

# EVERGREEN COMMUNITY CHARTER SCHOOL CURRICULUM

## MATH

**Course: Geometry**

**Grade: 10**

Make sense of problems and persevere in solving them.  
 Construct viable arguments and critique the reasoning of others.  
 Use appropriate tools strategically.  
 Look for and express regularity in repeated reasoning.

Reason abstractly and quantitatively.  
 Model with mathematics.  
 Attend to precision.  
 Look for and make use of structure.

PA Core Standards	Materials	Methods/Assessment
<p>2.2 Algebraic Concepts</p> <ul style="list-style-type: none"> <li>• CC.2.2.C.1, 9</li> </ul> <p>2.3 Geometry</p> <ul style="list-style-type: none"> <li>• CC.2.3.A.1-14</li> </ul>	<p><b>Materials:</b></p> <p>Geometry, Glencoe 1998 and supplementary workbooks</p> <p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>• PDE SAS portal: <a href="http://www.pdesas.org">http://www.pdesas.org</a></li> <li>• Teacher generated/differentiated instruction resources and activities</li> <li>• <a href="http://www.khanacademy.org/">http://www.khanacademy.org/</a></li> <li>• Calculators</li> <li>• Math Counts activities</li> </ul> <p><b>Differentiation:</b></p> <p><b>Enrichment</b></p> <ul style="list-style-type: none"> <li>• Leveled tests and quizzes</li> <li>• Leveled practice problems and proofs</li> </ul> <p><b>Remediation</b></p> <ul style="list-style-type: none"> <li>• One on one</li> <li>• Quiz &amp; test corrections</li> <li>• Accommodations</li> <li>• Adapted assignments</li> <li>• Extra time</li> <li>• Math Support</li> </ul>	<p><b>Methods:</b></p> <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Note-taking</li> <li>• Discussion</li> <li>• Practice</li> </ul> <p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Participation</li> <li>• Notes/Portfolios</li> <li>• Homework</li> <li>• Question &amp; Answer</li> <li>• Quizzes</li> <li>• Tests</li> <li>• Think-Pair-Share</li> <li>• Whiteboards</li> <li>• At the bell activities</li> <li>• Math Counts activities</li> <li>• Constructed Response Tasks</li> <li>• Constructions</li> </ul>

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Assessment Anchors	Materials/Unit	Methods/Assessment
<ul style="list-style-type: none"> <li>• CC.2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.</li>   <li>• CC.2.3.HS.A.6 Verify and apply theorems involving similarity as they relate to plane figures.</li> </ul>	<p><b>Materials:</b></p> <p>Geometry, Glencoe 1998 and supplementary workbooks                  Pdesas.org</p> <p><b>Chapter 1 – Points, Lines, Planes, and Angles</b>  <b>Chapter 2 – Connecting Reasoning and Proofs</b>  <b>Chapter 3 – Perpendicular &amp; Parallel Lines</b></p>	<p><b>Methods:</b></p> <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Note-taking</li> <li>• Discussion</li> <li>• Practice</li> </ul> <p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Participation</li> <li>• Notes/Portfolios</li> <li>• Homework</li> <li>• Question &amp; Answer</li> <li>• Quizzes</li> <li>• Tests</li> <li>• Think-Pair-Share</li> <li>• Whiteboards</li> <li>• At the bell activities</li> <li>• Math Counts activities</li> <li>• Constructed Response Tasks</li> <li>• Constructions</li> </ul>

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Assessment Anchors	Materials/Unit	Methods/Assessment
<ul style="list-style-type: none"> <li>• CC.2.3.HS.A.1: Use geometric figures and their properties to represent transformations in the plane.</li> <li>• CC.2.3.HS.A.2: Apply rigid transformations to determine and explain congruence.</li> <li>• CC.2.3.HS.A.3: Verify and apply geometric theorems as they relate to geometric figures.</li> <li>• CC.2.3.HS.A.5: Create justifications based on transformations to establish similarity of plane figures.</li> <li>• CC.2.3.HS.A.6: Verify and apply theorems involving similarity as they relate to plane figures.</li> <li>• CC.2.3.HS.A.8: Apply geometric theorems to verify properties of circles.</li> <li>• CC.2.3.HS.C.9: Prove the Pythagorean identity and use it to calculate trigonometric ratios.</li> </ul>	<p><b>Materials:</b></p> <p>Geometry, Glencoe 1998 and supplementary workbooks                  Pdesas.org</p> <p><b>Chapter 4 – Identifying Congruent Triangles</b>  <b>Chapter 5 – Applying Congruent Triangles</b></p>	<p><b>Methods:</b></p> <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Note-taking</li> <li>• Discussion</li> <li>• Practice</li> </ul> <p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Participation</li> <li>• Notes/Portfolios</li> <li>• Homework</li> <li>• Question &amp; Answer</li> <li>• Quizzes</li> <li>• Tests</li> <li>• Think-Pair-Share</li> <li>• Whiteboards</li> <li>• At the bell activities</li> <li>• Math Counts activities</li> <li>• Constructed Response Tasks</li> <li>• Constructions</li> </ul>

