Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
First Nine Weeks		
1.a. Use the order of operations to simplify and/or evaluate whole numbers (including exponents and grouping symbols). (DOK 1)		
1.b. Solve problems involving addition, subtraction, multiplication, and division of rational numbers. Express answers in simplest form. (DOK 2)	7.NS.1 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. a. 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. b. Understand 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. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. 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. d. Apply properties of operations as strategies to add and subtract rational numbers.	I Can: ✓ 7.NS.1.1 Add and subtract rational numbers. + 7.NS.1.2 Describe real-world situations in which opposite quantities add together to equal zero. *(James was overdrawn in his checking account by $25. He ran to the bank and deposited $25 into his account. Explain why James's balance is now $0.)* *a.* + 7.NS.1a.1 Explain how each rational number has an opposite that adds to zero. + 7.NS.1a.2 Identify opposite numbers (+,-). + 7.NS.1a.3 Apply the additive inverse property to real life situations. b. + 7.NS.1b.1 Compute the absolute value of positive and negative numbers. + 7.NS.1b.2 Add rational numbers. + 7.NS.1b.3 Explain how the sum of P + Q is actually a distance of |q| from the value of p. + 7.NS.1b.4 Explain why p-q and p+(-q) are the same value. (subtracting a positive is the same as adding a negative and subtracting a negative is the same as adding a positive) + 7.NS.1b.5 Explain why the distance between two rational numbers on the number line is the absolute value of their difference. ➢ 7.NS.1b.6 Solve real-world problems involving the previous concepts. (Calculate the average distance that each of the numbers 3,7,7,10,13 is from the mean of the set of numbers.) ➢ 7.NS.1b.7 Illustrate the distance between integers on a number line. c. ✓ 7.NS.1c.1 Interpret the sum of rational numbers in real world situations. + 7.NS.1c.2 Compute the absolute value of a positive and negative number. + 7.NS.1c.3 Rewrite subtraction of rational numbers using additive inverse. ➢ 7.NS.1c.4 Apply the additive inverse principle to real world situations using rational numbers. d. ✓ 7.NS.1d.1 Identify properties of addition and subtraction. ✓ 7.NS.1d.2 Apply addition/subtraction properties to given situations. + 7.NS.1d.3 Categorize addition and subtraction of rational numbers using properties.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. 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 or multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. 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. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. 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.	I Can: a. ✓ 7.NS.2a.1 Multiply rational numbers. ✓ 7.NS.2a.2 Explain the multiplication rules for rational numbers by relating it to the rules I learned for whole numbers and fractions. + 7.NS.2a.3 Explain the multiplication of rational numbers by using real-world examples. ➢ 7.NS.2a.4 Interpret products of rational numbers in real world contexts. b. ✓ 7.NS.2b.1 Divide rational numbers. ✓ 7.NS.2b.2 Explain the division rules for integers by relating it to the rules I learned for whole numbers and how they expand to fit the division of integers. ➢ 7.NS.2b.3 Explain the division of rational numbers by using real-world examples. ➢ 7.NS.2b.4 Interpret quotients of rational numbers in real world contexts. c. ✓ 7.NS.2c.1 Identify properties of multiplication and division. ✓ 7.NS.2c.2 Apply multiplication/division properties to a given situation. + 7.NS.2c.3 Categorize multiplication and division of rational numbers using properties.: o Multiplicative inverse property o Distributive property o Identity Property of Multiplication o Associative Property of Multiplication d. + 7.NS.2d.1 Convert rational numbers to decimal numbers. + 7.NS.2d.2 Recognize a terminating or repeating decimal.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.	I Can: ✓ 7.NS.3.1 Solve mathematical and real-world problems involving four operations with rational numbers. (Tom had pieces of rope. Rope 1 was 5 ½ feet long. Rope was 74 inches long. Rope 3 was 1 ½ yards long. What is the total length of rope?)
