Math 8 Honors

Unit Title: Unit 1: Transformations/Geometric Sequences/ Pythagorean Theorem (41 Days)

Stage 1: Desired Results

Standards & Indicators:

Major:

8.G.1 Verify experimentally the properties of rotations, reflections, and translations.
- a. Lines are taken to lines, and line segments to line segments of the same length.
- b. Angles are taken to angles of the same measure.
- c. Parallel lines are taken to parallel lines.

8.G.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.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

8.G.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

8.G.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.

Mathematical Practices

MP.1 Make sense of problems and persevere in solving them
MP. 2 Reason abstractly and quantitatively
MP.3 Construct viable arguments and critique the reasoning of others
MP. 4 Model with mathematics
MP. 5 Use appropriate tools strategically
MP. 6 Attend to precision
MP. 7 Look for and make use of structure
MP. 8 Look for and express regularity in repeated reasoning

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12 prof.CR3a).	With a growth mindset, failure is an important part of success.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b,	Collaboration with individuals with diverse experiences can aid in the problem-solving process,

	2.2.12.PF.3).	particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a).	
9.4.12.TL.1	Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specific task (e.g., W.11-12.6.).	Digital tools differ in features, capacities, and styles. Knowledge of different digital tools is helpful in selecting the best tool for a given task.
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:

Chapter 5

Parallel lines are lines in the same plane which never intersect. A line that intersects two or more lines is called a transversal.Triangles are classified according to their angle measures or their number of congruent sides. A polygon is a closed figure formed by three or more line segments. Polygons are classified by their number of sides. An examination of the number of triangles that make up each kind of polygon shows that the sum S of the interior angles of any polygon can be found by subtracting 2 from the number of sides n and multiplying by 180. The Pythagorean Theorem describes the relationship between the legs and the hypotenuse for any right triangle.

Chapter 6

A transformation is an operation that maps an original geometric figure, the pre-image, onto a new figure called the image.A reflection is a transformation produced by flipping a figure over the line of symmetry.A rotation is a transformation produced by turning a figure about a fixed point called the center of rotation.A dilation is a transformation

Essential/Guiding Question:

At the end of the Unit, students should be able to answer the Essential Questions:

Chapter 5:

1. How are the measures of angles related when parallel lines are cut by a transversal?
2. How can you use the Pythagorean Theorem to find the distance between two points on the coordinate plane?

Chapter 6:

1. How are figures translated on the coordinate plane?
2. How are dilations similar to scale drawings?

Chapter 7:

1. Why do translations, reflections, and rotations create congruent images?
2. How is the slope of a line related to the similar slope triangles formed by the line?

produced by enlarging or reducing an original figure by a scale factor. **Chapter 7** In two congruent figures, you can determine the transformation, or series of transformations, that maps one figure onto the other by analyzing the orientation or relative position of the figures.Similar figures have the same shape, but may have different sizes. The sizes of the two figures are related to the scale factor of the dilation	
Content: Chapters 5-7 (Course 3) Lesson 5.1 Understanding Lines Lesson 5.2 Understanding and Writing Geometric Proofs Lesson 5.3 Angles of Triangles Lesson 5.4 Angles of Polygons Lesson 5.5 Pythagorean Theorem Lesson 5.6 Using the Pythagorean Theorem Lesson 5.7 Finding Distances on the Coordinate Graph Lesson 6.1 Translation Lesson 6.2 Rotations Lesson 6.3 Reflections Lesson 6.4 Dilations Lesson 7.1 Congruence and Transformations Lesson 7.2 Congruence Lesson 7.3 Similarity and Transformations Lesson 7.4 Properties of Similar Polygons Lesson 7.5 Similar Triangles and Indirect Measures Lesson 7.6 Slope and Similar Triangles Lesson 7.7 Area and Perimeter of Similar Polygons	**Skills(Objectives):** ● Identify the legs and hypotenuse of a right triangle. ● Investigate and generalize the relationship between the areas of the squares created using the side lengths of a triangle. ● Generalize an informal justification of the Pythagorean Theorem and its converse. ● Use the Pythagorean Theorem to determine if a triangle is a right triangle. ● Use the Pythagorean Theorem to find a missing side length of a right triangle. ● Plot right triangles on a coordinate plane to investigate the relationship of side lengths. ● Recognize that the distance between two coordinate points can be the length of the hypotenuse of a right triangle. ● Apply the Pythagorean Theorem to find the distance between two points in the coordinate plane, ● Model real-world problems including lengths that cannot be directly measured. ● Use transformation vocabulary and notation, e.g., image, preimage, A, A'. ● Use a variety of resources including physical models, transparencies, or geometry software to explore transformations to verify their properties using examples both with and without coordinates. ● Discover that rotations, reflections, and translations preserve angle measures and side lengths.