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<ul style="list-style-type: none"> <li>• CC.2.2.HS.C.9: Prove the Pythagorean identity and use it to calculate trigonometric ratios.</li> <li>• CC.2.3.HS.A.1: Use geometric figures and their properties to represent transformations in the plane.</li> <li>• CC.2.3.HS.A.2: Apply rigid transformations to determine and explain congruence.</li> <li>• CC.2.3.HS.A.3: Verify and apply geometric theorems as they relate to geometric figures.</li> <li>• CC.2.3.HS.A.5: Create justifications based on transformations to establish similarity of plane figures.</li> <li>• CC.2.3.HS.A.6: Verify and apply theorems involving similarity as they relate to plane figures.</li> <li>• CC.2.3.HS.A.7: Apply trigonometric ratios to solve problems involving right triangles.</li> <li>• CC.2.3.HS.A.8: Apply geometric theorems to verify properties of circles.</li> <li>• CC.2.3.HS.C.9: Prove the Pythagorean identity and use it to calculate trigonometric ratios.</li> <li>• CC.2.3.HS.A.3: Understand and apply the Pythagorean theorem to solve problems.</li> </ul>	<p><b>Materials:</b></p> <p>Geometry, Glencoe 1998 and supplementary workbooks                  Pdesas.org</p> <p><b>Chapter 6 – Exploring Quadrilaterals</b>  <b>Chapter 7 – Connecting Proportion and Similarity</b>  <b>Chapter 8 – Analyzing Right Triangles &amp; Trigonometry</b></p>	<p><b>Methods:</b></p> <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Note-taking</li> <li>• Discussion</li> <li>• Practice</li> </ul> <p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Participation</li> <li>• Notes/Portfolios</li> <li>• Homework</li> <li>• Question &amp; Answer</li> <li>• Quizzes</li> <li>• Tests</li> <li>• Think-Pair-Share</li> <li>• Whiteboards</li> <li>• At the bell activities</li> <li>• Math Counts activities</li> <li>• Constructed Response Tasks</li> <li>• Constructions</li> </ul>

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<ul style="list-style-type: none"> <li>• CC.2.3.HS.A.8: Apply geometric theorems to verify properties of circles.</li> <li>• CC.2.3.HS.A.9: Extend the concept of similarity to determine arc lengths and areas of sectors of circles.</li> <li>• CC.2.3.HS.A.13: Analyze relationships between two-dimensional and three-dimensional objects.</li> </ul>	<p><b>Materials:</b></p> <p>Geometry, Glencoe 1998 and supplementary workbooks                  Pdesas.org</p> <p><b>Chapter 9 – Analyzing Circles</b>  <b>Chapter 10 – Exploring Polygons &amp; Area</b>  <b>Chapter 11 – Surface Area &amp; Volume</b></p>	<p><b>Methods:</b></p> <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Note-taking</li> <li>• Discussion</li> <li>• Practice</li> </ul> <p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Participation</li> <li>• Notes/Portfolios</li> <li>• Homework</li> <li>• Question &amp; Answer</li> <li>• Quizzes</li> <li>• Tests</li> <li>• Think-Pair-Share</li> <li>• Whiteboards</li> <li>• At the bell activities</li> <li>• Math Counts activities</li> <li>• Constructed Response Tasks</li> <li>• Constructions</li> </ul>

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Assessment Anchors	Materials/Unit	Methods/Assess
<ul style="list-style-type: none"> <li>• CC.2.2.HS.C.9: Prove the Pythagorean identity and use it to calculate trigonometric ratios.</li> <li>• CC.2.3.HS.A.7: Apply trigonometric ratios to solve problems involving right triangles.</li> <li>• CC.2.3.HS.A.3: Understand and apply the Pythagorean theorem to solve problems.</li> <li>• CC.2.3.HS.A.11: Apply coordinate geometry to prove simple geometric theorems algebraically.</li> <li>• CC.2.3.HS.A.2: Understand and apply congruence, similarity, and geometric transformations using various tools.</li> <li>• CC.2.3.HS.A.3: Verify and apply geometric theorems as they relate to geometric figures.</li> <li>• CC.2.3.HS.A.8: Apply geometric theorems to verify properties of circles.</li> <li>• CC.2.3.HS.A.9: Extend the concept of similarity to determine arc lengths and areas of sectors of circles.</li> <li>• CC.2.3.HS.A.14: Apply geometric concepts to model and solve real-world problems.</li> <li>• CC.2.2.HS.C.1: Use the concept and notation of functions to interpret and apply them in terms of their context.</li> <li>• CC.2.3.HS.A.1: Apply the concepts of volume of cylinders, cones, and spheres to solve real</li> </ul>	<p><b>Materials:</b></p> <p>Geometry, Glencoe 1998 and supplementary workbooks                  Pdesas.org</p> <p><b>Chapter 12 – Coordinate Geometry</b>  <b>Chapter 13 – Loci &amp; Coordinate Transformations</b></p>	<p><b>Methods:</b></p> <ul style="list-style-type: none"> <li>• Lecture</li> <li>• Demonstration</li> <li>• Note-taking</li> <li>• Discussion</li> <li>• Practice</li> </ul> <p><b>Assessment:</b></p> <ul style="list-style-type: none"> <li>• Observation</li> <li>• Participation</li> <li>• Notes/Portfolios</li> <li>• Homework</li> <li>• Question &amp; Answer</li> <li>• Quizzes</li> <li>• Tests</li> <li>• Think-Pair-Share</li> <li>• Whiteboards</li> <li>• At the bell activities</li> <li>• Math Counts activities</li> <li>• Constructed Response Tasks</li> <li>• Constructions</li> </ul>

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world and mathematical problems.

- CC.2.3.HS.A.12: Explain volume formulas and use them to solve problems.
- CC.2.3.HS.A.13: Analyze relationships between two-dimensional and three-dimensional objects.
- CC.2.3.HS.A.14: Apply geometric concepts to model and solve real-world problems.