2022-2023 Curriculum Map: Geometry

Timeline	Content	Standards and Demonstrators	Activities	I Can…	Resources
Aug. 10 -Aug. 26	**Points, Lines and Planes** Aug. 11-12	**MA-HS-3.1.1** Students will analyze and apply spatial relationships (not using Cartesian coordinates) among points, lines and planes (e.g., betweenness of points, midpoint, segment length, collinear, coplanar, parallel, perpendicular, skew). **DOK 2** **MA-HS-3.4.1** Students will identify definitions, axioms and theorems, explain the necessity for them and give examples of them.	**Practice ACT Test Questions (Daily bell ringers)**	…use basic geometry terminology to compare points, lines and planes. …identify a segment and a ray. …use the Segment Addition Postulate to solve for an unknown. …use the midpoint and distance formulas to solve for unknowns. …identify and compare right, obtuse and acute angles. …use the Angle Addition Postulate to solve for an unknown. …determine if a pair of angles are complementary or supplementary. …identify and label angle pairs and vertical or a linear pair. …setup and solve equations using the properties of angle pairs.	PowerPoints, addional practice problems from Internet
	Segments Aug. 15-17	**MA-HS-1.5.2** Students will use equivalence relations (reflexive, symmetric, transitive). **MA-HS-3.1.2** Students will use spatial relationships to prove basic theorems.			
	Midpoint, Distance and Slope Aug. 18-19				
	Angles Aug. 22-23	**MA-HS-3.1.3**			
	Angle Pairs Aug. 24-25 **CHAPTER 1 TEST Aug. 26**		**Twizzlers and Starburst Activity**		
Aug. 29 - Sept. 23	**Parallel and Perpendicular Lines** Aug. 29-Sept. 2	**MA-HS-3.1.1** Students will analyze and apply spatial relationships (not using Cartesian coordinates) among points, lines and planes (e.g., betweenness of points, midpoint, segment length, collinear, coplanar, parallel, perpendicular, skew). **DOK 2** **MA-HS-3.4.1** Students will identify definitions, axioms and theorems, explain the necessity for them and give examples of them.	**Practice ACT Test Questions (daily bellringers)**	…identify angle pairs that are congruent or supplementary. …determine if two lines are parallel. …find the value of the missing angles. …find the slope of a line. …write the equation of a line. …determine if two lines are perpendicular.	PowerPoints, Internet, addional practice problems.
	Prove Lines Parallel Sept. 6-8		**Quiz Fridays**		
	Slopes of Lines Sept 12-14		***Electronic devices will be used for**		
	Angles in Polygons Sept 15-16	**MA-HS-3.1.5**	***Electronic devices will be used for**		
	Equations of Lines Sep 19-20 **CHAPTER 2 TEST - Sept 23**		**Letter to the Board: For or against Calculators**		
Sept. 26 - Oct. 28	**Algebraic Proofs** Sept. 26-27		***Electronic devices will be used for CERT's practice**	…use properties of mathematics to write an algebraic proof. …use properties of mathematics to write angle proofs. …use properties of angles and mathematics to write proofs for angle pairs. …prove that two lines are parallel.	
	Prove Segments and Angles Sept. 28-30	**MA-HS-3.1.3**			Additonal problems from the internet
	Prove Angle Pairs Sept. 28-30	**MA-HS-3.1.3** MA-HS-3.1.4 Students will use angle relationships to prove basic theorems. **MA-HS-3.3.1**	**Quiz Fridays**		
	Congruent Triangles Oct. 3-7		***Electronic devices will be used for CERT's practice**	…identify if two triangles are congruent using SSS, SAS, ASA, AAS, and HL. …write a proof to show that two triangles are congruent. …solve for missing sides and angles if two triangles are congruent.	PowerPoints, addional practice problems from Internet
	SSS, SAS, ASA, AAS, HL Oct. 17-21		**Practice ACT Test Questions (Daily bellringers)**	…identify if a triangle is an isosceles, equilateral, or scalene. …find missing sides and angles of isosceles and equilateral triangles.	
	Isosceles and Equilateral Triangles Oct. 24-26 CHAPTER 3 TEST - Oct. 28				
Oct. 31 - Dec. 16	**Areas of Triangles, Trapezoids, Rhombi, and Parallelograms** Oct. 31 - Nov. 4			…find the area of a triangle. …find the area of a parallelogram. …find the area of a rhombus. …find the area of a kite. …find the area of a trapezoid. …find the circumference of a circle. …find the area of a sector.	PowerPoints, addional practice problems from
	Circumference, Areas of Circles and Sectors Nov. 9-11	MA-HS-3.1.6 Students will know the definitions and basic properties of a circle and will use them to prove basic theorems and solve problems.	**Practice ACT Test Questions (daily bell ringers)**		
	Areas of Regular Polygons Nov. 14-16		**Quiz Fridays**		
	Surface Area of Prisms and Cylinders Nov. 17-22	**MA-HS-2.1.1** Students will determine the surface area and volume of right rectangular prisms, pyramids, cylinders, cones and spheres in real-world and mathematical problems. **DOK 2** **MA-HS-2.1.2** Students will describe how a change in one or more dimensions of a geometric figure affects the perimeter, area and volume of the figure. **DOK 3** MA-HS-3.1.11 Students will visualize solids and surfaces in three-dimensional space when given two-dimensional representations (e.g., nets, multiple views) and create two-dimensional representations for the surfaces of three-dimensional objects.	**HUMANITIES: Platonics Solids Activity**	…find the surface area of a prism. …find the surface area of a cylinder. …find the surface area of a pyramid. …find the surface area of a cone. …find the surface area of a sphere. …find the volume of a prism. …find the volume of a cylinder. …find the volume of a pyramid. …find the volume of a cone. …find the volume of a sphere.	PowerPoints, addional practice problems from Internet
	Surface Area of Pyramids and Cones Nov. 28-30		Use formula sheets from test to review		
	Volume of prisms and cylinders Dec. 1-5				
	Volume of Pyramids and Cones Dec. 6-9		Practice ACT Test Questoins		
	Surface Area and Volume of Spheres Dec. 12-14 **CHAPTER 10 TEST** Dec. 16		**Quiz Fridays**		
Jan. 2 - Jan. 20	**Ratios and Proportions** Jan. 2-4		**Practice ACT Test Questions**	…write a ratio to compare two values. …reduce a ratio to simplest form. …write a proportion and solve. …determine if two polygons are similar based on their ratios. …determine if two triangles are similar using AA, SSS, SAS. …use the Proportionality Theorem to solve for missing sides.	PowerPoints, addional practice problems from
	Similar Polygons Jan. 7-9	MA-HS-3.1.12 MA-HS-3.1.13			
	Similarity - AA, SSS, SAS Jan. 10-16				
	Proportionality Theorem Jan. 17-18 **CHAPTER 5 TEST** Jan. 20		**Quiz Fridays**		
	Triangle Sum Theorem Jan. 23 - 25			…give the definition of the Triangle Sum Theorem. …use the Triangle Sum Theorem to find missing angles. …label the sides of Special Right Triangles. …use the properties of Special Right Triangles to find the missing sides.	
