Adams 14 Projected Curriculum Map

Course: Mathematics Grade Level: 8th School Year: 2020-2021

Dates (months & days) These dates are estimates only and include a cushion at the end of the year	Content What topics will be taught and learned? What is the essential vocabulary for the unit? What do students need to know? **Topic & Vocabulary**	Essential Questions What are the fundamental, enduring questions that will guide study and instruction?	Skills What do students have to be able to do related to the content? (These can be written as student-friendly targets—"I can," statements	Standards What standards will be met through this topic?	Instructional Strategies and Activities used to develop the skills and knowledge (Can be for either teacher or student)	Resources What materials, texts, videos, internet, software, or human resources support instruction?	Assessment What evidence (products and/or performances will be collected to establish that the content and skills have been learned and understood? **NOTE:** **MATH 1-12 BOY/MOY/EOY= CFA** **ELA 6-12 Benchmark Form 1,2,3=CFA**
RESOURCES: Differentiation ELD/SPED/ GT/504/Other Get started with ELD	Which unit **vocabulary** is key to understanding the unit? Has the most transfer to other subjects? Marzano's Grade Level Vocabulary by Content Vocabulary for students with disabilities	What **funds of knowledge** do my students bring to the table? How can students tap into those as resources in ways that affirm identity? Engaging Background Knowledge Activating prior knowledge in students with disabilities	What is the dominant **language function**? (Explain/Describe, Opinion, Sequence, Cause/Effect, Compare/Contrast) What **language forms support the function?** What **language forms** do my students need to utilize these skills? Word/Phrase, Sentence, Discourse level) Examples How are the ideas organized? What elements create cohesion? Which functional words/phrases will students be expected to know and use (Mortar)? What are the key words and phrases (Bricks)? Create **sentence frames** using identified functional words/phrases		Which strategies will I use to help students understand and utilize language? **Strategies:** ColorinColorado Best Practices | CAL/EXCELL Go to Strategies | Structured Talk Resources | Teaching Vocabulary | Marzano's 6 Steps	Are the resources I have chosen within the Zone of Proximal Development for Multilingual Learners? Use supports/scaffolds and differentiated reading to support comprehensible input WIDA List of Supports Scaffolding Reading	Use WIDA Can Do Key Uses to inform **linguistic expectations** at each level and guide **differentiation**. Accommodation for students with disabilities Instructional VS Assessment accommodations
GT & Talent Pool Gifted Ed. Website	Depth and Complexity Talk Cards are differentiated sentence stems. Reach out to the GT Department for cards.	See question lists on page 12 of the Intellectual Standards	Social Justice Standards; Identity, Diversity, Justice and Action (Teaching Tolerance, 2020) Intellectual Standards: clarity, precision, accuracy, relevance, depth, breadth, logicalness, significance, and fairness. (Elder & Paul 2008)		Attend the days offered through the Professional Learning Community Differentiation Series that will assist in your professional learning.	Make Thinking Visible with Thinking Routines Achieve breadth and depth through Depth and Complexity.	Use the pretest to compact and differentiate for GT & Talent Pool.

Unit 1 TRANSFORMATIONS **AUGUST** **(16 days)**	**Topics:** **Transformations** 1. Verify experimentally the properties of rotations, reflections, and translations: (CCSS: 8.G.A.1) a. Lines are taken to lines, and line segments to line segments of the same length. (CCSS: 8.G.A.1.a) b. Angles are taken to angles of the same measure. (CCSS: 8.G.A.1.b) c. Parallel lines are taken to parallel lines. (CCSS: 8.G.A.1.c) 2. Demonstrate 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. (CCSS: 8.G.A.2) 3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. (CCSS: 8.G.A.3) 4. Demonstrate that a two-dimensional figure is similar to another if the second can be obtained from the first by	**Essential Questions:** How can I determine the relationship between angles, sides, and coordinates of shapes when I rotate, reflect, and translate polygons on a coordinate plane?	**Skills:** **Rotate, reflect, translate and dilate a figure on a coordinate plane** **Describe the effects to a figure's sides, angles, and coordinates given a transformation**	**Standards:** **8.G.A. Geometry:** **Understand congruence and similarity using physical models, transparencies, or geometry software.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Modules 1 and 2**	**Assessment:** **PRSI Math (1-12)** Aug 12-18 **RS ELA (6-12)** Aug 12-18 **Acadience (K-5)** BOY: Aug 17- Aug 28 **IDEL (K-3)** BOY: Aug 17- Aug 28 **STAR Reading (1-11)** BOY: Aug 17- Aug 28 **STAR Math (3-11)** BOY: Aug 17- Aug 28 **TS Gold (PS, PK, K)** Aug 8 - Oct 9

