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Topic & Standard	**Mathematical Practices** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.
Quarter 1	**Unit 1: Ratio and Proportional Relationships** **Essential Questions:** **" How can you show that two objects are proportional?"** **"How can percent help you understand situations involving money?** **Ratios and Proportions** ● **7.RP.1** Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *(For example, if a person walks ½ mile in each ¼ hour, compute the unit rate as the complex fraction ½ / ¼ miles per hour, equivalently 2 miles per hour.)* ● **7.RP.2** Recognize and represent proportional relationships between quantities. a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. c. Represent proportional relationships by equations. d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation. ● **7.RP.3** Use proportional relationships to solve multi-step rational and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. **Number Systems** ● **7.NS.3** Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions. **Expressions and Equations** ● **7.EE.2** Use properties of operations to generate equivalent expressions.

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- **7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

Unit 2: Number Sense

Essential Questions:

"What happens when you add, subtract, multiply, and divide integers?"

" What happens when you add, divide, multiply, and subtract fractions?"

"Why is it helpful to write numbers in different ways?"

Number Systems

- **7.NS.1** Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
    a. Describe situations in which opposite quantities combine to make 0.
    b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
    c. Understand subtraction of rational numbers as adding the additive inverse, p-q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
    d. Apply properties of operations as strategies to add and subtract rational numbers.
- **7. NS.2** Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.
    a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1) (-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
    b. Understand that integers can be divided , provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (-p)/q = p/(-q). Interpret quotients of rational numbers by describing real-world contexts.
    c. Apply properties of operations as strategies to multiply and divide rational numbers.
- **7.NS.3** Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
- **8.NS.1** Know that real numbers are either rational or irrational. Understand informally that every number has a decimal expansion which is repeating, terminating, or is non-repeating and non-terminating.
- **8.NS.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 the expressions.

Expressions and Equations

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- **8.EE.1** Understand, explain, 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.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 √2 is irrational.
- **8.EE.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 3×10^8; and the population of the world as 7×10^9; and determine that the world population is more than 20 times larger.
- **8.EE.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.

Students should spend the majority of learning on the major work of the grade level; which should account for at least 65% of the academic year (Achieve the core, n.d.)**. Major content should be emphasized via a greater number of days of instruction, depth and mastery.**

Assessment (Evidence)	*Resources Curriculum & Textbook*	*Key Concept tools & practices*
Formative & Summative Assessments ● 4-7 tasks that reach DOK 3-4 ● At least (1) GRASPS per quarter & ● Illuminate weekly **MGraw-Hill Glencoe Assessment Resources (Formative, Pre/Post, and Summative):** ● Quick Checks ● Spiral Reviews ● Chapter Quizzes and Tests & Mid-chapter Review ● Aleks Software- *Tier 1 and 2 students should be accessing Aleks at least 2 hours or 10 topics per week. Tier 3 students should be accessing Aleks at least 3 hours or 15 topics per week.	**McGraw-Hill Glencoe, Course 2 & 3** **Mathematical Practices - 1 week (Aug.12-16)** ● Review ● Assessments **Unit 1 - Ratios and Proportions** **(4 weeks - Aug. 19 to Sept.13)** **(C.2 vol 1) CHAPTER 1: Ratio and Proportional Reasoning** **Inquiry labs and projects** ● Unit Rate ● P.S.I: The 4-step plan ● Proportional/Non-proportional Relationships ● Rate of Change ● 21st Century: Engineering **(C.2 vol 1) CHAPTER 2 Percent** **Inquiry labs and projects** ● Percent ● Percent of Change	**Meaning Making *Resources* embedded within each Lesson:** ● Chapter and Lesson Essential Questions ● Foldables ● Vocabulary ● Bellwork (Spiral Review) ● Real-World Link Problem ● H.O.T. Problems at the end of each lesson ● Desmos ● Gizmos **ConnectED Resources to Reinforce Teaching & Learning:** ● Unit Opening Videos ● Tutor videos ● eToolkit for virtual simulations ● LearnSmart ● Visual Vocab. Cards ● Course Glossary

