Classical Magnet School

Course: Geometry

Month	September	October	November	December / January	February	March	April	May
Textbook Chapters	PH Chapter 1 DG Chapter 1	PH Chapter 2 DG Chapter 2	PH Chapter 3 DG Chapter 2	PH Chapter 4 and 8 DG Chapter 4 and 9	PH Chapter 6 DG Chapter 5	PH Chapter 12 DG Chapter 6	PH Chapter 10 and 11 DG Chapter 8	PH Chapter 11 DG Chapter 10
Other Major Readings	Flatland							
Essential Questions	What would your life look like without geometry? How do you use patterns?	How can you be sure you've reached a good conclusion based on facts?	What role does geometry have in the design of our country?	How can Pythagoras Theorem better help us understand world around us?	How do we use prior knowledge to solve more complex issues / problems?	How can we describe movement? What is the effect of change?	How does mathematics influence the design of homes?	How does mathematics influence the design and packaging of products?
Standards Common Core	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication	Number / Quantity Geometry Algebraic Reasoning Functions Problem Solving Communication
Major Skills	1. Make conclusions based on patterns observed. 2. Draw different geometric objects using various methods. 3. Foundations of Geometry. 3. Measure segments and angles. 4. Learn construction methods and use the coordinate plane to represent geometric figures. 5. Introduction to perimeter, circumference and area.	1. Recognize conditional statements and write the converse of conditional statements. 2. Write biconditional statements and write good definitions. 3. Use the Law of detachment and syllogism. 4. Connect reasoning in algebra and geometry. 5. Prove and apply theorems about angles.	1. Identify angles formed by two lines and a transversal. 2. Prove and use properties of parallel lines. 3. Use a transversal in proving lines parallel. 4. Relate parallel and perpendicular lines.	1. Classify triangles and find the measure of their angles. 2. Use exterior angles of triangles. 3. Recognize congruent figures and their corresponding parts. 4. Prove two triangles congruent using the SSS, SAS, ASA, and AAS Theorems. 5. Use triangles congruence and CPCTC to prove that parts of two triangles are congruent. 6. Use and apply properties of isosceles triangles. 7. Prove triangles congruent using the HL Theorem. 8.Identify congruent overlapping triangles. 9. Pythagorean theorem and its converse. 10. 45-45-90 right triangle properties. 11. 30-60-90 right triangle properties.	1. Use polygon sun theorem to find missing measures. 2. Define and classify polygons and special quadrilaterals. 3. Discover and use properties of parallelograms. 4. Determine when a quadrilateral is a parallelogram. 5. Discover and use properties of special parallelograms.	1. Use the properties of radius and a tangent and two tangents. 2. Use congruent chords, arcs, and central angles. 3. Recognize properties of lines through the center of a circle. 4.Find the measure of an inscribed angle. 5. Find the measure of an angle formed by a tangent and a chord. 6. Find the measure of angles formed by chords, secants, and tangents. 7. Find the lengths of segments associated with circles.	1. Areas of parallelograms and triangles. 2. Areas of trapezoids, rhombuses, and kites. 3.Area of regular polygons. 4. area of circles and sectors. 5. Surface area of prisms and cylinders. 6. Surface area of pyramids and cones. 7. Surface area of spheres.	1. Volume of prisms and cylinders. 2. Volume of pyramids and cones. 3. Volume of spheres. 4. Area and volume of similar figures.

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Themes/ Topics	Introducing Geometry	Reasoning in Geometry	Parallel and Perpendicular lines	Triangle Properties with Pythagorean Theorem	Discovery and Proving Polygon Properties	Circle Properties	Area and Surface Area	Volume
Field Trips / Guest Speakers								
Coached Projects	Draw a hypercube. Polygonal Numbers Beehive Geometry Map Coloring	If you advertise they will buy	City Planning	Buried Treasure Tri Tri Again Triangles at Work	Quadrilateral Linkages Snowflake Symmetry Go Fly A Kite	Racetrack Folding Paper Circles Going in Circles	Build A Home	Design a Package The Mobius Strip Archimedes Principle Packing Efficency and Displacement
Seminars	What does a 4 dimensional world look like?	Seven Bridges of Konigsberg	Exploring Spherical Geometry	Napoleon's Theorem	Star Polygon	Crop Circles	Pick's Formula for Area Alternative Area Formulas	Five Platonic Solids
Other	Flatland Video							