	a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. (CCSS: 8.G.A.4)						
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** **center of rotation, center of dilation, congruent, dilation, image, mapping notation, preimage, prime notation, reflection, rotation, scale factor, similar, transformation, translation, enlarge, reduce**	**Activities to engage background knowledge**: HMH Spark Identify Transformations in Indigenous People's weavings, beadwork, pottery	**Identified Language Forms & Functions:** compare/ contrast sequence cause/effect Mortars: Create, identify, determine, verify, demonstrate, describe	**Sentence Frames:** **When I translate/rotate/reflect/dilate a figure, its sides/anges/coordinates _____.** **Compared to the original figure, the image is _____.**	**Language and/or Student Interaction Strategy:** **Construct own piece using transformations** **Tetris-** **Sentence frames for speaking and writing**	**Supports/Scaffolds:** Manipulatives Small group problem solving Mira Patty Paper Graphic organizer Visual Word Wall	**Differentiation/Accommodations**: Extend-
Unit 2 Linear Equations **SEPTEMBER (15 days)**	**Topics:** **Solve linear equations in one variable. (CCSS: 8.EE.C.7)** **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**	**Essential Questions:** How can I use algebraic reasoning and rules to solve problems? How can inverse operations allow me to determine unknown values?	**Skills:** **Solve multi-step equations**	**Standards:** **8.EE.C. Expressions & Equations: Analyze and solve linear equations and pairs of simultaneous linear equations.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Modules 3**	**Assessment:** **District Common Formative Assessments (4-8)** 1st: Sep 28-Oct 7 **TS Gold (PS, PK, K)** Aug 8 - Oct 9 **SAT School Day Administration (12)** Sept 23

	equation of the form $xx=aa$, $aa=aa$, or $aa=bb$ results (where aa and bb are different numbers). (CCSS: 8.EE.C.7.a) **b. Solve linear equations with rational number coefficients, including equations with variables on both sides and whose solutions require expanding expressions using the distributive property and collecting like terms. (CCSS: 8.EE.C.7.b)**						
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** Inverse operations, variable, coefficient, constant, equation, like terms, distributive property	**Activities to engage background knowledge**: HMH Spark	**Identified Language Forms & Functions:** Sequence Explain/Describe	**Sentence Frames:** **To solve for _____, first I _____. Then I _____. Finally I _____.**	**Language and/or Student Interaction Strategy:** 1 Step Pass Sentence frames for writing and speaking Rally coach	**Supports/Scaffolds:** Integer rules Calculator Inverse Operation chart PEMDAS organizer	**Differentiation/Accommodations**: Non- integer coefficients/constants Order of operations challenge problems Infinite/No solution problems
Unit 3 Slope and Linear Representations **OCTOBER/ NOVEMBER (33 days)**	**Topics:** **1. Define a function as a rule that assigns to each input exactly one output. Show that the graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not**	**Essential Questions:** How can I use slope to compare rates of change and y-intercepts to compare initial values in various representations? How do linear	**Skills:** **Identify the slope and y-intercept in linear representations** **Given a slope and y-intercept, create any representation** **Compare slope and y-intercept in different representations**	**Standards:** **8.F.A. Functions: Define, evaluate, and compare functions.** **8.F.B. Functions: Use functions to model relationships between quantities.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction	**Resources:** **HMH Modules 5 and 6**	**Assessment:** **District Common Formative Assessments (4-8)** 1st: Sep 28-Oct 7 **PSAT/NMSQT(9-11)** Oct 14 **ACT Workkeys (11&12)** Oct 30 **TS Gold (PS, PK, K)** Aug 8 - Oct 9

	required for Grade 8.) (CCSS: 8.F.A.1) **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. (CCSS: 8.F.A.2)** **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 $AA=ss2$ 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. (CCSS: 8.F.A.3)** **4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of**	functions allow me to set up and solve problems involving unit rates?	**Classify representations as a function or not a function** **Classify representations as linear or nonlinear.**		Exit Tickets/ Checks for Understanding		