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		• P.S.I: Reasonable/Unreasonable Answers • Compound Interest • 21st Century: Video Game Design • Unit: Travel Expert **Unit 2 - Number Sense** **(4 weeks - Sept. 16-Oct. 10)** **(C.2 vol 1) CHAPTER 3 Integers** **Inquiry labs and projects** • Integers: Add, Subtract, Multiply, Divide • Absolute Value • P.S.I: Look for a Pattern • Properties • 21st Century: Astronomy **(C.2 vol 1) CHAPTER 4 Rational Numbers** **Inquiry labs and projects** • Rational numbers on a number line • Add/Subtract on a number line • P.S.I: Draw a Diagram • 21st Century: Fashion • Unit: Ocean Depths **(C.3 vol 1) Chapter 1 Real Numbers** **Inquiry Labs & Projects:** • Problem Solving Investigation "The 4 Step Plan" • Scientific Notation Using Technology • Roots of Non-Perfect Squares • 21st Century Careers – Robotics Engineer • Unit: Music to My Ears	• Virtual Manipulatives • Graphic Novels • Novels • RTI ReTeach Lessons by Chapter • Unit Projects • *On Demand Professional Development Videos by topic / chapter

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Topic & Standard **Quarter 2**	**Mathematical Practices** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. **Unit 3: Expressions and Equations** **Essential questions:** **"How can you use numbers and symbols to represent mathematical ideas?"** **"What does it mean to say two quantities are equal?"** **"What is equivalence?"** **"Why are graphs helpful?"** **Number Systems** ● **7.NS.1** Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, p-q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. ● **7. NS.2** Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational

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numbers.

a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1) (-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
b. Understand that integers can be divided , provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (-p)/q = p/(-q). Interpret quotients of rational numbers by describing real-world contexts.
c. Apply properties of operations as strategies to multiply and divide rational numbers.
d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

- **7.NS.3** Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

Expressions and Equations

- **7.EE.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
- **7.EE.2** In a problem context, understand that rewriting an expression in an equivalent form can reveal and explain properties of the quantity represented by the expression and can reveal how those quantities are related.
- **7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
- **7.EE.4** Use variables to represent quantities in a real-world or mathematical problems, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
  a. Solve word problems leading to equations in 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.
  b. Solve word problems leading to inequalities of the form px + q > r or px +q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.
- **8.EE.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.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.EE.7** Solve linear equations in one variable.
  - a. 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).
  - b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
- **8.EE.8** Analyze and solve pairs of simultaneous linear equations graphically.
  - a. Understand that the solution to a pair of linear equations in two variables corresponds to the point(s) of intersection of their graphs, because the point(s) of intersection satisfy both equations simultaneously.

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- b. Use graphs to find or estimate the solution to a pair of two simultaneous linear equations in two variables. Equations should include all three solution types: one solution, no solution, and infinitely many solutions. Solve simple cases by inspection. For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.
- c. Solve real-world and mathematical problems leading to pairs of linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. (Limit solutions to those that can be addressed by graphing.)

Unit 4: FUNCTIONS

Essential Question:

"How can we model relationships between quantities?"

Functions

- **8.F.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.2** Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.
- **8.F.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. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.
- **8.F.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.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.

Students should spend the majority of learning on the major work of the grade level; which should account for at least 65% of the academic year (Achieve the core, n.d.)**. Major content should be emphasized via a greater number of days of instruction, depth and mastery.**

Assessment (Evidence)	*Resources (Curriculum /Textbook)*	*Concept Tools & Practices*

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		• Roots of Non-Perfect Squares • 21st Century Careers – Robotics Engineer • Unit: Web design 101 ***Only teach systems of equations through graphing** **Unit 4 Functions** **3 weeks (Dec. 2 - Dec. 20)** **(C.3 vol 1) CHAPTER 4: Functions** **Inquiry Labs & Projects:** • Solve Two-Step Equations • Problem Solving Investigation "Work Backward" • Equations with Variables on Each Side • 21st Century Careers – Skateboard Designer • Unit: Green Thumb ***Function notation is NOT required.**	

