Chagrin Falls Schools
Curriculum Map
Grade Level/Subject:Advanced Applications

Date Range	Unit	ODE Standards R/E-Review and extend (purple) I- Introduce (Green) D-Develop (Blue) M-Master (Yellow, red if last time)	Key Vocabulary	Assessment including formative, summative, common, progress monitoring	Resources	Learning Objectives (What will the student be able to do?)
late August - middle Sept	**Unit 1- Introduction and Probability** **CC2** **Chapter 1** **Sections** **1.1.2** **1.1.4** **CC3** **Sections** **1.1.2** **1.1.4, 1.2.1, 1.2.2, 1.2.3, 1.2.7, 1.2.8**	**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 1/2 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 produces it and observing its long run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. **7.SP.7a** Develop a probability model G and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. **a.** Develop a uniform probability model[G] by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected* **b** Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies? **7.SP.8a** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulations. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space[G] for which the compound event occurs.	Outcome Event Sample Space Probability Experimental Probability Theoretical Probability Measures of Central Tendency Mean Median Mode Range	chapter 1 homework quiz team poster presentation from lesson Optional as time permits participation quiz during lesson Optional as time permits chapter 1 Team Test Chapter 1 Individual Test	Desmos Graphing Calculator Chapter 1 Guide-examples and sample problems with answers Chapter 1 Guide-examples and sample problems with answers CC2 Chapter 1 Color Rama etool	The student will be able to give the difference between experimental probability and theoretical probability. Students will be able to write the sample space of a basic probability problem. Students will be able to find compound probability.

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mid Sept-mid Oct.	**Unit 2** **CC2 Chapter 2 Sections 2.1.1, 2.1.2, 2.2.1, 2.2.2, 2.2.3, 2.2.4** **CC2 Chapter 3 Sections 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5 3.3.1, 3.3.2, 3.3.3**	**7.NS.2** Apply and extend previous understandings of multiplication and division and of fractions 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.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. d. Apply properties of operations as strategies to add and subtract rational numbers. **7.NS.1** Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. **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. **7.NS.2** Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (−1)(−1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.	Absolute Value Additive Inverse Additive Identity Distributive Property equivalent fraction greater than one four quadrant graph integers intervals mixed number rational number repeating decimal terminating decimal scaling algebraic expression associative property commutative property evaluate multiplicative inverse numerical term Order of operation quotient reciprocals simplify substitution terms	Chapter 2 & 3 team test Chapter 2 & 3 individual test Edulastic 2 & 3 test Weekly check in	Chapter 2 Guide-Examples & Sample Problems with Answers Chapter 3 Guide-Examples & Sample Problems with Answers Acrobat Number Line +/- tiles and number lines Tug O War	The student will be able to rewrite numbers in different forms in order to compare them. The student will be able to determine whether a fraction can be rewritten as a repeating or terminating decimal. The student will be able to add and multiply positive and negative integers and rational numbers. The student will be able to choose appropriate scales and set up useful graphs for data. The student will be able to simplify expressions with multiple operations by identifying and evaluating groups. The student will be able to subtract and multiply positive and negative numbers.

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		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. 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 multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (−1)(−1) = 1 and the rules 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.				The student will be able to build (compose) and take apart (decompose) numbers and lengths. The student will be able to divide with fractions, mixed numbers, and decimals.
Mid Oct-start of Nov.	**Unit 3** **Chapter 4 & 5** **CC2**	**7.G.1** Solve problems involving similar figures with right triangles, other triangles, and special quadrilaterals. **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,	Chapter 4 algebraic expression Associative Property combining like terms Commutative Property constant term	Team Test Individual test	Chapter 4 Guide-Examples & Sample	The student will be able to solve real world problems involving scale factor.

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	Sections 4.1.1, 4.1.2, 4.2.1, 4.2.2, 4.2.3, 4.2.4 **5.1.1, 5.1.2, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6**	if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2) /(1/4) miles per hour, equivalently 2 miles per hour. **7.RP.2** Recognize and represent proportional relationships between quantities. **a.** Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. **b.** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. **c.** Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t= pn. **d.** Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. **7.EE.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. **7.RP.3** Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. **7.SP.7a** Develop a probability model[G] and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. **a.** Develop a uniform probability model[G] by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected* **b** Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will	constant of proportionality corresponding parts Distributive Property equivalent expressions evaluate proportional relationship scale drawing scale factor similar figures simplify terms unit rate variable Chapter 5 consecutive integers complement compound events desired outcomes dependent events equivalent ratios experimental probability independent events mutually exclusive outcome partition percent possible outcomes probability probability table probability tree proportional relationship ratio sample space scalene triangles simplify simulation	Exit slips Informal observations	Problems with Answers Chapter 5 Guide-Examples & Sample Problems with Answers Algebra Tiles Algebra Tiles Introduction Video Random Number Spinner	The student will be able to identify proportional relationships. The student will be able to find and use a unit rate in real world problems. The student will be able to use and solve problems using percents. The student will be able to find probability of a given situation using a variety of methods, (lists, tables, ect.)

