7th/8th Grade Mathematics
Poudre School District
Pacing Overview

Chapter 1: Integers
14 Days
7.NS.A.1, 7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d, 7.NS.A.2, 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c, 7.NS.A.3

Chapter 2: Rational Numbers
8 Days
7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d*, 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c*, 7.NS.A.2d, 7.NS.A.3*

Chapter 3: Expressions and Equations
14 Days
7.EE.A.1*, 7.EE.A.2*, 7.EE.B.4a, 8.EE.C.7a, 8.EE.C.7b
Collaboration Day September 29

Chapter 4: Inequalities
6 Days
7.EE.B.4b*

Chapter 5: Ratios and Proportions
12 Days
7.RP.A.1*, 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d*, 7.RP.A.3

Chapter 13: Graphing and Writing Linear Equations
12 Days
8.EE.B.5*, 8.EE.B.6*

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Chapter 6: Percents
12 Days 7.RP.A.3*, 7.EE.B.3*

Chapter 7: Constructions and Scale Drawings
12 Days 7.G.A.1*, 7.G.A.2*, 7.G.B.5*

Chapter 12: Angles and Triangles
10 Days 8.G.A.5*

Chapter 8: Circles and Area
6 Days 7.G.B.4, 7.G.B.6

Chapter 9: Surface Area and Volume & Chapter 15: Volume and Similar Solids
14 Days 7.G.A.3*, 7.G.B.4*, 7.G.B.6*, 8.G.C.9*

Chapter 16: Exponents and Scientific Notation
10 Days 8.EE.A.1*, 8.EE.A.3*, 8.EE.A.4*

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Chapter 14: Real Numbers and the Pythagorean Theorem
8 Days
8.NS.A.1*, 8.NS.A.2*, 8.EE.A.2*, 8.G.B.6*, 8.G.B.7*, 8.G.B.8*

Chapter 11: Transformations
14 Days
8.G.A.1*, 8.G.A.2*, 8.G.A.3*, 8.G.A.4*

Chapter 10: Probability and Statistics
12 Days
7.SP.A.1*, 7.SP.A.2*, 7.SP.B.3*, 7.SP.B.4*, 7.SP.C.5*, 7.SP.C.6*, 7.SP.C.7a, 7.SP.C.7b*, 7.SP.C.8a, 7.SP.C.8b, 7.SP.C.8c*

Review & Common Summative Assessment

*   Teaching is complete. Standard can be assessed.
Major Work of the Grade.
Supporting Work of the Grade.
Additional Work of the Grade.

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Chapter 1: Integers
14 Days
7.NS.A.1, 7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d, 7.NS.A.2, 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c, 7.NS.A.3

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Scavenger Hunt/ Chapter Opener			1 day	1 day
1.1	Integers and Absolute Value *Activities 1, 2 & 3 Examples 3 & 4*	Preparing for	7.NS.A.1, 7.NS.A.2, 7.NS.A.3	1 day	
1.2	Adding Integers *Inductive Reasoning, Example 3*	Learning	7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1d, 7.NS.A.3	0.5 day	1 day
1.3	Subtracting Integers *Inductive Reasoning, Example 3*	Learning	7.NS.A.1c, 7.NS.A.1d, 7.NS.A.3	0.5 day	
1.4	Multiplying Integers *Inductive Reasoning, Examples 1, 2 & 3*	Learning	7.NS.A.2a, 7.NS.A.2c, 7.NS.A.3	0.5 day	1 day
1.5	Dividing Integers *Examples 3 & 4*	Learning	7.NS.A.2b, 7.NS.A.3	0.5 day	

Total: 4 days

Note: Additional days reserved for review and assessment.

Additional Activities/Resources	
Name	**Location**

Vocabulary		
absolute value	additive inverse	additive inverse property
integers	opposites	

Standards	
7.NS.A.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.
7.NS.A.1a	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.*
7.NS.A.1b	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.
7.NS.A.1c	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.
7.NS.A.1d	Apply properties of operations as strategies to add and subtract rational numbers.
7.NS.A.2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
7.NS.A.2a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
7.NS.A.2b	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.
7.NS.A.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
7.NS.A.3	Solve real-world and mathematical problems involving the four operations with rational numbers.