1.c. Convert among decimals, fractions, mixed numbers, and percents. (DOK 1)	7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. 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 or multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. 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. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. 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.	I Can: a. ✓ 7.NS.2a.1 Multiply rational numbers ✓ 7.NS.2a.2 Explain the multiplication rules for rational numbers by relating it to the rules I learned for whole numbers and fractions. ✓ 7.NS.2a.3 Explain the multiplication of rational numbers by using real-world examples. ➢ 7.NS.2a.4 Interpret products of rational numbers in real world contexts. b. ✓ 7.NS.2b.1 Divide rational numbers. ✓ 7.NS.2b.2 Explain the division rules for integers by relating it to the rules I learned for whole numbers and how they expand to fit the division of integers. + 7.NS.2b.3 Explain the division of rational numbers by using real-world examples. ➢ 7.NS.2b.4 Interpret quotients of rational numbers in real world contexts. c. ✓ 7.NS.2c.1 Identify properties of multiplication and division. ✓ 7.NS.2c.2 Apply multiplication/division properties to a given situation. + 7.NS.2c.3 Categorize multiplication and division of rational numbers using properties.: o Multiplicative inverse property o Distributive property o Identity Property of Multiplication o Associative Property of Multiplication d. ✓ 7.NS.2d.1 Convert rational numbers to decimal numbers. ✓ 7.NS.2d.2 Recognize a terminating or repeating decimal.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	7.EE.3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; 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 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 ½ 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.	I Can: ✓ 7.EE.3.3 Solve multi-step numeric algebraic expressions and equations. ✓ 7.EE.3.4 Solve real-world problems that involve positive and negative rational numbers using a variety of tools. + 7.EE.3.2 Calculate and/or convert between the various forms of rational numbers. + 7.EE.3.1 Convert rational numbers among and between fractions, decimals, percents, and whole numbers. + 7.EE.3.5 Use estimation to justify my answers.
1.h. Solve contextual problems requiring the comparison, ordering, and application of integers. (DOK 2)		

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
2.e. Identify the following properties using variables and apply them in solving problems: (DOK 1) • Zero property of multiplication • Inverse properties of addition/subtraction and multiplication/division • Commutative and associative properties of addition and multiplication • Identity properties of addition and multiplication • Distributive properties of multiplication over addition and subtraction.	7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. 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 or multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. 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. c. Apply properties of operations as strategies to multiply and divide rational numbers. d. 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. 7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	I Can: a. + 7.NS.2a.1 Explain the multiplication rules for rational numbers by relating it to the rules I learned for whole numbers and fractions. + 7.NS.2a.2 Multiply rational numbers. + 7.NS.2a.3 Explain the multiplication of rational numbers by using real-world examples. ➢ 7.NS.2a.4 Interpret products of rational numbers in real world contexts. b. + 7.NS.2b.1 Divide rational numbers. + 7.NS.2b.2 Explain the division rules for integers by relating it to the rules I learned for whole numbers and how they expand to fit the division of integers. ➢ 7.NS.2b.3 Explain the division of rational numbers by using real-world examples. ➢ 7.NS.2b.4 Interpret quotients of rational numbers in real world contexts. c. ✓ 7.NS.2c.1 Identify properties of multiplication and division. ✓ 7.NS.2c.2 Apply multiplication/division properties to a given situation. ✓ 7.NS.2c.3 Categorize multiplication and division of rational numbers using properties.: o Multiplicative inverse property o Distributive property o Identity Property of Multiplication o Associative Property of Multiplication d. + 7.NS.2d.1 Convert rational numbers to decimal numbers. + 7.NS.2d.2 Recognize a terminating or repeating decimal. I Can: ✓ 7.EE.1.1 Define coefficient, like terms, constant term, and factor. ✓ 7.EE.1.2 Identify the properties of real numbers. ✓ 7.EE.1.3 Simplify algebraic expressions by using distributive property. ✓ 7.EE.1.4 Apply properties of real numbers.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; 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 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 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.	