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		land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies? **7.SP.6** Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. **7.SP.8** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulations. a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language, e.g., "rolling double sixes," identify the outcomes in the sample space which compose the event.	single event systematic list theoretical probability variable			
2nd week of Nov. to Dec. prior to break	**Unit 4 CC3** **Chapter 2 CC2** **Chapter 6** **Chapter 2 Sections 2.1.1 to 2.1.7**	**7.RP.1** Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2) /(1/4) miles per hour, equivalently 2 miles per hour. **7.RP.2** Recognize and represent proportional relationships between quantities. **a.** Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. **b.** Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. **c.** Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t= pn.	**Chapter 2:** Additive Inverse Associative Property Combining like terms Commutative Property Equation Mat Expression comparison mat	Team Test Individual test Exit slips Informal observations	Chapter 2 Guide-Examples & Sample Problems with Answers Algebra Tiles Chapter 6 Guide-Examples & Sample Problems with Answers	The student will be able to represent an algebraic expression with algebra tile or write an expression given a representation of algebra tiles. The student will be able to solve problems involving probability. The students will be able to identify a proportional relationship and solve

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	Chapter 6 CC2 6.1.3 and 6.1.4 **Chapter 2 Sections 2.1.8, 2.1.9**	**d.** Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. **7.RP.3** Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. **7.EE.2** In a problem context, understand that rewriting an expression in an equivalent form can reveal and explain properties of the quantities represented by the expression and can reveal how those quantities are related. For example, a discount of 15% (represented by p−0.15p) is equivalent to (1−0.15)p, which is equivalent to 0.85por finding 85% of the original price. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. **7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form;convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example, if a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 ¾ inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. **7.EE.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a.Solve word problems leading to equations of the form px+q=r and p(x+q) =r, where p, q, and 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	Multiplicative identity Multiplicative inverse Order of operations **Chapter 6:** Linear equation Scale factor System of equations		Expression Video	problems using proportional relationships. The students will be able to write an algebraic expression from a real world problem and then use the expression to solve the problem.

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		approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? **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 1/2 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 produces it and observing its long run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. **7.SP.7a** Develop a probability model[G] and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. a. Develop a uniform probability model[G] by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected* b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies? **7.SP.8** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulations. 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.				

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		b. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language, e.g., "rolling double sixes," identify the outcomes in the sample space which compose the event. c.Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?				
January	**Unit 5 CC3 Chapter 3, 4, and 5 Chapter 3 Sections 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5 review/introduce circles Area, Circumference. Chapter 4 Sections 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7 Chapter 5**	**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 quantities represented by the expression and can reveal how those quantities are related. For example, a discount of 15% (represented by p−0.15p) is equivalent to (1−0.15)p, which is equivalent to 0.85por finding 85% of the original price. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. **7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form;convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example, if a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 ¾ inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. **7.EE.4** Use variables to represent quantities in a real	term combining like terms variable order of operation independent variable dependent variable vertex x-intercept y-intercept evaluate distributive	Team Test Individual test Exit slips Informal observations	Chapter 3 Guide-Examples & Sample Problems with Answers Chapter 4 Guide-Examples & Sample Problems with Answers Chapter 5 Guide-Examples & Sample Problems with Answers Chapter 5	The student will be able to use and apply properties to solve linear expressions. The student will be able to use the formula for area and circumference of a circle to solve problems involving circles. The student will be able to solve problems involving percents using a variety of strategies. The student will be able to solve problems involving positive and negative numbers in any form. (fractions, and decimals)

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	sections 5.1.1, 5.1.2	-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px+q=r and p(x+q) =r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? **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.	property growth triangle xy table rule		Systems of Equations Equal Values Video	The student will be able to use variables to make and solve real world problems.
February 9 days	**Unit 6 CC2 Chapter 7 Sections 7.1.1 to 7.1.8 7.2.1, 7.2.2**	**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 quantities represented by the expression and can reveal how those quantities are related. For example, a discount of 15% (represented by p−0.15p) is equivalent to (1−0.15)p, which is equivalent to 0.85por finding 85% of the original price. Solve real-life and mathematical problems using numerical and algebraic expressions and equations. **7.EE.3** Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form;convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example, if a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 ¾ inches long in the center of a door that is 27 1/2 inches wide, you will need to	coefficient Constant of proportionality proportional relationship rate scale interest percent change	Team Test Individual test Exit slips Informal observations	Chapter 7 Guide-Examples & Sample Problems with Answers	The student will be able to solve multi-step algebraic equations using all properties. The student will be able to solve proportion, percent and scale problems using algebra.