	• Discover that dilations only preserve angle measure whereas corresponding side lengths are proportional. • Explore the relationships between the coordinates of figures before and after transformations. • Describe the effect of transformations on two-dimensional figures using coordinates. • Given two similar figures, describe a sequence of transformations that demonstrates the similarity between them using examples both with and without coordinates. • Investigate the sum of the interior angles of a triangle using physical models or geometry software. • Explore the angle relationship between an exterior angle and the two remote interior angles of the triangle. • Investigate relationships of pairs of angles created by parallel lines cut by a transversal using transformations.

Interdisciplinary Connections:
Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
8.EE.B.6: Slopes Between Points on a Line 8.F.A.3: Introduction to Linear Functions 8.F.B.4: Baseball Cards 8.F.B.4: Video Streaming 8.EE.C.8c: Summer Swimming 8.EE.C.8: Cell Phone Plans 8.EE.C.8: Kimi and Jordan 8.EE.C.8a: The Intersection of Two Lines 8.F.A.1: Function Rules 8.F.A.1: Introducing Functions 8.F.A.2: Battery Charging	Online and Written Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Use various Think-Pair-Share strategies provided by Glencoe for each lesson. **Lesson 5.1** Understanding Lines-classify the angles formed and find missing angles when parallel lines are cut by a transversal.	Glencoe Math Course 3 Textbook (Chapters 5-7) IXL Kahoot Khan Academy Lesson Presentations Graphing Calculator

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Lesson 5.2 Understanding and Writing Geometric Proofs-use definitions, properties, and theorems to prove a hypothesis **Lesson 5.3** Angles of Triangles-find missing angle measures in triangles. **Lesson 5.4** Angles of Polygons-find the measures of angles in polygons **Lesson 5.5** Pythagorean Theorem-use the Pythagorean Theorem and it converse to solve problems. **Lesson 5.6** Using the Pythagorean Theorem-use the Pythagorean Theorem to solve problems **Lesson 5.7** Finding Distances on the Coordinate Graph-find the distance between two points on a coordinate plane **Lesson 6.1** Translation - graph translations on the coordinate plane **Lesson 6.2** Rotations-graph rotations on the coordinate plane	Google Forms and Sheets ALEKS Gimkit Google apps for education Desmos Woot Math Quizizz Quizalize Flocabulary Brain Pop Mash-Up Math Easel by Teachers Pay Teachers Classkick Edulastic Math Literacy ● I can solve a word problem graphic organizer ● Think pair share graphic organizer ● Vocabulary Word Map ● Frayer Model ● Collection of Graphic Organizers LGBT and Disabilities Resources: ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books ● Inclusive Math Class DEI Resources: ● Learning for Justice ● GLSEN Educator Resources ● Supporting LGBTQIA Youth Resource List ● Respect Ability: Fighting Stigmas, Advancing Opportunities ● NJDOE Diversity, Equity & Inclusion Educational Resources ● Diversity Calendar

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and	Provide a highly structured, predictable learning environment Provide organizers/study guides	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through

questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice	cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction	several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Unit Title: Unit 2: Volume & Surface Area, Real Numbers, Scientific Notation, Exponents (40 Days)

Stage 1: Desired Results

Standards & Indicators:

Major:

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

8.EE.1-Use scientific notation to estimate and express the values of very large or very small numbers and compare their values (how many times larger/smaller is one than the other).

8.EE.A.2b Simplify numerical radicals, limiting to square roots (i.e. nonperfect squares). For example, simplify $\sqrt{8}$ to $2\sqrt{2}$.

8.EE.3-Perform operations using numbers expressed in scientific notation, including problems where both decimals and scientific notation are used (interpret scientific notation generated when technology has been used for calculations).

8.EE.4-In real-world problem solving situations choose units of appropriate size for measurement of very small and very large quantities.

8.NS.1- Compare rational and irrational numbers to demonstrate that the decimal expansion of irrational numbers do not repeat; show that every rational number has a decimal expansion which eventually repeats and convert such decimals into rational numbers. Use rational numbers to approximate and locate irrational numbers on a number line and estimate the value of expressions involving irrational numbers.

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8.NS.2- Apply the properties of integer exponents to simplify and write equivalent numerical expressions.

8.NS.A.3 Understand that the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational

Integration of Climate Change

- 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.
  Climate Change Example: Students may use the formula for the volume of a sphere to approximate the volume of hailstones to consider how climate change may affect the size of hailstones over time.