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Chapter 2: Rational Numbers
8 Days 7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1c, 7.NS.A.1d*, 7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c*, 7.NS.A.2d, 7.NS.A.3*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			0.5 day	
2.1	Rational Numbers *Activity 1* *Example 1 & 2*	Learning	7.NS.A.2b, 7.NS.A.2d	0.5 day	1 day
2.2	Adding Rational Numbers *Activity 3* *Example 1, 2 & 3*	Learning	7.NS.A.1a, 7.NS.A.1b, 7.NS.A.1d, 7.NS.A.3	0.5 day	
2.3	Subtracting Rational Numbers *Example 1, 2 & 3*	Learning	7.NS.A.1c, 7.NS.A.1d*, 7.NS.A.3	0.5 day	
2.4	Multiplying and Dividing Rational Numbers *Activity 3* *Example 1, 2, 3 & 4*	Learning	7.NS.A.2a, 7.NS.A.2b, 7.NS.A.2c*, 7.NS.A.3*	1 day	1 day

Total: 3 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
rational number	repeating decimals	terminating decimal

Standards	
7.NS.A.1a	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.*
7.NS.A.1b	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.
7.NS.A.1c	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.
7.NS.A.1d*	Apply properties of operations as strategies to add and subtract rational numbers.
7.NS.A.2a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
7.NS.A.2b	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.
7.NS.A.2c*	Apply properties of operations as strategies to multiply and divide rational numbers.
7.NS.A.2d	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.NS.A.3*	Solve real-world and mathematical problems involving the four operations with rational numbers.

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Chapter 3: Expressions and Equations
14 Days 7.EE.A.1*, 7.EE.A.2*, 7.EE.B.4a, 8.EE.C.7a, 8.EE.C.7b

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
3.1	Algebraic Expressions *Example 1, 2, 3 & 4*	Learning	7.EE.A.1, 7.EE.A.2	0.5 day	1 day
3.2	Adding and Subtracting Linear Expressions *Activity 2 & 3* *Example 2, 3 & 4*	Learning	7.EE.A.1*, 7.EE.A.2*	1 day	
	Extension 3.2 *Example 1, 2 & 3*			0.5 day	
3.3	Solving Equations Using Addition or Subtraction *Activity 1 & 2* *Example 1, 2 & 3*	Learning	7.EE.B.4a	1 day	1 day
3.4	Solving Equations Using Multiplication or Division *Activity 1 & 3* *Example 1 & 2*	Learning	7.EE.B.4a	1 day	
3.5	Solving Two-Step Equations *Activity 1, 2 & 3* *Example 1, 2, 3 & 4*	Learning	7.EE.B.4a	1 day	1 day
Topic 1	Solving Multi-Step Equations *Example 1, 2, 3 & 4*	Learning	8.EE.C.7a, 8.EE.C.7b	1 day	1 day
Topic 2	Solving Equations with Variables on Both Sides *Ex. 1, 2, 5, 3, 4 & 6*	Learning	8.EE.C.7a, 8.EE.C.7b	2 days	1 day

Total: 9 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
addition property of equality	division property of equality	equivalent equations
factoring an expression	like terms	linear expression
multiplication property of equality	simplest form (of an algebraic expression)	subtraction property of equality

Standards	
7.EE.A.1*	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
7.EE.A.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 by 5%" is the same as "multiply by 1.05."*
7.EE.B.4a	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. 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?*
8.EE.C.7a	Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).
8.EE.C.7b	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

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Chapter 4: Inequalities
6 Days 7.EE.B.4b*

Chapter Summary					
Section	Title	Level of Learning	Standard(s)	Pacing (every/every other)	
	Chapter Opening			1 day	
4.1	Writing and Graphing Inequalities *Activity 1* *Example 1 & 2* *Activity 3* *Example 3*	Preparing for	7.EE.B.4b	1 day	1 day
4.2	Solving Inequalities Using Addition or Subtraction *Activity 1 & 2* *Example 1, 2 & 3*	Learning	7.EE.B.4b	1 day	
4.3	Solving Inequalities Using Multiplication or Division *Activity 1 & 3* *Example 1, 3, 2 & 4*	Learning	7.EE.B.4b	1 day	
4.4	Solving Two-Step Inequalities *Activity 1 & 2* *Example 1 & 2*	Learning	7.EE.B.4b*	1 day	1 day