	Pythagorean Theorem Jan. 26-27	**MA-HS-2.1.3** Students will apply definitions and properties of right triangle relationships (right triangle trigonometry and the Pythagorean theorem) to determine length and angle measures to solve real-world and mathematical problems. **DOK 3** MA-HS-2.1.4	**Practice Test Questions**		

	Topic	Standards	Assessment	Objectives	Resources
	Special Right Triangles Jan. 30-Feb. 3	MA-HS-2.1.3 MA-HS-2.1.4	Practice Test Questions	…write the ratios for sine, cosine, and tangent. …use sine, cosine, and tangent to solve for missing sides and angles.	PowerPoints, addional practice problems from Internet
	Trigonometry (Sine, Cosine, Tangent) Feb. 6-10	MA-HS-2.1.3	PLVS: Ladder Test Question		
	Solve Right Triangles including Angles of Elevation and Depression Feb. 13-14		Practice Test Questions		
	(ACCELERATED) Law of Sines and Law of Cosines Feb. 15-16 CHAPTER 7 TEST - Feb. 17		Quiz Fridays		
Feb. 21 - Mar. 10	Parallelograms Feb. 21-24		*Electronic devices will be used for CERT's practice	…find the missing angles in a polygon. …use properties of a parallelogram to find missing sides and angles. …use properties of a square to find missing sides and angles. …use properties of a rectangle to find missing sides and angles. …use properties of a trapezoid to find missing sides and angles. …use the midsegment formula to find the midsegment of a trapezoid. …use the properties of a kite to find missing sides and angles.	PowerPoints, addional practice problems from Internet
	Rhombuses, Rectangles, Squares Feb. 27 - March 1	MA-HS-3.1.5			
	Trapezoids and Kites March 2 - 7	MA-HS-3.1.5	ACT in March for Juniors		
	CHAPTER 6 TEST MAR. 10				
Mar. 13 - Mar. 31	Tangents Mar. 13-15	MA-HS-3.1.6 Students will know the definitions and basic properties of a circle and will use them to prove basic theorems and solve problems.	*Electronic devices will be used for CERT's practice	...…use tangents of a circle to find lengths of segments. …use exterior points of a circle to find the length of segments. …find the arc measure of a circle given the central angle. …define a chord. …use the formula of Inscribed Angles to find missing angle measures and arc lengths. …use the formula of Exterior Angles to find missing angles measures and arc lengths. …write the equation of a circle.	PowerPoints, addional practice problems from Internet
	Arc Measures Mar. 16-17				
	Chords Mar. 20-23				
	Inscribed Angles and Polygons Mar.24-27				
	Equations of Circles March 28-30 CHAPTER 8 TEST - Mar. 31		ACT Will be given during this unit.		
April 10 - May 5	Translations April 10-12	MA-HS-3.2.1 Students will identify and describe properties of and apply geometric transformations within a plane to solve real-world and mathematical problems. DOK 3	*Electronic devices will be used for CERT's practice	...perform a horizontal translation. …perform a vertical translation. …perform a reflection along the x-axis, y-axis, and the line y=x. …perform rotations about the origin clockwise and counterclockwise. …perform composition transformation. …determine the axis of symmetry. …perform a dialation.	PowerPoints, addional practice problems from Internet
	Reflections April 13-14	MA-HS-3.2.1 Students will identify and describe properties of and apply geometric transformations within a plane to solve real-world and mathematical problems. DOK 3			
	Rotations April 17-19				
	Composition Transformations April 20-24				
	Symmetry April 27				
	Dilation May 1-3CHAPTER 11 TEST May 5				
May 8 - 16	Midsegment May 8-9		Practice ACT Test Questions	…use the midsegment formula to find a missing length. …use the midsegment formula to solve equations. …use a perpendicular bisector to solve for missing sides or angles. …determine if the three given lengths could be the sides of a triangle. …find the rangel of a triangle given two others. …list the side lengths of a triangle in ascending order from least to greatest given the angle measures.	PowerPoints, addional practice problems from Internet
	Perpendicular Bisector May 10-11	MA-HS-3.1.12 MA-HS-3.1.13			
	Angle Bisectos of Triangles May 12				
	Inequalities of Triangles May 15		Quiz Fridays		
FINALS	FINALS May 16				