Mathematical Practices

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Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12 prof.CR3a).	With a growth mindset, failure is an important part of success.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a).	
9.4.12.TL.1	Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specific task (e.g., W.11-12.6.).	Digital tools differ in features, capacities, and styles. Knowledge of different digital tools is helpful in selecting the best tool for a given task.
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of

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		digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:	Essential/Guiding Question:
Chapter 8: **Lessons 1-3**: Volume is the measure of space occupied by a three-dimensional region. It is measured in cubic units. **Lessons 4-6**: The lateral area of a prism is the sum of the areas of the lateral faces. The surface area is the sum of the lateral area and the area of the base(s). Similar solids are 3D figures that have the same shape and whose corresponding linear measures are proportional. The scale factor of similar solids is how much larger or smaller one solid is than another. It is written as a ratio in simplest form. **Chapter 1:** **Lesson 1**: Rational numbers are numbers that can be written as fractions. Both terminating and repeating decimals can be written as fractions, but non-terminating, non-repeating numbers such as π and $\sqrt{2}$ cannot be written as fractions. So, these numbers are not rational. The rules and properties for adding, subtracting, multiplying, and dividing rational numbers are the same as those for integers and fractions. **Lessons 2-4**: A product of repeated factors can be expressed as a power, using an exponent and a base. From this definition comes the Laws and Exponents, which include: Product of Powers, Quotient of Powers, Power of a Power, and Power of a Product. **Lesson 5**: By definition, any nonzero number to the zero power is 1 and any nonzero number to a negative power, n, is the multiplicative inverse of its nth power. **Lessons 8-10**: Squaring a number and finding a square root are inverse operations. Cubing a number and finding a cube are inverse operations.	**Chapter 8: Why are formulas important in math and science?** 1. How is the formula for the volume of a cylinder to the formula for the volume of a rectangular prism? 2. What would have a greater effect on the volume of a cone: doubling its radius or doubling its height? 3. True or False: The volume of a sphere is ⅔ the volume of a cylinder with the same radius r and height of 2r? 4. How is a calculation affected if you round n to 3.14 or use the pi key on your calculator? 5. How does the volume of a three dimensional figure differ from its surface area? 6. How is the volume of a prism affected when its dimensions are tripled? **Chapter 1: Why is it helpful to write numbers in different ways?** 1. How can you determine if a number is a rational number? 2. How can I write repeated multiplication using powers? 3. How can I use the properties of integer exponents to simplify algebraic and numeric expressions? 4. How does the Product of Powers law apply to finding the power of a power? 5. How are negative exponents and positive exponents related? 6. Why would I need to use square roots and cube roots? 7. How can I estimate the square root of a non-perfect square? 8. How are real numbers different from irrational numbers?

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Content:	Skills (Objectives):
Chapter 8: 8.1: Volume of Cylinders 8.2: Volume of Cones 8.3: Volume of Spheres 8.4: Surface Area of Cylinders 8.5: Surface Area of Cones 8.6: Changes in Dimensions **Chapter 1:** Lesson 1.1 Rational Numbers Lesson 1.2 Exponents and Powers Lesson 1.3 Multiply & Divide Monomials Lesson 1.4 Powers of Exponents Lesson 1.5 Negative Exponents Lesson 1.6 Scientific Notation Lesson 1.7 Compute with Scientific Notation Lesson 1.8 Roots Lesson 1.9 Estimate of Roots Lesson 1.10 Comparing Real Numbers	**Chapter 8:** 8.1: Find the volume of cylinders. 8.2: Find the volume of cones. 8.3: Find the volume of spheres. 8.4: Find the surface area of cylinders. 8.5: Find the surface area of cones. 8.6: Solve problems involving similar solids. **Chapter 1:** 1.1 Identify Rational Numbers 1.2 Write and Evaluate Powers 1.3 Product and Quotient of Powers 1.4 Evaluate Powers of Exponents 1.5 Write Negative Exponents as Positive and Simplify 1.6 Write Large or Small Numbers in Scientific Notation 1.7 Multiply, Divide, Add and Subtract Numbers in Scientific Notation 1.8 Find Square and Cube Roots 1.9 Estimate Square Roots of Non-Perfect Squares 1.10 Compare Real Numbers in Various Formats

Interdisciplinary Connections:
Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

Stage 2: Assessment Evidence

Performance Task(s):	Other Evidence:
8.G.9-Glasses https://www.illustrativemathematics.org/content-standards/8/G/C/9/tasks/112 8.NS.A.1: Identifying Rational Numbers 8.NS.A.1: Repeating or Terminating 8.NS.A.2: Placing a Square Root on the Number Line 8.NS.A.2: Comparing Rational and Irrational Numbers 8.NS.A.1: Representations of Rational Numbers to Fraction Representations	Online and Written Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies:	Resources:
Use various Think-Pair-Share strategies provided by Glencoe for each lesson. **Lesson 8.1:** Have students work with a partner to complete two exercises. Have them use the	Glencoe Math Course 3 Textbook (Chapters 5-7) IXL Kahoot Khan Academy

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following template to find the volume of each cylinder: volume=area of base x height of cylinder. If they are still struggling, have them replace area of base with pi x r x r.
Lesson 8.2: Have students work in small groups to complete 5 exercises. Provide each student with 6 chips. Each student must place a chip in the center of the table after contributing to the discussion. After all of their chips are gone, they may no longer talk and all students must use all of their chips.
Lesson 8.3: Have pairs complete the graphic organizer. Have them come up with as many real world examples of spheres as possible or objects that are approximately spheres.
Lesson 8.4: Have students work in a small group to complete 4 exercises. Each student is responsible for leading the discussion for one of the exercises.
Lesson 8.5: Have students work in teams. Each student writes down two facts and one fib about the surface area of volume of a cone. The job of the team is to identify the fib.
Lesson 8.6: Have students work with a partner to write a real world problem involving two similar solids. Have them trade problems with another pair of students to solve each other's problem.