Topics & Standards **Quarter 3**	**Mathematical Practices** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. **Unit 5: Statistics and Probability** **Essential Questions:** **"How can you predict the outcome of future events?"** **" How do you know which type of graph to do when displaying data?"** **" How are patterns used when comparing two quantities?"**

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	Statistics and Probability ● **7.SP. 1** Understand that statistics can be used to gain information about a population by examining a sample of the population. **a.** Differentiate between a sample and a population. **b**. Understand that conclusions and generalizations about a population are valid only if the sample is representative of that population. Develop an informal understanding of bias ● **7.SP.2** Broaden statistical reasoning by using the GAISE model. **a**. Formulate Questions: Recognize and formulate a statistical question as one that anticipates variability and can be answered with quantitative data. For example, "How do the heights of seventh graders compare to the heights of eighth graders?" (**GAISE Model, step 1)** **b**. Collect Data: Design and use a plan to collect appropriate data to answer a statistical question. (**GAISE Model, step 2**) **c.** Analyze Data: Select appropriate graphical methods and numerical measures to analyze data by displaying variability within a group, comparing individual to individual, and comparing individual to group. (**GAISE Model, step 3**) **d**. Interpret Results: Draw logical conclusions and make generalizations from the data based on the original. ● **7.SP.3** Describe and analyze distributions. a. Summarize quantitative data sets in relation to their context by using mean absolute deviation (MAD), interpreting mean as a balance point. b. Informally assess the degree of visual overlap of two numerical data distributions with roughly equal 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 (line plot), the separation between the two ● **7.SP.4** Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. ● **7.SP.5** Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around ½ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. ● **7.SP.6** Approximate the probability of a chance event by collecting data on the chance process that products it and observing its long-run relative frequency, and predict the approximate relative frequency give the probability. ● **7.SP.7** Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if agreement is not good, explain possible sources of the discrepancy. **a**. Develop a uniform probability model and use it to find probabilities of events. Compare probabilities form a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. **b**. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. ● **7. SP. 8** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. **a.** Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. **b**. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event describes in everyday language (e.g., rolling double sizes), identify the outcomes in the sample space which compose the event. **c.** Design and use a simulation to generate frequencies for the compound events.

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	***Gaise model:** **<u>Step 1</u>: Formulate the Question • Students should pose their own statistical question of interest (Level C). • Students are starting to form questions that allow for generalizations of a population (Level B-C).** **<u>Step 2</u>: Collect Data • Students should begin to use random selection or random assignment (Level B).** **<u>Step 3:</u> Analyze Data • Students measure variability within a single group using MAD, IQR, and/or standard deviation (Level A). • Students compare measures of center and spread between groups using displays and values (Level B). • Students describe potential sources of error (Level B). • Students understand and use particular properties of distributions as tools of analysis moving toward using global characteristics of distributions (Level B-C).** • **8.SP.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, negative, or no associations and linear association and nonlinear association. **(*GAISE 3 & 4)** • **8.SP.2** Understand 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. **(*GAISE 3 & 4)** • **8.SP.3** Use the equation of a linear model to solve problems in the contest of bivariate measurement data, interpreting the slope and intercept. **(*GAISE 3 & 4)** • **8.SP.4** Understand that patterns of association can also be seen in bivariate categorical data by displaying 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 subject. ***Gaise model:** **<u>Step 3</u>: Analyze Data • Students measure variability within a single group using MAD, IQR, and/or standard deviation (Level A). • Students compare measures of center and spread between groups using displays and values (Level B). • Students describe potential sources of error (Level B). • Students understand and use particular properties of distributions as tools of analysis moving toward using global characteristics of distributions (Level B-C).** **<u>Step 4</u>: Interpret Results • Students acknowledge that looking beyond the data is feasible by interpreting differences in shape, center, and spread (Level B). • Students determine if a sample is representative of a population and start to move towards generalization (Level B-C). • Students note the difference between two groups with different conditions (Level B).** **<u>Unit 6: Geometry</u>** **Essential Questions:** **"How does Geometry help us describe real-world objects?"** **"How do measurements help you describe real-world objects?"** **"How can Algebraic Concepts be applied to Geometry?"** **" How can we best show or describe the change in position of a figure?"** **"How can you determine congruence and similarity?"** **"Why are formulas so important in Math and Science?"** **Geometry**