Total: 5 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
addition property of inequality	division property of inequality	graph of an inequality
inequality	multiplication property of inequality	solution of an inequality
solution set	subtraction property of inequality	

Standards	
7.EE.B.4b*	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*

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Chapter 5: Ratios and Proportions
12 Days
7.RP.A.1*, 7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d*, 7.RP.A.3

Chapter Summary					
Section	Title	Level of Learning	Standard(s)	Pacing (every/every other)	
	Chapter Opening			1 day	
5.1	Ratios and Rates *Activity 1,* *Example 1* *Activity 2* *Example 3 & 4* *Activity 4*	Learning	7.RP.A.1*, 7.RP.A.3	1 day	
5.2	Proportions *Activity 1 & 3* *Example 1, 2 & 3*	Learning	7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2d	1 day	2 days
5.3	Writing Proportions *Activity 3* *Example 1, 2, & 3*	Learning	7.RP.A.2c, 7.RP.A.3	1 day	
5.4	Solving Proportions *Activity 1* *Example 1, 2 & 3*	Learning	7.RP.A.2b, 7.RP.A.2c	1 day	
5.2	Extension 5.2 *Example 1 & 2*			1 day	2 days
5.5	Slope *Activity 1 & 2* *Example 1 & 2*	Learning	7.RP.A.2b	1 day	
5.6	Direct Variation *Example 1, 2 & 3*	Learning	7.RP.A.2a, 7.RP.A.2b, 7.RP.A.2c, 7.RP.A.2d*	1 day	

Total: 8 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
complex fraction	constant of proportionality	cross products
cross products property	direct variation	proportion
proportional	rate	ratio
slope	unit rate	

Standards	
7.RP.A.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.RP.A.2a	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.
7.RP.A.2b	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
7.RP.A.2c	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 between the total cost and the number of items can be expressed as t = pn.*
7.RP.A.2d*	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.
7.RP.A.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.

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Chapter 13: Graphing and Writing Linear Equations
12 Days 8.EE.B.5*, 8.EE.B.6*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
13.2	Slope of a Line *Activity 1* *Example 1, 2, 3 & 4*	Learning	8.EE.B.5	1 day	1 day
	Extension 13.2 *Activity 3* *Example 1 & 2*			1 day	
13.3	Graphing Proportional Relationships *Activity 1 & 2* *Example 1, 2 & 3*	Learning	8.EE.B.5*, 8.EE.B.6	1 day	
13.1	Graphing Linear Equations *Activity 1 & 2* *Example 1, 2 & 3*	Preparing for	8.EE.B.5	1 day	1 day
13.4	Graphing Linear Equations in Slope-Intercept Form *Activity 1* *Example 1, 2 & 3*	Learning	8.EE.B.6	1 day	

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	Chapter Summary (continued)				
Section	Title	Level of Learning	Standard(s)	Pacing (every/every other)	
13.5	Graphing Linear Equations in Standard Form *Activity 1* *Example 1, 2 & 3*	Applying	8.EE.B.6	1 day	
13.6	Writing Equations in Slope-Intercept Form *Activity 1 & 3* *Example 2 & 3* *Activity 2*	Applying	8.EE.B.6	1 day	2 days
13.7	Writing Equations in Point-Slope Form *Activity 1 & 2* *Example 2* *Activity 3* *Example 3*	Applying	8.EE.B.6*	1 day	

Total: 9 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
linear equation	point-slope form	rise
run	slope	slope-intercept form
solution of a linear equation	standard form	x-intercept
y-intercept		

Standards	
8.EE.B.5*	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
8.EE.B.6*	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.

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Chapter 6: Percents
12 Days
7.RP.A.3*, 7.EE.B.3*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
6.1	Percents and Decimals *Activity 1, 2 & 3* *Example 1, 2 & 4*	Learning	7.EE.B.3	1 day	
6.2	Comparing and Ordering Fractions, Decimals and Percents *Activity 1 & 2* *Example 3*	Learning	7.EE.B.3	1 day	
6.3	The Percent Proportion *Activity 1, 2 & 3* *Example 1, 2, 3 & 4*	Learning	7.RP.A.3	1 day	1 day
6.4	The Percent Equation *Activity 3 & 4* *Example 1, 2, 3 & 4*	Learning	7.RP.A.3, 7.EE.B.3*	1 day	
6.5	Percents of Increase and Decrease *Activity 1 & 2* *Example 2 & 3*	Learning	7.RP.A.3	1 day	2 days
6.6	Discounts and Markups *Activity 1, 2 & 3* *Example 1, 2 & 3*	Learning	7.RP.A.3	1 day	
6.7	Simple Interest *Activity 1 & 3* *Example 1, 2, 3 & 4*	Learning	7.RP.A.3*	1 day	1 day