Lesson 1.1: Make up sets of index cards with different types of number sets, such as odd and even, fractions, and decimals. Each set of cards should have 10-20 different numbers. Divide students into small groups and give each group a set of cards. Ask them to classify each number in as many ways as you can.
Lesson 1.2: Have students work in a group to make and complete a table similar to the one shown using a factor other than 3.
Lesson 1.3: Have students work in pairs to complete the Enrich worksheet. Have them trade their solutions with another pair of students and discuss any differences.
Lesson 1.4: Remind students how to find the volume of a cube. First have them write the

Lesson Presentations
Graphing Calculator
Google Forms and Sheets
ALEKS
Gimkit
Google apps for education
Desmos
Woot Math
Quizizz
Quizalize
Flocabulary
Brain Pop
Mash-Up Math
Easel by Teachers Pay Teachers
Classkick
Edulastic
Math Literacy

- I can solve a word problem graphic organizer
- Think pair share graphic organizer
- Vocabulary Word Map
- Frayer Model
- Collection of Graphic Organizers

LGBT and Disabilities Resources:

- LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth
- LGBTQ+ Books
- Inclusive Math Class

DEI Resources:

- Learning for Justice
- GLSEN Educator Resources
- Supporting LGBTQIA Youth Resource List
- Respect Ability: Fighting Stigmas, Advancing Opportunities
- NJDOE Diversity, Equity & Inclusion Educational Resources
- Diversity Calendar

side length three times. Then, have them rewrite the expression without exponents. Finally, have them write the expression using only one base and one exponent. **Lesson 1.5:** Think-Pair-Share: Ask students: How is 100 written as a power of 10? 1,000? **Lesson 1.8:** Ask students if it matters whether the factors are both positive or both negative when dealing with perfect squares. **Lesson 1.9:** Designate a leader to call out each of the following numbers one at a time: 100, 9, 36, 64, 49, 4, 25, 81, and 16. Ask students to hold up the square root of the number using their fingers. **Lesson 1.10:** First give each member of the pair two index cards and have them write the definition of rational numbers and give some examples on one card. Then ask them to write a definition of irrational numbers based on their definition or rational numbers. Have them share with a partner to verify their definitions.	

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice journal	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

		Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	

Unit Title: Unit 3: Equations with One and Two Variables & Functions

Stage 1: Desired Results

Standards & Indicators:

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 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.

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.

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.

8.F.A.2: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

8.F.B.4: Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

8.F.A.3: Interpret the equation y=mx+b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

8.EE.C.8c: Solve real-world and mathematical problems leading to two linear equations in two variables.

8.EE.C.8: Analyze and solve pairs of simultaneous linear equations.

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8.EE.C.8a: Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.

8.EE.C.8b Solve systems of two linear equations in two variables using the substitution method and estimate solutions by graphing the equations. Solve simple cases by inspection. For example: by inspection, conclude that $3x+2y=5$ and $3x+2y=6$ have no solution because $3x+2y$ cannot simultaneously be 5 and 6. Solve $3x+y=30$ and $y=2x$ using the substitution method;

8.F.A.1: Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

8.F.A.2: Compare properties (e.g. rate of change, intercepts, domain and range) of two functions each represented in a different way (algebraically, graphically,numerically in tables, or by verbal descriptions).

8.F.B.5: Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g. where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Mathematical Practices

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Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
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9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a).	

		diverse solutions are needed.
9.4.12.TL.1	Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specific task (e.g., W.11-12.6.).	Digital tools differ in features, capacities, and styles. Knowledge of different digital tools is helpful in selecting the best tool for a given task.
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:

Chapter 3

Lessons 1-3: A linear relationship has a constant rate of change. In a proportional linear relationship between two quantities a and b: the ration b/a is constant, the change in b / change in a is constant, and the graph passes through the origin. The slope of a line is the ratio of the vertical change (rise) between any two points on a line and the horizontal change (run) between the same two points. The slope formula can be used to find the slope of the line between any two points on the line. A linear equation that describes a constant rate of change is called direct variation, In a direct variation relationship, the ratio of t/x is a constant k. The variable y is said to vary directly with x. This relationship can be represented as $y/x = k$ or $y = kx$.

Lessons 4-6: The slope-intercept form of a linear equation is $y=mx+b$ where m is the slope and b is the y-intercept. To grade an equation in slope intercept form using the slope and y-intercept: 1) graph the y-intercept, 2) from the y-intercept use the slope to find the next point, 3) draw a line passing through both points. To graph functions using the x- and y-intercepts: 1) Find the x-intercept by

Essential/Guiding Question:

Chapter 3: Why are graphs helpful?