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		place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. **7.EE.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form px+q=r and p(x+q) =r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? **7.NS.2** Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a.Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (−1)(−1) = 1 and the rules 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.				

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		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.				
Mid Feb. Beginning of March 10 days	**Unit 7** **CC2 Chapter 8 8.1.1, 8.1.2, 8.2.1, 8.2.2, 8.3.1, 8.3.2, 8.3.3, 8.3.4**	**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 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.	acute angle adjacent angle complementary angles measure protractor obtuse angle straight angle ray vertex supplementary angles right angle vertical angles	Team Test Individual test Exit slips Informal observations	Chapter 8 Guide-Examples & Sample Problems with Answers Classifying Angles Triangle Creation eTool	The student will be able to identify by angle measure, specific angle situations (acute, complementary, supplementary, obtuse, right). The student will be able measure angles using appropriate tools. The student will apply knowledge of scale to generate drawings. The student will solve problems within similar figures.
Mid March end of March 10 days	**Unit 8** **CC2 Chapter 9 Sections 9.1.1, 9.1.2, 9.1.3, 9.2.1, 9.2.2, 9.2.3, 9.2.4**	**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.	area surface area edge vertex circumference cross section diameter radius PI polyhedron	Team Test Individual test Exit slips Informal observations	Chapter 9 Guide-Examples & Sample Problems with Answers Area of a circle eTool	The student will be able to find the area and circumference of a circle using radius and diameter. The student will be able to find an unknown angle in a figure using knowledge of supplementary,

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		7.G.6 Solve real-world and mathematical problems involving area,volume, and surface area of two-and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	polygon face lateral face pyramid right rectangular prism volume			complementary, vertical, adn adjacent angles.
Start April 14 days	**Unit 9** **CC3 Chapter 6 and 7 sections 6.1.1, 6.1.2, 6.1.3, 6.2.1. 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.2.6** **Sections 7.2.1, 7.2.2, 7.2.4, 7.2.5**	**8.G.1** Verify experimentally the properties of rotations, reflections, and translations (include examples 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.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.EE.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.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	**Chapter 6:** congruent dilation point of intersection rigid transformations similar figures y-intercept conjecture enlarge reduce rotation system of equations corresponding parts linear equation reflection scale factor translation **Chapter 7:** association circle graph form line of best fit negative association positive slope slope y=mx+b categorical variable cluster	Team Test Individual test Exit slips Informal observations	Chapter 6 Guide-Examples & Sample Problems with Answers Chapter 7 Guide-Examples & Sample Problems with Answers Adventures of Slope Dude Key and Lock Puzzle Intro 1 Intro 2 Intro 3 Intro 4 Wall 1 Wall 2 Wall 3 Wall 4 Star 1	The student will be able to perform rotations, reflections, and translations. The student will be able to determine angle measures in situations involving parallel lines and transversals. The student will be able to graph proportional relations using y=mx+b format. The student will be able to determine the slope of a proportional relationship when given a formula, a graph, or a table. The student will be able to compare proportional relationships represented in different ways.

Chagrin Falls Schools
Curriculum Map
Grade Level/Subject:Advanced Applications

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			frequency table linear equation negative slope outlier strength (of an association) y-intercept central angle constant of proportionality lattice points linear (non-linear) form positive association simple interest unit rate		Star 2 Star 3 Star 4 Challenge 1 Challenge 2 Desmos activities	
Start May	**Unit 10** **CC3 Ch 8 and 9** **8.2.1&2, 8.2.3, 8.2.4, 9.1.1, 9.1.2, 9.1.3, 9.1.4, 9.2.3, 9.2.4**	**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.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 notation 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. **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,*	**CC3 Ch 8:** exponent exponential function factor scientific notation **CC3 Ch 9:** AA ~ (Triangle Similarity) acute angle adjacent angles alternate interior angles complementary angles corresponding angles exterior angle (of a triangle) hypotenuse legs (of a right triangle) obtuse angle parallel perfect square	Team Test Individual test Exit slips Informal observations	Chapter 8 Guide-Examples & Sample Problems with Answers Chapter 9 Guide-Examples & Sample Problems with Answers	The student will be able to write exponents in various ways showing equivalency. The student will be able to write very large and very small numbers using scientific notation. The student will be able to perform operations with numbers in scientific notation. The student will be able to determine the sum of the angles of a triangle.

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		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. **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 expressions, e.g., π^2. *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.*	perpendicular Pythagorean Theorem radical sign remote interior angles right angle square (a number) square root supplementary angles straight angle transversal vertex vertical angles			The student will be able to use rational numbers to approximate and compare the sizes of irrational numbers.