Total: 8 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
discount	interest	markup
percent of change	percent of decrease	percent error
percent increase	principal	simple interest

Standards	
7.RP.A.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.
7.EE.B.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.*

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Chapter 7: Constructions and Scale Drawings
12 Days   7.G.A.1*, 7.G.A.2*, 7.G.B.5*

Chapter Summary					
Section	Title	Level of Learning	Standard(s)	Pacing (every/every other)	
	Chapter Opening			1 day	
7.1	Adjacent and Vertical Angles *Activity 2 & 3* *Example 1, 2 & 3*	Learning	7.G.B.5	1 day	1 day
7.2	Complementary and Supplementary Angles *Activity 1 & 2* *Example 1, 2 & 3*	Learning	7.G.B.5	1 day	
7.3	Triangles *Activity 1, 2 & 4* *Example 1, 2 & 3*	Learning	7.G.A.2, 7.G.B.5*	2 days	1 day
	Extension 7.3 *Example 1 & 2*			1 day	
7.4	Quadrilaterals *Activity 1, 2 & 3* *Example 1* *Activity 4* *Example 2 & 3*	Learning	7.G.A.2*	2 days	1 day
7.5	Scale Drawings *Activity 1 & 2* *Example 1, 2, 3 & 4*	Learning	7.G.A.1*	1 day	1 day

Total: 9 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
adjacent angles	complementary angles	congruent angles
congruent sides	kite	scale
scale drawing	scale factor (of a scale drawing)	scale model
supplementary angles	vertical angles	

Standards	
7.G.A.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.
7.G.A.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.B.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.

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Chapter 12: Angles and Triangles
10 Days 8.G.A.5*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
12.1	Parallel Lines and Transversals *Activity 1 & 2* *Example 1, 2 & 4*	Learning	8.G.A.5	1 day	1 day
12.3	Angles of Polygons *Activity 1 & 2* *Example 2, 3 & 4*	Applying	8.G.A.5	1 day	1 day
12.4	Using Similar Triangles *Activity 1 & 2* *Example 1*	Learning	8.G.A.5*	1 day	
12.4	Using Similar Triangles *Activity 3* *Example 2*	Learning	8.G.A.5*	2 day	1 day

Total: 6 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
concave polygon	convex polygon	exterior angles
exterior angles of a polygon	indirect measurement	interior angles
interior angles of a polygon	regular polygon	transversal

Standards	
8.G.A.5*	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*

Chapter 8: Circles and Area
6 Days 7.G.B.4, 7.G.B.6

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
8.1	Circles and Circumference *Activity 1 & 2* *Example 1, 2, 3 & 4*	Learning	7.G.B.4	1 day	1 day
8.2	Perimeters of Composite Figures *Activity 2 & 3* *Example 1, 2 & 3*	Applying	7.G.B.4	1 day	
8.3	Area of Circles *Activity 2* *Example 1, 2 & 3*	Learning	7.G.B.4	1 day	1 day
8.4	Areas of Composite Figures *Activity 1* *Example 1, 2, 3 & 4*	Learning	7.G.B.6	1 day	

Total: 5 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
center (of a circle)	circle	circumference
composite figure	diameter (of a circle)	pi
radius (of a circle)	semicircle	

Standards	
7.G.B.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.
7.G.B.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.