1. How can you use a table to determine if there is a proportional relationship between two quantities?
2. In any linear relationship, why is the slope always the same?
3. What is the relationship among the unit rate, slope, and constant rate of change of a proportional linear relationship?
4. How does the y-intercept appear in these three representations: table, equation, and graph?
5. How can the x-intercept and y-intercept be used to graph a linear equation?
6. How does using the point-slope form of a linear equation make it easier to write the equation of a line?
7. How can you use a graph to solve a system of equations?
8. How can you solve a system of equations?

Chapter 4: How can we model relationships between quantities?

1. How can you use a graph to write an equation?
2. How do tables and graphs represent relations?
3. How does the domain affect the range in a function?

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replacing y with 0 and solving for x, 2) find the y-intercept by replacing x with 0 and solving for y, 3) Locate the two intercepts on a coordinate plane and draw a line passing through both points. **Lessons 7-8**: A system of equations is a collection of two or more equations with the same variables. A system of equations can have the following: 1) one solution - lines intersect at a point, 2) no solution- parallel lines, or 3) infinitely many solutions - same line. A system can also be solved algebraically using substitution. **Chapter 4** **Lessons 1-2**: A relation is a set of ordered pairs that can be represented as a table or a graph. **Lessons 3-6**: A function is a special type of relation in which each member of the domain is paired with exactly one member in the range. **Lesson 7-9**: Some functions are linear and others are nonlinear. You can use a table or a graph to make the determination. If a function is linear, its graph is a straight line and a table of values for the function exhibits a constant rate of change. A nonlinear function is a function whose graph is not a straight line and a table of values for the function displays a rate of change that is not constant.	4. How can functions be used to solve real-world situations? 5. What are the advantages and disadvantages to representing a function as an equation instead of a graph? 6. How is the initial value of a function represented in a table and in a graph? 7. How can you use a table or a graph to determine if a function is linear or nonlinear? 8. When does the graph of a quadratic function open upward or downward? 9. What are some advantages of displaying the relationship between two quantities using a qualitative graph?
Content: **Chapter 3:** 3.1: Constant Rate of Change 3.2: Slope 3.3: Equations in y=mx Form 3.4: Slope-Intercept Form 3.5: Graph a Line Using Intercepts 3.6: Write Linear Equations 3.7: Solve Systems of Equations by Graphing 3.8: Solve Systems of Equations Algebraically **Chapter 4:** 4.1: Represent Relationships 4.2: Relations	**Skills(Objectives):** **Chapter 3:** 3.1: Identify proportional and nonproportional linear relationships by finding a constant rate of change. 3.2: Use tables and graphs to find the slope of a line. 3.3: Use direct variation to solve problems. 3.4: Graph linear equations using the slope and y-intercept. 3.5: Graph an equation using the x- and y-intercepts. 3.6: Write an equation of a line. 3.7: Solve systems of linear equations by graphing. 3.8: Solve systems of equations algebraically.

4.3: Functions 4.4: Linear Functions 4.5: Compare Properties of Functions 4.6: Construct Functions 4.7: Linear and NonLinear Functions 4.8: Quadratic Functions 4.9: Qualitative Graphs	**Chapter 4:** 4.1: Translate tables and graphs into linear equations. 4.2: Represent relations using tables and graphs. 4.3: Find function values and complete function tables. 4.4: Represent linear functions using tables and graphs. 4.5: Compare properties of functions represented in different ways. 4.6: FInd and interpret the rate of change and initial value of a function. 4.7: Determine whether a function is linear or nonlinear. 4.8: Graph quadratic functions. 4.9: Sketch and describe qualitative graphs.
Interdisciplinary Connections: Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.	

Stage 2: Assessment Evidence

Performance Task(s): 8.EE.C.7: The Sign of Solutions 8.EE.C.7: Sammy's Chipmunk and Squirrel Observations 8.EE.B.5: Coffee by the Pound 8.EE.B.5: Who Has the Best Job? 8.EE.B.5: Peaches and Plums 8.EE.B.6: Slopes Between Points on a Line 8.F.A.3: Introduction to Linear Functions 8.F.B.4: Baseball Cards 8.F.B.4: Video Streaming 8.EE.C.8c: Summer Swimming 8.EE.C.8: Cell Phone Plans 8.EE.C.8: Kimi and Jordan 8.EE.C.8a: The Intersection of Two Lines 8.F.A.1: Function Rules 8.F.A.1: Introducing Functions 8.F.A.2: Battery Charging	**Other Evidence:** Online and Written Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments

Stage 3: Learning Plan

Learning Opportunities/Strategies: **Use various Think-Pair-Share strategies provided by Glencoe for each lesson.** **Lesson 3.4:** Have students work in pairs. Have them discuss one exercise with student 1 leading the discussion. After everyone agrees on the solution, each student individually records their answer. Repeat the process with	**Resources:** Glencoe Math Course 3 Textbook (Chapters 3-4) IXL Kahoot Khan Academy Lesson Presentations Graphing Calculator Google Forms and Sheets

another exercise with student 2 leading the discussion. Continue rotating the leader role until all of the exercises have been completed. **Lesson 3.5:** Have students generate their own problem involving an equation expressed in standard form. Have students trade their problem with a partner, solve each other's problem and graph each other's equation, and discuss any differences in solutions. **Lesson 3.6:** Give them about two minutes of "think time." Then have them work with a partner to complete 2 exercises and discuss their responses. Then have them work individually to complete four more exercises. Upon completion, have them discuss their solutions with their partner and resolve any differences. **Lesson 3.7:** Have students work in small teams to complete one exercise, in pairs to complete exercise another exercise, and independently to complete a third exercise. Then have the original teams discuss their responses to the third exercise. **Lesson 3.8:** Have students work in pairs to compare and contrast solving a system of equations graphically and solving a system of equations algebraically. Then they should compile a list of pros and cons for each method. **Lesson 4.1:** Have students write a real-world problem and trade their partners with a partner. Each partner should create a table of values, create a graph, and write an equation that represents the relationship. Have students check each other's work, and discuss and resolve any differences. **Lesson 4.2:** Have students work in groups of 3-4 to label a copy of the coordinate plane with at least one error. Then have students trade papers with another group. Each group should find and correct the error(s). **Lesson 4.3:** Have students create their own problem. Students trade their problems, solve each other's problems, and compare solutions	ALEKS Gimkit Google apps for education Desmos Woot Math Quizizz Quizalize Flocabulary Brain Pop Mash-Up Math Easel by Teachers Pay Teachers Classkick Edulastic Math Literacy ● I can solve a word problem graphic organizer ● Think pair share graphic organizer ● Vocabulary Word Map ● Frayer Model ● Collection of Graphic Organizers LGBT and Disabilities Resources: ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books ● Inclusive Math Class DEI Resources: ● Learning for Justice ● GLSEN Educator Resources ● Supporting LGBTQIA Youth Resource List ● Respect Ability: Fighting Stigmas, Advancing Opportunities ● NJDOE Diversity, Equity & Inclusion Educational Resources ● Diversity Calendar

If the solutions do not agree students work together to find the errors. **Lesson 4.4:** For each exercise, have students create a different representation than the one given. **Lesson 4.5:** Assign students to 3 person teams. Each team completes 4 exercises with a different team member leading each exercise and making sure each team member understands the problem before moving on. **Lesson 4.6:** Have students work in pairs. Give them one minute to think through their responses to one exercise. Then have them share their responses with their partner and discuss any differences in their solutions. Have them repeat this process for 3 more exercises. **Lesson 4.7:** Students write down two facts and one fib about linear functions or nonlinear functions. Students then form teams of 3. The job of the team is to identify the fib in each group of statements. **Lesson 4.8:** Have students work in pairs to complete the graphic organizer, and write a definition of quadratic function in their own words. Have them trade their definition with another pair and discuss any differences.	

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions

Practice assignments Puzzle time activities Record and practice journal	Lesson tutorials Skills review handbook	Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

Unit Title: Unit 4: Scatterplots, Inequalities, Financial Literacy

Stage 1: Desired Results

Standards & Indicators:

A.CED.A.1 - create equations and inequalities in one variable and use them to solve problems

A.CED.A.2 – create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales

A.CED.A.3 – represent constraints by equations or inequalities and by systems of equations and/or inequalities, interpret solutions as viable or nonviable options in a modeling context

A.REI.B.3 –solve linear equations and inequalities in one variable, including equations with coefficients represented by letters

A.REI.D.12 – graph the solutions to a linear inequality in two variables as a half plane and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half planes

8.SP.1 Construct and interpret scatter plot for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate data interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature

plant height.

8.SP.4 Understand the patterns of association can also be seen in bivariate categorical data by displaying the frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?

Integration of Climate Change:

- 8.SP.A.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
  Climate Change Example: Students may construct and interpret scatterplots of measurement data to investigate patterns of association in bivariate data involving the amount of a greenhouse gas in the atmosphere and its effect on temperature.
- 8.SP.A.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.
  Climate Change Example: Students may use the equation of a linear model to interpret the slope when comparing local and global precipitation rates for rainfall in different regions.
- A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
  Climate Change Example: Students may create equations and/or inequalities to represent the economic impact of climate change.
- A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.
  Climate Change Example: Students may represent constraints describing the economic impact of climate change by equations, inequalities, and/or by systems of inequalities, and interpret solutions as viable or nonviable options.

