. To solve real life problems.	How can you use a number line to represent solutions of an inequality? How can you use addition or subtraction to solve an inequality? How can you use multiplication or division to solve an inequality? How can you use an inequality to describe the dimensions of a figure?	Inequality Solution of an Inequality Solution Set Graph of an Inequality

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Unit 5 - Angles

Lessons	Topics	Standards	Objectives	Essential Questions	Vocabulary
5 lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Adjacent and Vertical Angles Complementary and Supplementary Angles Triangles Angle Measures of Triangles Quadrilaterals Scale Drawings	7.NS.1a 7.NS.1b 7.NS.1c 7.NS.1d 7.NS.2a 7.NS.2b 7.NS.2c 7.NS.3	To identify adjacent and vertical angles. To find angle measures using adjacent and vertical angles. To classify pairs of angles as complementary, supplementary or neither. To find angle measures using complementary and supplementary angles. To construct triangles with given angles. To construct triangles with given side lengths. To understand that the sum of the angles of any triangle is 180. To find the missing angle measures in triangles, To understand that the sum of the angle measures of any quadrilateral is 360.	What can you conclude about the angles formed by two intersecting lines? How can you classify two angles as complementary or supplementary? How can you construct triangles? How can you classify quadrilaterals? How can you enlarge or reduce a drawing proportionally?	Adjacent Angles Vertical Angles Congruent Angles Complementary Angles Supplementary Angles Congruent Sides Kite Scale Drawing Scale Model Scale Scale factor

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			To find missing angle measures in quadrilaterals. To construct quadrilaterals. To use scale drawings to find actual distances. To find scale factors. To use scale drawings to find actual perimeters and areas. To recreate scale drawings at a different scale.		

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Unit 6 - Ratios and Proportions

Lessons	Topics	Standards	Objectives	Essential Questions	Vocabulary
6 lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Ratios and Rates Proportions Writing Proportions Graphing Proportional Relationships Solving Proportions Slope	7.RP.1 7.RP.2a 7.RP.2b 7.RP.2c 7.RP.2d 7.RP.3	To find ratios, rates and unit rates. To find ratios and rates involving ratios of fractions. To use equivalent ratios to determine whether two ratios form a proportion. To use cross products property to determine whether two ratios form a proportion. To write proportions. To solve proportions using mental math. To solve proportions using multiplication or the cross product property. To use a point on the graph to write and solve proportions. To find the slope of a line. To interpret the slopes of lines as rates.	How do rates help you describe real-life problems? How can proportions help you describe when things are "fair"? How can you write a proportion that solves a problem in real life? How can you use ratio tables and cross products to solve proportions? How can you compare two rates graphically?	Ratio Rate Unit Rate Complex Fraction Proportion Proportional Cross Products Slope Constant of Proportionality

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Chapter 7 - Percents

Lesson	Topics	Standards	Objectives	Essential Questions	Vocabulary
6 Lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Percents and Decimals The Percent Proportions The Percent Equation Percents of Increase and Decrease Discount and Markups Simple Interest	7.EE.3 7.RP.3	To write percents as decimals. To write decimals as percents. To use the percent proportion to find parts, wholes and percents. To use the percent equation to find parts, wholes and percents. To find percents of increase. To find the percents decrease. To use percent of discounts to find prices of items. To use percent of markups to find selling prices of items. To use the simple interest formula to find interest earned or paid, annual interest rates and amounts paid on loans. To solve real life problems.	How does the decimal point move when you rewrite a percent as a decimal and when you rewrite a decimal as a percent? How can you use models to estimate percent questions? How can you use an equivalent form of the percent proportion to solve a percent problem? What is a percent of decrease? What is a percent of increase? How can you find discounts and selling prices? How can you find the amount of simple interest earned on a savings account? How can you find the amount of interest owed on a loan?	Percent of Change Percent of Increase Percent of Decrease Percent Error Discount Markup Interest Principal Simple Interest

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Chapter 8 - Probability and Statistics

Lesson	Topics	Standards	Objectives	Essential Questions	Vocabulary
4 Lessons 1 Review 1 Test	Outcomes and Events	7.SP.1 7.SP.2 7.SP3 7.SP.4 7.SP.5 7.SP.6 7.SP.7a 7.SP.7b 7.SP.8a 7.SP.8b	To identify and count the outcomes of experiments.	In an experiment, how can you determine the number of possible results?	Experiment
	Probability		To understand the concept of probability and the relationship between probability and likelihood.	How can you describe the likelihood of an event?	Outcomes
					Event
	Compound Events		To find probabilities of events.	How can you use relative frequencies to find probabilities?	Favorable outcomes
Assessments *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Independent and Dependent Events		To find relative frequencies. To use theoretical probabilities to find quantities.	How can you find the number of possible outcomes of one or more events?	Probability Relative Frequency
	Samples and Populations			What is the difference between dependent and independent events?	Sample Space
			To use tree diagrams, tables or a formula to find the number of possible outcomes.	How can you determine whether a sample accurately represents a population?	Fundamental Counting Principle
	Comparing Populations		To find probabilities of compound events.	How can you compare data sets that represent two populations?	Compound events
			To identify independent and dependent events.		Independent events
			To use formulas to find probabilities of independent and dependent events.		Dependent events
			To use simulations to find experimental probabilities.		

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			To determine when samples are representative of populations. To use data from random samples to make predictions about populations. To use multiple samples to make predictions about populations. To use measures of central and variation to compare populations. To use random samples to compare populations.		Simulations Population Sample Unbiased sample Biased sample

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Unit 9 - Surface Area and Volume

Lessons	Topics	Standards	Objectives	Essential Questions	Vocabulary
7 lessons 1 Review 1 Test **Assessments** *Unit Test *Daily Exit Ticket/Review *Daily IXL *Quiz *Homework	Circumference Area of a Circle Surface Area of Prisms Surface Area of Pyramids Surface Area of Cylinders Volumes of Prisms Volume of Pyramids	7.G.4 7.G.6	To use two-dimensional nets to represent three-dimensional solids. To find surface areas of rectangular and triangular prisms. To find surface areas of regular pyramids. To find surface areas of cylinders. To find volumes of prisms. To find volumes of pyramids. To solve real life problems.	How can I find the circumference of a circle? How can I find the area of a circle? How can you find the surface area of a prism? How can you find the surface area of a pyramid? How can you find the surface area of a cylinder? How can you find the volume of a prism? How can you find the volume of a pyramid?	Circumference Area Pi Lateral surface area Regular Pyramid Slant Height