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	• **7.G.1** Solve problems involving similar figures with right triangles, other triangles, and special quadrilaterals. **a.** Compute actual lengths and areas from a scale drawing and reproduce a scale drawing at a different scale. **b.** Represent proportional relationships within and between similar figures. • **7.G.2** Draw (freehand, with a ruler and protractor, and with technology) geometric figures with given conditions. **a**. 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. **b.** Focus on constructing quadrilaterals with given conditions noticing types and properties of resulting quadrilaterals and whether it is possible to construct different quadrilaterals using the same conditions. • **7.G.3** Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. • **7.G.4** Work with circles a. Explore and understand the relationships among the circumference, diameter, area, and radius of a circle. b. Know and use the formulas for the area and circumference of a circle and use them to solve real-world and mathematical problems. • **7.G.5** Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. • **7.G.6** Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. • **8.G.1** Verify experimentally the properties of rotations, reflections, and translations (include examples of both with and without coordinates.) a. Lines are taken to lines, and line segments are taken to line segments of the same length. b. Angles are taken to angles of the same measure. • **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. Include examples both with and without coordinates. • **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. Include examples both with and without coordinates. • **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. • **8.G.6** Analyze and justify an informal proof of the Pythagorean Theorem and its converse. • **8.G.7** Apply the Pythagorean Theorem to find unknown side lengths in right triangles in 2D and 3D. • **8.G.8** Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. • **8.G.9** Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres.

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Assessment (Evidence)	*Resources (Curriculum /Textbook)*	*Concept Tools & Practices*

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	Formative & Summative Assessments ● 4-7 tasks that reach DOK 3-4 ● At least (1) GRASPS per quarter & ● Illuminate weekly **MGraw-Hill Glencoe Assessment Resources (Formative, Pre/Post, and Summative):** ● Quick Checks ● Spiral Reviews ● Chapter Quizzes and Tests & Mid-chapter Review ● Aleks Software- *Tier 1 and 2 students should be accessing Aleks at least 2 hours or 10 topics per week. Tier 3 students should be accessing Aleks at least 3 hours or 15 topics per week.	**McGraw-Hill Glencoe Course 2 & 3** **Unit 5 Statistics and Probability** **3 weeks (Jan. 6 - Jan.24)** **(C.3 vol 2) CHAPTER 9: Scatter Plots and Data Analysis** **Inquiry Lab & Projects** ● Scatter plots ● Lines of Best Fit ● Graphing Technology (Linear/Non-linear Assoc) ● Problem Solving Investigation: Use a Graph ● 21st Century: Sports Marketing ● Unit Project: Olympic Games **(C.2 vol 2) CHAPTER 9 Probability** **Inquiry lab and projects** ● Relative Frequency ● Fair/Unfair games ● Simulate Compound Events ● P.S.I: Act it Out ● Independent/Dependent Events **(C.2 vol 2) CHAPTER 10 Statistics** **Inquiry lab and Projects** ● Multiple Samples ● Collect Data ● P.S.I: Use a Graph ● Data Distribution ● 21st Century: Market Research ● Unit: Math Genes **Unit 6: Geometry** **7 weeks (Jan. 27 - March 12)**	**Meaning Making *Resources* embedded within each Lesson:** ● Chapter and Lesson Essential Questions ● Foldables ● Vocabulary ● Bellwork (spiral review) ● Real-World Link Problem ● H.O.T. Problems at the end of each lesson ● Desmos ● Gizmos **ConnectED Resources to Reinforce Teaching & Learning:** ● Unit Opening Videos ● Tutor videos ● eToolkit for virtual simulations ● LearnSmart ● Visual Vocab. Cards ● Course Glossary ● Virtual Manipulatives ● Graphic Novels ● Novels ● RTI ReTeach Lessons by Chapter ● Unit Projects ● *On Demand Professional Development Videos by topic / chapter