Mathematical Practices

MP.1 Make sense of problems and persevere in solving them
MP. 2 Reason abstractly and quantitatively
MP.3 Construct viable arguments and critique the reasoning of others
MP. 4 Model with mathematics
MP. 5 Use appropriate tools strategically
MP. 6 Attend to precision
MP. 7 Look for and make use of structure
MP. 8 Look for and express regularity in repeated reasoning

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Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.1.8.PB.1	Predict future expenses or opportunities that should be included in the budget planning process.	A budget aligned with an individual's financial goals can help prepare for life events.
9.1.8.CP.3	Explain the purpose of a credit score and credit record, the factors and impact of credit scores.	There are strategies to build and maintain a good credit history.
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12 prof.CR3a).	With a growth mindset, failure is an important part of success.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.
9.4.12.CT.2	Explain the potential benefits of collaborating to enhance critical thinking and problem solving (e.g., 1.3E.12profCR3.a).	
9.4.12.TL.1	Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specific task (e.g., W.11-12.6.).	Digital tools differ in features, capacities, and styles. Knowledge of different digital tools is helpful in selecting the best tool for a given task.
9.4.8.TL.3	Select appropriate tools to organize and present information digitally.	Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

Central Idea/Enduring Understanding:	Essential/Guiding Question:
Glencoe Chapter 9: **Lessons 1-3**: A scatter plot is used to explore possible relationships between a data set with two variables. The data may have a positive, negative or no relationship. A line of best fit is a line that is very close to most of the data points. A two-way table shows data from one sample group as it relates to two different categories.	**Chapter 9: Why is learning mathematics important?** 1. What are the inferences that can be drawn from sets of data points having a positive association and a negative association? 2. Why do we estimate a line of best fit for a scatter plot? 3. How is a two-way table used when determining possible associations between two different categories from the same sample group? 4. What does the length of the "whiskers" in a box plot say about the data?

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Lessons 4-6: Data with one variable are called univariate data and can be described by a measure of center, such as mean, median, mode, or range. Quantitative data are data that can be measured. The data can be divided into four equal parts, called quartiles. The five-number summary provides a numerical way of characterizing a set of data. The mean absolute deviation of a set of data is the average distance between each data value and the mean. The standard deviation of a set of data is calculated value that shows how the data deviates from the mean of the data. **Algebra Chapter 5:** A linear inequality is an open sentence that contains <, >, ≤, or ≥. Inequalities can be solved by using algebraic methods similar to solving equations. Inequalities involving absolute value can be solved by writing them as compound inequalities. Inequalities in two variables are solved by graphing the inequality as if it were an equation, and then shading the half-plane that makes the inequality true. **Financial Literacy:** To support the path towards postsecondary success, students require opportunities to understand and develop both career awareness and personal financial literacy. Standard 9.1 Personal Financial Literacy outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance.	5. How does the mean absolute deviation describe the variation of a set of data? 6. Why is the median used to describe the center of non-symmetric distribution instead of the mean? **Algebra Chapter 5** 1. How do you solve an inequality by using the different arithmetic operations? 2. How do you solve and graph a compound inequality? 3. How do you solve and graph an absolute value inequality? **Financial Literacy** 1. How can we create and plan a budget based on income, education, etc? 2. What are strategies to build credit? 3. What is a credit score?
Content: **Chapter 9:** 9.1: Scatter Plots 9.2: Lines of Best Fit 9.3: Two-Way Tables 9.4: Descriptive Statistics 9.5: Measures of Variation 9.6: Analyze Data Distributions	**Skills(Objectives):** **Chapter 9:** 9.1: Construct and make conjectures about scatter plots. 9.2: Draw lines of best fit and use them to make predictions about data. 9.3: Construct and interpret two-way tables. 9.4: Find the measures of center and variation. 9.5: Find and interpret the mean absolute deviation for a set of data. 9.6: Analyze data distributions.

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Algebra I Text: Lesson 5.1 Solving Inequalities by Addition/Subtraction Lesson 5.2 Solving Inequalities by Multiplication/Division Lesson 5.3 Solving Multi Step Inequalities Lesson 5.4 Solving Compound Inequalities Lesson 5.5 Solving Inequalities Involving Absolute Value Lesson 5.6 Graphing Inequalities in Two Variables **Financial Literacy** Occupation research Monthly Income & Budgeting Savings	Inequalities: 1. Solve an inequality by using arithmetic operations. 2. Solve and graph a compound inequality. 3. Solve and graph an absolute value inequality 4. Graph a two variable inequality on a Cartesian plane
Interdisciplinary Connections: Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.	