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Chapter 9: Surface Area and Volume & Chapter 15: Volume and Similar Solids
14 Days
7.G.A.3*, 7.G.B.4*, 7.G.B.6*, 8.G.C.9*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening				
9.1	Surface Area of Prisms *Activity 3* *Example 1, 2, 3 & 4*	Learning	7.G.B.6	1 day	1 day
9.3	Surface Area of Cylinders *Activity 1 & 2* *Example 1, 2 & 3*	Applying	7.G.B.4*	1 day	
9.2	Surface Area of Pyramids *Activity 1, 2 & 3* *Example 1, 2 & 3*	Learning	7.G.B.6	2 days	1 day
9.5	Extension 9.5 *Example 1 & 2*			1 day	
9.4	Volumes of Prisms *Activity 1, 2 & 3* *Example 1, 2 & 3* *Activity 4*	Learning	7.G.B.6	1 day	1 day
15.1	Volumes of Cylinders *Activity 1 & 2* *Example 1, 2, 3 & 4*	Learning	8.G.C.9	1 day	
9.5	Volumes of Pyramids *Activity 1* *Example 1, 2 & 3*	Learning	7.G.A.3*, 7.G.B.6*	1 day	1 day
15.2	Volumes of Cones *Activity 1* *Example 1, 2 & 3* *Activity 3 & 2*	Learning	8.G.C.9	1 day	

		Chapter Summary (continued)			
Section	Title	Level of Learning	Standard(s)	Pacing (every/every other)	
15.3	Volumes of Spheres *Activity 1 & 2* *Example 1, 2 & 3*	Learning	8.G.C.9	1 day	1 day
15.4	Surface Areas and Volumes of Similar Solids *Example 1* *Activity 1 & 2* *Example 2, 3 & 4*	Applying	8.G.C.9*	2 days	

Total: 12 days

Note: Additional days reserved for review and assessment.

Additional Activities/Resources	
Name	**Location**

Vocabulary		
cross section	lateral surface area (of a prism)	regular pyramid
slant height (of a pyramid)	hemisphere	similar solids
sphere		

Standards	
7.G.A.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.
7.G.B.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.
7.G.B.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.
8.G.C.9*	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

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Chapter 16: Exponents and Scientific Notation
10 Days 8.EE.A.1*, 8.EE.A.3*, 8.EE.A.4*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**		**Pacing (every/every other)**
	Chapter Opening				
16.1	Exponents *Activity 1 & 3* *Example 1, 2, 3 & 4*	Learning	8.EE.A.1	1 day	1 day
16.2	Product of Powers Property *Activity 1, 2 & 3* *Example 1, 2, 3 & 4*	Learning	8.EE.A.1	1 day	
16.3	Quotient of Powers Property	Learning	8.EE.A.1	1 day	1 day
16.4	Zero and Negative Exponents	Learning	8.EE.A.1*	1 day	
16.5	Reading Scientific Notation	Learning	8.EE.A.3, 8.EE.A.4	1 day	1 day
16.6	Wring Scientific Notation	Learning	8.EE.A.3, 8.EE.A.4		
16.7	Operations in Scientific Notation	Learning	8.EE.A.3*, 8.EE.A.4*	1 day	

Total: 6 days

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
base (of a power)	exponent	power
power of a power property	power of a product property	product of powers property
quotient of powers property	scientific notation	

Standards	
8.EE.A.1*	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.
8.EE.A.3*	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.*
8.EE.A.4*	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

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Chapter 14: Real Numbers and the Pythagorean Theorem
8 Days
8.NS.A.1*, 8.NS.A.2*, 8.EE.A.2*, 8.G.B.6*, 8.G.B.7*, 8.G.B.8*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
14.1	Finding Square Roots *Activity 1 & 2* *Example 1, 2, 3 & 4*	Learning	8.EE.A.2	1 day	1 day
14.2	Finding Cube Roots *Activity 1 & 2* *Example 1, 2 & 3*	Learning	8.EE.A.2	1 day	
14.4	Approximating Square Roots *Activity 1* *Example 1, 2, 3 & 4*	Learning	8.NS.A.1*, 8.NS.A.2*, 8.EE.A.2	1 day	1 day
	Extension 14.4 *Example 1, 2 & 3*			1 day	1 day

Total: 5 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
cube root	distance formula	hypothenuse
irrational number	legs	perfect cube
perfect square	Pythagorean Theorem	radical sign
radicand	real numbers	square root
theorem		

Standards	
8.NS.A.1*	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
8.NS.A.2*	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*
8.EE.A.2*	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
8.G.B.6*	Explain a proof of the Pythagorean Theorem and its converse.
8.G.B.7*	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
8.G.B.8*	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