	the function from a description of a relationship or from two (xx,yy) 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. (CCSS: 8.F.B.4) **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. (CCSS: 8.F.B.5)**						
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** Slope, y-intercept, rate of change, initial value, table, graph, slope-intercept equation, function/not a function, linear/nonlinear	**Activities to engage background knowledge**: Describe where the slope of a real world object is important and how its steepness	**Identified Language Forms & Functions:** Explain/Describe Sequence Compare/Contrast	**Sentence Frames:** **When the _____ of the graph moves _____, that means that _____.** **To find/ create a _____ from a _____, first I _____. Then I _____,**	**Language and/or Student Interaction Strategy:** **Wages In America-** **Sentence Frames for writing and speaking** **Class created word banks for word problems**	**Supports/Scaffolds:** Visual representations of slope (roofs, roller coasters, ramps, mountains) Drawing staircases (different rise/runs) on graph paper Function Machine visual	**Differentiation/Accommodations**: Extend- Graphing in standard form, x and y intercepts Comparing representations in different forms Create word problems given a randomly assigned value.

		relates to its purpose.		**The slope/y-int in the _____ compares to the slope/y-int in the _____ by _____.**		Visual vocabulary word wall Graphic Organizer of m and b in all 4 representations Vocabulary bank of key signal words (per, every, fee, etc)	
Unit 4 Systems of Equations **DECEMBER** **(13.5 days)**	**Topics:** **8. Analyze and solve pairs of simultaneous linear equations. (CCSS: 8.EE.C.8)** **a. Explain 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. (CCSS: 8.EE.C.8.a)** **b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, 3xx+2yy=5 and 3xx+2yy=6 have no solution because 3xx+2yy cannot simultaneously be 5 and 6. (CCSS: 8.EE.C.8.b)**	**Essential Questions:** How can I use a system of linear equations to determine when various problems share the same solution?	**Skills:** **Identify if a graph of a system has one, zero, or infinite solutions** **Graph 2 linear equations and determine the solution** **Solve a system of equations using the substitution method** **Solve a system of equations using the elimination method** **Verify if a given solution is the correct solution to a system of equations**	**Standards:** **8.EE.C. Expressions & Equations: Analyze and solve linear equations and pairs of simultaneous linear equations.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Module 7**	**Assessment:** **Acadience (K-5)** MOY: Nov 30- Dec 11 **IDEL (K-3)** MOY: Nov 30- Dec 11 **NNAT3 (2&6)** TBD **STAR Reading** (1-11) MOY: Nov 30- Dec 11 **STAR Math** (3-11) MOY: Nov 30- Dec 11 **TS Gold (PS & PK)** All year

Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** solution, system of linear equation, elimination, substitution, infinite solution, no solution	**Activities to engage background knowledge**: Comparing a product's price between two companies	**Identified Language Forms & Functions:** Explain/Describe Sequence	**Sentence Frames:** **The system has _____ solutions because _____. The solution to the system _____ is _____ because. To solve, first I _____, then I _____.**	**Language and/or Student Interaction Strategy:** Rally Coach Turn and Talk - Elimination/Substitution/Graphing method 1 Step Pass	**Supports/Scaffolds:** Graphing solution Substitution- cut and paste Color coding equations and variables Solutions Graphic organizer	**Differentiation/Accommodations**: Extend- Graphing systems in standard form, substitution rearrange, elimination- multiply by a constant
Unit 5 Scatter Plots and Bivariate **JANUARY** **(15 days)**	**Topics:** **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. (CCSS: 8.SP.A.1)** **2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association,**	**Essential Questions:** How can I make predictions, see patterns and draw conclusions from 2 sets of data?	**Skills:** **Create a scatter plot** **Analyze the relationship, if any, of a scatter plot** **Use a frequency table to draw conclusions from data and investigate possible associations**	**Standards:** **8.SP.A. Statistics & Probability: Investigate patterns of association in bivariate data.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Modules 8 and 9**	**Assessment:** **Acadience (K-5)** MOY: Nov 30- Dec 11 **IDEL (K-3)** MOY: Nov 30- Dec 11 **District Common Formative Assessments (4-8)** 2nd: Dec 7- Dec 17 **STAR Reading** (1-11) MOY: Nov 30- Dec 11 **STAR Math** (3-11) MOY: Nov 30- Dec 11 **TS Gold (PS & PK)** All year

	informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. (CCSS: 8.SP.A.2) **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. (CCSS: 8.SP.A.3)** **4. Explain 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 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? (CCSS: 8.SP.A.4)						
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** association, cluster, scatter plot, outlier, line of best fit, correlation, linear relationship, relative frequency	**Activities to engage background knowledge**: Given 2 variables, predict if they have a relationship. (For example: Height/Weight, letters of names/GPA)	**Identified Language Forms & Functions:** Explain/Describe Cause/ Effect	**Sentence Frames:** **The data shows a _____ correlation because _____ _____ has a _____ correlation because_____ An increase/decrease in _____ correlates to a _____ in _____ because _____.**	**Language and/or Student Interaction Strategy:** **measurement/ball bounce lab** **Sentence frames for writing and speaking to justify interpretation of data**	**Supports/Scaffolds:** electronic support (google sheets) Calculators graph paper	**Differentiation/Accommodations**: research/inquiry project- Does _____ cause _____?
Unit 6 Real Numbers and Pythagorean Theorem **February (17 days)**	**Topics:** **2. Use square root and cube root symbols to represent solutions to equations of the form $xx2=pp$ and $xx3=pp$, where pp is a positive rational number. Evaluate square roots of small perfect squares (up to 100) and cube roots of small perfect cubes (up to 64). Know that √2 is irrational. (CCSS: 8.EE.A.2)** **1. Demonstrate informally that every number has a**	**Essential Questions:** How can I use knowledge of perfect squares to estimate the value of a non-perfect square? How can I determine the distance between two points? How can I determine right	**Skills:** **Estimate a non-perfect square to one decimal place.** **Determine the length of a missing side of a right triangle** **Given the length of the 3 sides of a triangle** **Determine if a triangle is a right triangle.** **Find the distance between two non-vertical or non-horizontal points on a coordinate plane.**	**Standards:** **8.NS.A. The Number System: Know that there are numbers that are not rational, and approximate them by rational numbers.** **8.G.B. Geometry: Understand and apply the Pythagorean Theorem.** **8.EE.A. Expressions & Equations: Work with radicals and integer**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Modules 10 and 11**	**Assessment:** **ACCESS for ELLs (K-12)** Jan 11-Feb 12 **TS Gold (PS & PK)** All year

	decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. Define irrational numbers as numbers that are not rational. (CCSS: 8.NS.A.1) **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., $\pi\pi$2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations. (CCSS: 8.NS.A.2)** **6. Explain a proof of the Pythagorean Theorem and its converse. (CCSS: 8.G.B.6)** **7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems**	angles using the converse of the Pythagorean Theorem?		**exponents.**			

	in two and three dimensions. (CCSS: 8.G.B.7) **8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. (CCSS: 8.G.B.8)**						
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** rational, irrational, pi, Pythagorean's Theorem, hypotenuse, legs, square root, perfect square, non-perfect squares	**Activities to engage background knowledge**: Generate a diagram of the area of squares with positive integer side lengths.	**Identified Language Forms & Functions:** Sequence Explain and Describe Explain/Describe, Opinion, Sequence, Cause/Effect, Compare/Contrast)	**Sentence Frames:** **To estimate _____ first it is between ___ and blank _____ but closer to _____.** **_____ is a right triangle because _____** **The length of _____ is ____ because _____.**	**Language and/or Student Interaction Strategy:** **Drawing the right triangles and applying measurement to prove/confirm calculations** **partner station work to solve real-world problems** 1 Step Pass	**Supports/Scaffolds:** Calculators Square root charts Perfect Square Charts Number Lines	**Differentiation/Accommodations**: Extend- with non-square shapes off of the legs visual proof of Pythagorean's Theorem (water proof)
Unit 7 Scientific Notation and Exponent Rules **MARCH** **(18 days)**	**Topics:** **1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, 32×3−5=3−3=133=127. (CCSS: 8.EE.A.1)** **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**	**Essential Questions:** How can I use scientific notation and exponent rules to perform calculations with very large and very small numbers?	**Skills:** **Generate equivalent expressions using properties of exponents** **Convert numbers between standard and scientific notation** **Perform calculations with numbers in scientific notation**	**Standards:** **8.EE.A. Expressions & Equations: Work with radicals and integer exponents.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Module 11**	**Assessment:** **ACCESS for ELLs (K-12)** Jan 11-Feb 12 **TS Gold (PS & PK)** All year