+ 7.EE.1.5 Simplify algebraic expressions by combining like terms, including exponents. + 7.EE.1.6 Evaluate linear expressions. + 7.EE.1.7 Identify the GCF in a linear expression using the distributive property. ➢ 7.EE.1.8 Create a linear expression using the GCF and the distributive property. I Can: + 7.EE.3.3 Solve multi-step numeric algebraic expressions and equations. + 7.EE.3.4 Solve real-world problems that involve positive and negative rational numbers using a variety of tools. + 7.EE.3.2 Calculate and/or convert between the various forms of rational numbers. + 7.EE.3.1 Convert rational numbers among and between fractions, decimals, percents, and whole numbers. + 7.EE.3.5 Use estimation to justify my answers.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
Second Nine Weeks		
1.e. Explain the relationship between standard form and scientific notation. (DOK 1)		
1.f. Multiply and divide numbers written in scientific notation. (DOK 1)		
1.g. Solve real-life problems involving unit price, unit rate, sales price, sales tax, discount, simple interest, commission, and rates of commission. (DOK 1)	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 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction ½ / ¼ miles per hour, equivalently 2 miles per hour. 7.RP.3 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.	I Can: ✓ 7.RP.1.1 Recognize proportion and ratios. ✓ 7.RP.1.2 Tell in my own words what a unit rate is. ✓ 7.RP.1.3 Calculate the unit rate for real-life situations. + 7.RP.1.4 Compare unit rates. + 7.RP.1.5 Identify a unit rate from fractions. + 7.RP.1.6 Compute unit rates from ratio with fractions. ➢ 7.RP.1.7 Break down/simplify a rate, unit rate, ratio by dividing. ➢ 7.RP.1.8 Solve problems in which I have to find the relationship between two numbers and give the answer in a part/whole format. I Can: ✓ 7.RP.3.1 Calculate percentage of increase and percentage of decrease. + 7.RP.3.2 Solve multi-step ratio and percent problems using proportional relationships. + 7.RP.3.3 Justify multi-step ratio and percent in real life situations. + 7.RP.3.4 Evaluate tax, mark-ups/downs, gratuities, commissions, discounts, wholesale. + 7.RP.3.5 Evaluate fees. ➢ 7.RP.3.6 Predict percent of error. ➢ 7.RP.3.7 Design a real-world situation in my own words with simple interest.
2.a. Recognize, describe, and state the rule of generalized numerical and geometric patterns using tables, graphs, words, and symbols. (DOK 2)		

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
2.b. Solve equations that represent algebraic and real-world problems using multiple methods including the real number properties. (DOK 1)	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; 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 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 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. 7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and rare specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? 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.	I Can: ✓ 7.EE.3.3 Solve multi-step numeric algebraic expressions and equations. ✓ 7.EE.3.4 Solve real-world problems that involve positive and negative rational numbers using a variety of tools. + 7.EE.3.2 Convert rational numbers among and between fractions, decimals, percents, and whole numbers + 7.EE.3.1 Calculate and/or convert between the various forms of rational numbers. + 7.EE.3.5 Use estimation to justify my answers. I Can: ✓ 7.EE.4.1 Solve multi-step one-variable equations involving parentheses. ➢ 7.EE.4.2 Represent problems in real-world context with a linear equations. a. ✓ 7.EE.4a.1 Solve a one-variable equation with a single solution and check the answer. + 7.EE.4a.2 Accurately solve linear equations. ➢ 7.EE.4a.3 Compare the algebraic solution to a problem with an arithmetic solution. b. ✓ 7.EE.4b.1 Solve one-variable inequalities with a solution. + 7.EE.4b.2 Represent problems in real-world context with an inequality. + 7.EE.4b.3 Explain the solution of the inequality as it relates to the context of the problem. ➢ 7.EE.4b.4 Graph the solution set of an inequality.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make and describe the solutions.	
2.c. Formulate algebraic expressions, equations, and inequalities to reflect a given situation and vice versa. (DOK 2)	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. For example, a + 0.05a = 1.05a means that "increase by5%" is the same as "multiply by 1.05."	I Can: ✓ 7.EE.2.1 Rewrite an expression in different forms. + 7.EE.2.2 Explain the advantages of rewriting an expression to better explain how quantities are related in a real-world concept. ➢ 7.EE.2.3 Justify why different forms of an expression are equivalent and how the quantities are related.