Chapter 11: Transformations
14 Days   8.G.A.1*, 8.G.A.2*, 8.G.A.3*, 8.G.A.4*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
11.1	Congruent Figures *Activity 1 & 2* *Example 1, 2 & 3*	Preparing for	8.G.A.2	1 day	2 days
11.5	Similar Figures *Activity 1 & 2* *Example 1, 2 & 3*	Preparing for	8.G.A.4	1 day	
11.6	Perimeters and Areas of Similar Figures *Activity 1, 2 & 3* *Example 1, 2 & 3*	Preparing for	8.G.A.4	1 day	
11.2	Translations *Example 1* *Activity 1, 2 & 4* *Example 2 & 3*	Learning	8.G.A.1, 8.G.A.2, 8.G.A.3	1 day	2 days
11.3	Reflections *Example 1* *Activity 1, 2 & 4* *Example 3 & 2*	Learning	8.G.A.1, 8.G.A.2, 8.G.A.3	1 day	
11.4	Rotations *Ex. 1, 2, 3, 4 & 5*	Learning	8.G.A.1*, 8.G.A.2*, 8.G.A.3	1 day	
11.7	Dilations *Activity 1* *Example 1, 2 & 3* *Activity 3* *Example 4 & 5*	Learning	8.G.A.3*, 8.G.A.4*	2 days	

Total: 9 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
angle of rotation	center of dilation	center of rotation
congruent figures	corresponding angles	corresponding sides
dilation	image	line of reflection
reflection	rotation	scale factor (of a dilation)
similar figures	transformation	translation

Standards	
8.G.A.1*	Verify experimentally the properties of rotations, reflections, and translations: • Lines are taken to lines, and line segments to line segments of the same length. • Angles are taken to angles of the same measure. • Parallel lines are taken to parallel lines.
8.G.A.2*	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
8.G.A.3*	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
8.G.A.4*	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

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Chapter 10: Probability and Statistics
12 Days
7.SP.A.1*, 7.SP.A.2*, 7.SP.B.3*, 7.SP.B.4*, 7.SP.C.5*, 7.SP.C.6*, 7.SP.C.7a, 7.SP.C.7b*, 7.SP.C.8a, 7.SP.C.8b, 7.SP.C.8c*

Chapter Summary					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
	Chapter Opening			1 day	
10.1	Outcomes and Events *Activity 1 & 2* *Example 1, 2, 3 & 4*	Preparing for	7.SP.C.5	1 day	1 day
10.2	Probability *Activity 1, 2 & 3* *Example 1, 2 & 3*	Learning	7.SP.C.5, 7.SP.C.7a	1 day	
10.3	Experimental and Theoretical Probability *Activity 1 & 2* *Example 1, 2 & 5*	Learning	7.SP.C.5*, 7.SP.C.6*, 7.SP.C.7a, 7.SP.C.7b*	1 day	1 day
10.4	Compound Events *Activity 1* *Example 1, 2, 4 & 5* *Activity 2*	Learning	7.SP.C.8a, 7.SP.C.8b	1 day	
10.5	Independent and Dependent Events *Activity 1 & 2* *Example 1, 2 & 3*	Learning	7.SP.C.8a, 7.SP.C.8b, 7.SP.C.8c*	1 day	1 day
	Extension 10.5 *Example 1, 2 & 3*			1 day	

Chapter Summary (continued)					
Section	**Title**	**Level of Learning**	**Standard(s)**	**Pacing (every/every other)**	
10.6	Samples and Populations *Activity 1, 2 & 3* *Example 1, 2 & 3*	Learning	7.SP.A.1*, 7.SP.A.2*	1 day	1 day
	Extension 10.6 *Activity 1, 2 & 3*			1 day	
10.7	Comparing Populations *Activity 1* *Example 1 & 2*	Learning	7.SP.B.3*, 7.SP.B.4*	1 day	

Total: 10 days

Note: Additional days reserved for review and assessment.

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Additional Activities/Resources	
Name	**Location**

Vocabulary		
biased sample	compound event	dependent events
event	experiment	experimental probability
favorable outcomes	Fundamental Counting Principle	independent events
outcomes	population	probability
relative frequency	sample	sample space
simulation	theoretical probability	unbiased sample

Standards	
7.SP.A.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.
7.SP.A.2*	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
7.SP.B.3*	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
7.SP.B.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.*

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	Standards (continued)
7.SP.C.5*	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
7.SP.C.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.*
7.SP.C.7a	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.*
7.SP.C.7b*	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. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*
7.SP.C.8a	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.
7.SP.C.8b	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.
7.SP.C.8c*	Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*