	States as 3 times 108 and the population of the world as 7 times 109, and determine that the world population is more than 20 times larger. (CCSS: 8.EE.A.3) **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. (CCSS: 8.EE.A.4)**						
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** base number, power, exponent, scientific notation, standard form	**Activities to engage background knowledge**: Explore place value through powers of 10. (Base 10 number system)	**Identified Language Forms & Functions:** Explain/Describe	**Sentence Frames:** _____ is equal to _____ because _____. Based on _____, _____ is more easily written as _____ because _____.	**Language and/or Student Interaction Strategy:** **Investigation method for discovering rules** **Sentence frames for verbal and written communication**	**Supports/Scaffolds:** Place value chart Exponent rules chart/organizer	**Differentiation/Accommodations** Extend- Use multiple exponent rules to simplify expressions: Solar system extension (look for overlaps with Science)

Unit 8 Volume of Solids **APRIL** **(15 days)**	**Topics:** **9. State the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. (CCSS: 8.G.C.9)**	**Essential Questions:** How can I determine how much space is inside cylinders, cones, and spheres?	**Skills:** **Calculate the volume of cylinders, cones, and spheres**	**Standards:** **8.G.C. Geometry: Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction Exit Tickets/ Checks for Understanding	**Resources:** **HMH Modules 12**	**Assessment:** **District Common Formative Assessments (4-8)** 3rd: Mar 1- Mar 10 **TS Gold (PS & PK)** All year
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** volume, cylinder, sphere, cone, cube, square, root, radius, diameter, pi, solid, height	**Activities to engage background knowledge**: Radius/Diameter/ pi Areas of circles Distinguish between cylinders, cones, and spheres	**Identified Language Forms & Functions:** Explain/describe Sequence	**Sentence Frames:** **The volume of _____ is _____ because _____** **To calculate the volume of a _____, first I _____, then I _____.**	**Language and/or Student Interaction Strategy:** volume candy challenge and writing support team-based problem solving	**Supports/Scaffolds:** visual solids, volume formulas visual vocabulary/guided notes Calculator	**Differentiation/Accommodations**: Extend- Given a volume, find the height or radius paper (landscape vs portrait) volume challenge
Unit 9 Angles and Parallel Lines **MAY** **(21.5 days)**	**Topics:** **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**	**Essential Questions:** How can I determine the relationship between angles created by parallel lines and a transversal?	**Skills:** **Identify the measure of missing angles created by a transversal and parallel lines.** **Justify why an angle is a given measure using precise vocabulary.** **Calculate the measure of a missing angle of a triangle**	**Standards:** **8.G.A. Geometry: Understand congruence and similarity using physical models, transparencies, or geometry software.**	**Instructional Strategies and Activities:** Embedded Intervention Turn and Talks Reflection and justification through writing Direct Instruction/Investigation Group/ Partner/ Independent Practice Content and Academic vocabulary instruction	**Resources:** **HMH Module 4**	**Assessment:** **Acadience (K-5)** EOY: April 27- May 8 **CMAS (3-8)** Apr 12- Apr 30 **CoAlt (3-12)** Apr 12- Apr 30 **PSAT/SAT (9-11)** Apr 13 & 14 **STAR Reading (1-11)** EOY: April 27- May 8 **STAR Math (3-11)** EOY: April 27- May 8 **TS Gold (PS & PK)** All year

	sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so. (CCSS: 8.G.A.5)				Exit Tickets/ Checks for Understanding		
Differentiation ELD/SPED/ GT/504/Other	**Key Vocabulary:** exterior angle, Exterior Angle Theorem, interior angle, Triangle Sum Theorem, transversal, corresponding angles, supplementary, complementary, vertical, adjacent	**Activities to engage background knowledge**: Supplementary Angles- Roads, sports, train tracks.	**Identified Language Forms & Functions:** Cause/Effect	**Sentence Frames:** **Angle ____ causes angle ___ to be ___ degrees because _____.**	**Language and/or Student Interaction Strategy:** Turn and talk with speaking frames Intro to Geometric Proofs- Justify with writing Rally Coach	**Supports/Scaffolds:** color coding angles calculators protractors graphic organizer for vocabulary visual vocabulary word wall/anchor chart	**Differentiation/Accommodations** :Extend- Replace given angle with one or 2 step equations