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		This unit may be continued into Qtr. 4 **(C.2 vol 2) CHAPTER 7 Geometric Figures** **Inquiry lab and projects** ● Create and Draw Triangles ● Investigate online maps and scale drawings ● P.S.I: Make a Model ● 21st Century: Design Engineering **(C.2 vol 2) CHAPTER 8 Measure Figures** **Inquiry lab and projects** ● Circumference ● Area of Circles ● P.S.I: Solve simpler problems ● Volume of Pyramids ● Nets of 3-D objects ● Surface Area and Volume ● Composite Figures ● 21st Century: Landscape Architecture ● Unit: Turn Over New Leaf **(C.3 vol 2) CHAPTER 5: Triangles and Pythagorean Theorem** **Inquiry Labs & Projects** ● Parallel Lines ● Triangles ● Problem Solving Investigation: Look for a pattern ● Right Triangle Relationships ● Proof about Pythagorean Theorem ● 21st Century: In Travel and Tourism **(C.3 vol 2)CHAPTER 6: Transformations** **Inquiry Labs & Projects** ● Transformations ● Rotational Symmetry ● Problem Solving Investigation: Act it out	

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		● Dilations ● 21st Century: Computer Animation **(C.3 vol 2) CHAPTER 7: Congruence and Similarity** **Inquiry Labs & Projects** ● Composition of Transformations ● Congruent Triangles ● Geometry Software ● Problem Solving Investigation: Draw a Diagram ● Similar Triangles ● 21st Century: Car Design **(C.3 vol 2) CHAPTER 8: Volume and Surface Area** **Inquiry Labs & Projects** ● 3D figures ● Problem Solving Investigation: Solve a Simpler Problem ● Surface Area of Cylinders ● Nets of Cones ● Changes in Scale ● 21st Century: Architecture ● Unit Project: Design that Ride	

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Topics & Standards **Quarter 4**	**Mathematical Practices** 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.		
	Students should spend the majority of learning on the major work of the grade level; which should account for at least 65% of the academic year (Achieve the core, n.d.)**. Major content should be emphasized via a greater number of days of instruction, depth and mastery.**		
	Assessment (Evidence)	***Resources (Curriculum /Textbook)***	***Concept Tools & Practices***
	Formative & Summative Assessments ● 4-7 tasks that reach DOK 3-4 ● At least (1) GRASPS per quarter & ● Illuminate weekly **MGraw-Hill Glencoe Assessment Resources (Formative, Pre/Post, and Summative):** ● Quick Checks ● Spiral Reviews	**McGraw-Hill Glencoe Course 2& 3** Continue Unit 6 Geometry March 30 - April 3 Testing (April 6 - May 8) **During/After testing:** **Test Review**	**Meaning Making *Resources* embedded within each Lesson:** ● Chapter and Lesson Essential Questions ● Foldables ● Vocabulary ● Bellwork (spiral review) ● Real-World Link Problem

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	● Chapter Quizzes and Tests & Mid-chapter Review ● Aleks Software- *Tier 1 and 2 students should be accessing Aleks at least 2 hours or 10 topics per week. Tier 3 students should be accessing Aleks at least 3 hours or 15 topics per week.	**Mini-projects**:	● H.O.T. Problems at the end of each lesson ● Desmos ● Gizmos **ConnectED Resources to Reinforce Teaching & Learning:** ● Unit Opening Videos ● Tutor videos ● eToolkit for virtual simulations ● LearnSmart ● Visual Vocab. Cards ● Course Glossary ● Virtual Manipulatives ● Graphic Novels ● Novels ● RTI ReTeach Lessons by Chapter ● Unit Projects ● *On Demand Professional Development Videos by topic / chapter