2.d. Complete a function table based on a given rule and vice versa. (DOK 1)		
2.f. Predict the shape of a graph from a function table. (DOK 2)		
4.d. Solve problems involving scale factors using ratios and proportions. (DOK 2)	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 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour. 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.	I Can: ✓ 7.RP.1.1 Recognize proportion and ratios. + 7.RP.1.2 Tell in my own words what a unit rate is. + 7.RP.1.3 Calculate the unit rate for real-life situations. + 7.RP.1.4 Compare unit rates. + 7.RP.1.5 Identify a unit rate from fractions. + 7.RP.1.6 Compute unit rates from ratio with fractions. ➢ 7.RP.1.7 Break down/simplify a rate, unit rate, ratio by dividing. ➢ 7.RP.1.8 Solve problems in which I have to find the relationship between two numbers and give the answer in a part/whole format I Can: ✓ 7.G.1.1 Solve problems involving scale drawings, when given scale. ✓ 7.G.1.2 Identify the scale factor given two figures. + 7.G.1.3 Reproduce the drawing of a different scale using a given scale drawing.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
Third Nine Weeks		
1.d. Evaluate and estimate powers and square roots of real numbers. (DOK 2)		
3.a. Classify and compare three-dimensional shapes using their properties. (DOK 1)		
3.b. Construct two-dimensional representations of three-dimensional objects. (DOK 2)		
3.c. Justify the congruency or symmetry of two figures. (DOK 2)		
3.d. Perform transformations (rigid and non-rigid motions) on two-dimensional figures using the coordinate plane. (DOK 2)		
3.e. Create an argument using the Pythagorean Theorem principles to show that a triangle is a right triangle. (DOK 2)		
3.f. Construct and classify angles. (DOK 2)	7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes 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. 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.	I Can: ✓ 7.G.2.1 Construct geometric shapes using appropriate tools (freehand, ruler, protractor, or technology). + 7.G.2.2 Categorize the different types of triangles. + 7.G.2.3 Determine if three given measurements construct a triangle. + 7.G.2.4 Explain with given measures, why they form a unique triangle, more than one triangle, or no triangle. I Can: ✓ 7.G.5.1 Define supplementary, complimentary, vertical, and adjacent angles. ✓ 7.G.5.2 Recognize and identify types of angles such as supplementary, complimentary, vertical, and adjacent. + 7.G.5.3 Justify compliments and supplements of a given angle. ➢ 7.G.5.4 Find missing angle measures by writing and solving algebraic equations based on

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
		relationships between angles.
4.b. Use formulas and strategies, such as decomposition, to compute the perimeter and area of triangles, parallelograms, trapezoids, the circumference and area of circles, and find the area of more complex shapes. (DOK 2)	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.	I Can: ✓ 7.G.4.1 Identify the parts of a circle such as the diameter, radius, chord, center, and circumference. ✓ 7.G.4.2 Identify pi in decimal and fraction form. ✓ 7.G.4.3 Recall the formula for circumference and area of a circle. ✓ 7.G.4.4 Solve (using formulas) the area and circumference of a circle. + 7.G.4.5 Interpret the formula for the area of a circle to solve problems. (Justify how the circumference of a circle changes each time the radius doubles.) + 7.G.4.6 Compute the circumference of a circle using the given area. ➢ 7.G.4.7 Identify that pi can be found from the diameter and circumference of a circle. ➢ 7.G.4.8 Identify and analyze the relationship between radius and diameter.
4.c. Develop and justify geometric formulas for volume and surface area of cylinders, pyramids, and prisms. (DOK 3)	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.	I Can: ✓ 7.G.6.1 Identify types of triangles/quadrilaterals/polygons. ✓ 7.G.6.2 Determine the dimensions of a 2D and 3D figure given the volume and or area. ✓ 7.G.6.3 Solve real-world problems involving the area of triangles, quadrilaterals, and other polygons. ✓ 7.G.6.4 Solve real-world problems involving the volume and surface area of cubes and right prisms.