Stage 2: Assessment Evidence

Performance Task(s): A-CED.A.1 Paying the rent https://www.illustrativemathematics.org/content-standards/HSA/CED/A/1/tasks/581 A.CED.A.3 Dimes and Quarters https://www.illustrativemathematics.org/content-standards/HSA/CED/A/3/tasks/220 A.REI.B.3 Reasoning with linear inequalities https://www.illustrativemathematics.org/content-standards/HSA/REI/B/3/tasks/807 A.REI.D.12 Fishing Adventures 3 https://www.illustrativemathematics.org/content-standards/HSA/REI/D/12/tasks/644 F.IF.A.2 Yam in the Oven https://www.illustrativemathematics.org/content-standards/HSF/IF/A/2/tasks/625 S.ID.C.7-9 Coffee and Crime https://www.illustrativemathematics.org/content-standards/HSS/ID/B/6/tasks/1307	**Other Evidence:** Online and Written Assignments Mid Chapter Quizzes End of Chapter Assessments End of Unit Common Assessments

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Financial Literacy Math in real world	

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Lesson 9.1: Before constructing the scatter plot for an exercise, have students study the data in the table and make a conjecture about the association. Have them explain why their association makes sense in the real world context of the problem. **Lesson 9.2:** Have students work in pairs and write down two facts and one fib about scatter plots, associations, and lines of best fit. Call on individuals to read their facts and fib and have the class vote to decide which statement is the fib. **Lesson 9.3:** Have students work in pairs to complete two exercises. Have them trade their solutions with another pair of students and discuss any differences. **Lesson 9.4:** Have students work with a partner to explain the different meanings of the word mean. **Lesson 9.5:** Have students work in teams of three. Each team member is to pick one of the following topics to research: normal distribution, standard deviation, or variance. Students in the class working on the same topic get together to decide what is important and how to teach it to the rest of the team. Each expert returns to the team to teach the team members about their researched topic. **Lesson 9.6:** Have students work with a partner to complete the vocabulary start up. Have each student read the terms aloud and decide upon the best description, reading each description aloud. Call on one set of pairs to share their responses with the class.	Glencoe Math Course 3 Textbook (Chapters 9) Glencoe Algebra I (Chapter 5) IXL Kahoot Khan Academy Lesson Presentations Graphing Calculator Google Forms and Sheets ALEKS Gimkit Google apps for education Desmos Woot Math Quizizz Quizalize Flocabulary Brain Pop Mash-Up Math Easel by Teachers Pay Teachers Classkick Edulastic Math Literacy ● I can solve a word problem graphic organizer ● Think pair share graphic organizer ● Vocabulary Word Map ● Frayer Model ● Collection of Graphic Organizers LGBT and Disabilities Resources: ● LGBTQ-Inclusive Lesson & Resources by Garden State Equality and Make it Better for Youth ● LGBTQ+ Books ● Inclusive Math Class DEI Resources: ● Learning for Justice ● GLSEN Educator Resources ● Supporting LGBTQIA Youth Resource List ● Respect Ability: Fighting Stigmas, Advancing Opportunities ● NJDOE Diversity, Equity & Inclusion Educational Resources

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	• Diversity Calendar

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Khan Academy Project based learning Tablets Challenging problems with higher degree of difficulty Higher order thinking questions Differentiation of pacing and activities Differentiation of learning strategies: visual, auditory, kinetic and cooperative Enrichment and extension Technology connection Practice assignments Puzzle time activities Record and practice journal	Tutoring Tables Graphic organizers Differentiation of learning strategies: visual, auditory, kinetic and cooperative Technology connection Practice Assignments Puzzle time activities Record and practice journal Differentiating the lesson activities Lesson tutorials Skills review handbook	Provide a highly structured, predictable learning environment Provide organizers/study guides Lessons designed to the style of learning that matches the student Cooperative Learning Positive reinforcement Announce test with adequate prep time Lessons presentation available on google classroom Frequent check for understanding Break down task into manageable units One-on-one instruction Tutoring Pair student with a high achieving student	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries

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Pacing Guide

Course Name	Content/Resources	Standards
UNIT 1:		
Transformations/Geometric sequences/ Pythagorean Theorem (41 Days)	**CHAPTERS:** **Glencoe Chapters 5-7** Unit Assessment**:** 1-2 days	8.G.1 8.G.2 8.G.3 8.G.4 8.G.5
UNIT 2:		
Scatter Plots, Volume, Real life problems, Inequalities (38 Days)	**CHAPTERS:** **Glencoe Chapters 8 & 1** Unit Online Assessment: 1-2 days	8.G.9 8.EE.1 8.EE.3 8.NS.1 8.NS.2
UNIT 3:		
Equations with One and Two Variables & Functions (40 Days)	**CHAPTERS:** **Glencoe Chapter 3- 4** Unit Online Assessment: 1-2 days	8.EE.C.7 8.EE.B.5: 8.EE.B.6: 8.F.A.2: 8.F.B.4: 8.F.A.3: 8.EE.C.8 8.F.A.1:. 8.F.B.5:
UNIT 4:		
Scatterplots, Inequalities, Financial Literacy (40 days)	**CHAPTERS:** **Glencoe Chapter 9** **Algebra Chapter 5** **Financial Literacy** Unit Online Assessment: 1-2 days	A.CED.A.1 A.CED.A.2 A.CED.A.3 A.REI.3 A.REI.12 8.SP.1 8.SP.2 8.SP.3 8.SP.4