Phase 2 Infusion	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.	I Can: ➢ 7.SP.6.1 Distinguish the difference between relative frequency and probability. ➢ 7.SP.6.2 Predict the relative frequency given the probability. ➢ 7.SP.6.3 Estimate the likelihood of an event by collecting data on the event over numerous trials. ➢ 7.SP.6.4 Use the law of large numbers to determine the relationship between experimental and theoretical probabilities. ➢ 7.SP.6.5 Tell in my own words the difference between the probability observed on many trials (experiments) and the theoretical probability of the event. ➢ 7.SP.6.6 Use tools to compare and explore outcomes of theoretical probability.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
Fourth Nine Weeks		
4.a. Convert from one unit to another, perform basic operations, and solve real-world problems using standard (English and metric) measurements within the same system. (DOK 2)		
5.a. Use proportions, estimates, and percentages to construct, interpret, and make predictions about a population based on histograms or circle graph representations of data from a sample. (DOK 2)	7.RP.2 Recognize and represent proportional relationships between quantities. 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. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship	I Can: a. ✓ 7.RP.2a.1 Explain in my own words what a proportional ratio is. + 7.RP.2a.2 Compare two ratios in a proportion. + 7.RP.2a.3 Identify and define dependent and independent variables + 7.RP.2a.4 Create and analyze a graph to determine if two quantities are proportional. + 7.RP.2a.5 Prove whether two quantities are proportional by cross multiplying. + 7.RP.2a.6 Recognize linear relationships. ➢ 7.RP.2a.7 Examine numbers in a table and decided whether or not it represents a proportional relationship. ➢ 7.RP.2a.8 Construct a graph on a coordinate plane from ratios. ➢ 7.RP.2a.9 Graph relationships to determine if two quantities are in a proportionate relationship. ➢ 7.RP.2a.10 Use ordered pairs to create a line through a point of origin to determine whether the relationship is proportionate. b. + 7.RP.2b.1 Identify a constant relationship of unit rates in tables. + 7.RP.2b.2 Identify a constant relationship of unit rates in graphs. ➢ 7.RP.2b.3 Identify a constant relationship of unit rates in equations. ➢ 7.RP.2b.4 Identify a constant relationship of unit rates in diagrams. ➢ 7.RP.2b.5 Identify a constant relationship of unit rates in verbal descriptions. c. ➢ 7.RP.2c.1 Identify a proportional relationship from an equation. ➢ 7.RP.2c.2 Analyze a proportional equation and explain what each value means.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	between the total cost and the number of items can be expressed as t = pn.	
	d. 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.	d. + 7.RP.2d.1.1 Use a graph to determine unit rate. ➢ 7.RP.2d.2.2 Explain in my words a proportional situation using points on a graph. ➢ 7.RP.2d.3.3 Interpret a graph using real-world proportional relationships. ➢ 7.RP.2d.4.4 Apply real-world situations in graphical form. ➢ 7.RP.2d.5.5 Compare coordinates of a graph to the origin or a unit rate.
	7.SP.1 Understand that statistics can be used to gain information about a population by examining a 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.	I Can: ✓ 7.SP.1.1 Use information to draw inferences from data. ✓ 7.SP.1.2 Explain how statistics about a sample can be used to describe a population. + 7.SP.1.3 Identify statistical terms such as sample, population, sample size, generalizations, random sampling, biased, unbiased, and valid. ➢ 7.SP.1.4 Explain what conditions need to be met for a sample to be a good representation of a population. ➢ 7.SP.1.5 Distinguish between a representative sample and a random sample. ➢ 7.SP.1.6 Explain the reasons why a random sample is the most desirable type of sample.
	7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of 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.	I Can: + 7.SP.2.1 Explain in my own words "random sample." + 7.SP.2.2 Collect and use multiple samples of data to make generalizations about population. + 7.SP.2.3 Determine an appropriate sample size. ➢ 7.SP.2.4 List what conditions you must have for a sample to be a good representation of a population. ➢ 7.SP.2.5 Justify why a random sample is the most desirable type of sample. ➢ 7.SP.2.6 Use multiple samples from a population to explain the possible variation in predictions about the population. ➢ 7.SP.2.7 Determine if my estimations are reasonable.
5. b. Determine how outliers affect mean, median, mode, or range. (DOK 2)		
5.c. Construct and interpret line graphs, frequency tables, circle graphs, box-and whisker plots, and scatter plots to generalize trends from given data. (DOK 2)		

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
5.d. Determine probabilities through experimentation, simulation, or calculation. (Note: Make and test conjectures and predictions by calculating the probability of an event.) (DOK 2)	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 ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.	I Can: ✓ 7.SP.5.1 Identify the probability of a single event. ✓ 7.SP.5.2 Classify the outcome of any single event as impossible, unlikely, likely, or certain. ✓ 7.SP.5.3 Understand that probability is expressed as a number between zero and one. ✓ 7.SP.5.4 Explain that numbers closer to one mean that the event has greater probability of happening. ✓ 7.SP.5.5 Explain that numbers closer to zero mean that the event is less likely to happen. ✓ 7.SP.5.6 Explain that numbers closer to 0.5 mean that the event has an equal likelihood of happening. ➢ 7.SP.5.7 Infer that a greater likelihood happens as the number of favorable outcomes approaches the total number of outcome.
	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.	I Can: + 7.SP.6.1 Distinguish the difference between relative frequency and probability. + 7.SP.6.2 Predict the relative frequency given the probability. + 7.SP.6.3 Estimate the likelihood of an event by collecting data on the event over numerous trials. ➢ 7.SP.6.4 Use the law of large numbers to determine the relationship between experimental and theoretical probabilities. ➢ 7.SP.6.5 Tell in my own words the difference between the probability observed on many trials (experiments) and the theoretical probability of the event. ➢ 7.SP.6.6 Use tools to compare and explore outcomes of theoretical probability.
	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. a. Develop 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. b. Develop 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.	I Can: ✓ 7.SP.7.1 Recognize uniform (equally likely) probability. ✓ 7.SP.7.2 Use models to determine the probability of events. a. ➢ 7.SP.7a.1 Create a uniform probability model and use it to decide the probability of each outcome or event. ➢ 7.SP.7a.2 Use theoretical probability to predict frequency of outcomes. ➢ 7.SP.7a.3 Perform probability experiments and compare to theoretical probability. b. ✓ 7.SP.7b.1 Conduct experiments using manipulatives (dice, spinners, coins, etc.). ➢ 7.SP.7b.2 Create a probability model that may not be uniform by comparing frequencies in data

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?	generated from a chance process. ➢ 7.SP.7b.3 Examine a probability model and give justification why it is uniform or explain the reason why it is not uniform.
	7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. 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. 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. 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 four donors to find one with type A blood?	I can: a. ➢ 7.SP.8a.1 Explain in my own words that the probability of a compound event is the fraction of desirable outcomes over all possible outcomes. (just like simple probability) ➢ 7.SP.8a.2 Find the probability or fraction of each possible outcome of compound events. b. ➢ 7.SP.8b.1 Use tree diagrams, frequency tables, and organized lists to determine the probability of a compound event. c. ✓ 7.SP.8c.1 Represent probability outcomes as fractions, decimals, or percents. ➢ 7.SP.8c.2 Use technology and tools to simulate a situation, graph results, and interpret data.
Phase 1 Infusion	7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	I Can: + 7.G.3.1 Define slicing as the cross-section of a 3D figure. + 7.G.3.2 Predict the two-dimensional figures that result from slicing a 3D figure such as a right-rectangular prism or pyramid.(perpendicular cuts and parallel cuts) + 7.G.3.3 Analyze 3D shapes by looking into two 2D cross-sections.
Phase 2 Infusion	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.	I Can: ➢ 7.SP.3.1 Identify measures of central tendency in a data distribution (mean, median, mode, range, etc.) ➢ 7.SP.3.2 Observe the overlap and differences of two data sets with similar variability. ➢ 7.SP.3.3 Identify upper quartile, lower quartile, upper-extreme maximum, lower extreme minimum, interquartile range, and mean absolute derivation as measures of variation. ➢ 7.SP.3.4 Apply my understanding of the data by using the measures of variability.

Dynamic Pacing Guide
7th Grade Math

MS Objective	CCSS Standard	I Can Statements ✓ Included in MS Framework + Included in Phase 1 infusion ➢ Included in Phase 2 infusion
	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.	I Can: ➢ 7.SP.4.1 Make informal comparisons of data about two populations. ➢ 7.SP.4.2 Compare two sets of data using measures of center (mean/median) and MAD (measures of variability & IQR). ➢ 7.SP.4.3 Create random samples from two different populations and determine whether their mean is significantly different. ➢ 7.SP.4.4 Generate random samples from two different populations and determine whether their variance is significantly different.