

## Clinton Public School



## Curriculum Management System

## Geometry Curriculum

\* For adoption by all regular education programs as specified and for adoption or adaptation by all Special Education Programs in accordance with Board of Education Policy #.

Board Approved: November 18, 2020

# CLINTON-GLEN GARDNER SCHOOL DISTRICT

## ADMINISTRATION

**Dr. Seth Cohen, Superintendent/Principal**  
**Mrs. Bernadette Wang, Business Administrator**  
**Mrs. Jacqueline Turner, Assistant Principal**  
**Dr. Jenine Kastner, Director of Special Services**

## BOARD OF EDUCATION

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**Geometry  
Scope and Sequence**

<b>Trimester I (September - November)</b>	
<p><b>Topic: Unit 1 - Elements of Geometry (2 weeks)</b></p> <p>NJSLA Geometry Standards: G-CO A.1 G-CO C.9 G-MG A.1</p>	<p><b>Unit 3 - Triangle Congruency (2 weeks)</b></p> <p>NJSLA Geometry Standards: G-CO B.7 G-CO B.8 G-CO C.10 G-CO C.9 G-SRT B.5</p>
<p><b>Topic: Unit 2 - Basic Concepts of Geometry and Proof (2 wks)</b></p> <p>NJSLA Geometry Standards: G-CO C.10 G-CO C.11 G-CO B.7</p>	<p><b>Topic: Unit 4 - Parallel and Perpendicular Lines (3 weeks)</b></p> <p>NJSLA Geometry Standards: G-CO A.1 G-CO A.4</p>
<p><b>Materials Used in this Unit</b></p> <p><b>Geometry for Enjoyment and Challenge – New Edition; McDougal, Little &amp; Company</b> <b>OpenStax (online textbook) Algebra and Trigonometry</b></p> <p><b>Textbook, Protractors, Compass, Straightedge, Manipulatives, Technology Resources (Khan Academy), New Jersey Center for Teaching and Learning Geometry and Trigonometry Units, and other Teacher Resources</b></p>	
<p><b>Interdisciplinary Connections:</b></p> <p><i>Art - Students will research and analyze modern art to find various angle types, i.e. right, acute, obtuse.</i> <i>Science - Students will research and find area/volume of planets (spheres) in our solar system.</i></p>	

**Career Education Standards 9.2**

**How is Deductive Reasoning equally important in math, science, and technology? – Elements of Geometry  
Bees, Hives, and Food Sources – Geometry and Proof  
Elizabeth Getzoff – Structures of Molecules – Parallel/Perpendicular Lines**

**9.2.8.B.1 Research careers within the 16 Career Clusters and determine attributes of career success.**

**Differentiation**

Refer to Excel Spread sheet

**Assessments**

Formative Assessments: Analyzing Student Work, Strategic Questioning, Exit/Admit Tickets, Think-Pair-Share

Summative Assessments: Chapter Quizzes and Tests; Unit Tests

District End of Unit Benchmark: Linkit

\*Alternative Assessments: Performance Tasks, STEM Projects, Real-World Examples

**Technology Standards: 8.1 Computer and Information Literacy and 8.2 Technology Education**

8.1.8 A2 - Use common features of an operating system.

8.1.8 B8 - Use computer applications to modify information independently and/or collaboratively to solve problems.

8.2.8 B2 - Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.

## Career Ready Practices

**CRP6. Demonstrate creativity and innovation.**

**CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.**

**CRP11. Use technology to enhance productivity.**

**21<sup>st</sup> Century Skills** (The ones that apply for this unit are in bold)

- **Creativity & Innovation**
- **Critical Thinking & Problem Solving**
- **Communication & Collaboration**
- Media Literacy
- Information Literacy
- Information, Communication & Technology

**21<sup>st</sup> Century Themes** (The ones that apply for this unit are in bold)

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- **Health Literacy**
- Environmental Literacy

### Differentiation

Refer to CPS Differentiation Tool Kit

**Geometry  
Scope and Sequence**

<b>Trimester II (December - February)</b>	
<p><b>Topic: Unit 5 - Quadrilaterals and Related Figures (2 weeks)</b></p> <p>NJSLA Geometry Standards: G-CO A.3 G-CO D.12 G-CO D.13</p>	<p><b>Topic: Unit 7 - Polygons (2 weeks) Unit 8 - Similarity (2 weeks)</b></p> <p>NJSLA Geometry Standards: G-CO A.3 G-CO C.11 G-SRT A,B,C,D</p>
<p><b>Topic: Unit 6 - Transformations (3 weeks)</b></p> <p>NJSLA Geometry Standards: G-SRT A.1 G-SRT A.2 G-SRT A.3</p>	<p><b>Topic: Unit 9 - Right Triangles and Trigonometry (3 weeks)</b></p> <p>NJSLA Geometry Standards: G-SRT C.6,7,8 G-SRT D.9,10,11</p>
<p><b>Materials Used in this Unit</b></p> <p><b>Geometry for Enjoyment and Challenge – New Edition; McDougal, Little &amp; Company</b></p> <p><b>OpenStax (online textbook) Algebra and Trigonometry</b></p> <p><b>Textbook, Protractors, Compass, Straightedge, Manipulatives, Technology Resources (Khan Academy), and other Teacher Resources</b></p>	
<p><b>Interdisciplinary Connections:</b></p> <p><i>Social Studies - Students will study various period architecture to find and measure different angles.</i></p> <p><i>Health/Phys. Ed. - Students will analyze 4-square court and discuss/explore properties of parallel and perpendicular lines.</i></p>	
<p><b>Career Education Standards 9.2</b></p> <p><b>Create a Sextant to measure angles between stars and horizons – Quadrilaterals and Related Figures</b></p> <p><b>Tiling Polyogons in 3 Dimensions – Polygons</b></p> <p><b>Right Triangles and Trigonometry in Space – Einstein Rings – Right Triangles</b></p> <p><b>9.8.2.B.2 Develop a Personalized Student Learning Plan with the assistance of an adult mentor that includes information about career areas of interest, goals, and an educational plan.</b></p>	

## Differentiation

Refer to CPS Differentiation Tool Kit

## Assessments

Formative Assessments: Analyzing Student Work, Strategic Questioning, Exit/Admit Tickets, Think-Pair-Share

Summative Assessments: Chapter Quizzes and Tests; Unit Tests

District End of Unit Benchmark: Linkit

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## Technology Standards: 8.1 Computer and Information Literacy and 8.2 Technology Education

8.1.8 A2 - Use common features of an operating system.

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8.2.8 B2 - Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.

## Career Ready Practices

**CRP2. Apply appropriate academic and technical skills.**

**CRP4. Communicate clearly and effectively and with reason.**

**21<sup>st</sup> Century Skills** (The ones that apply for this unit are in bold)

- **Creativity & Innovation**
- **Critical Thinking & Problem Solving**
- **Communication & Collaboration**
- Media Literacy
- Information Literacy
- Information, Communication & Technology

**21<sup>st</sup> Century Themes** (The ones that apply for this unit are in bold)

Global Awareness

Financial, Economic, Business and Entrepreneurial Literacy

Civic Literacy

Health Literacy

Environmental Literacy

**Differentiation**

Refer to CPS Differentiation Tool Kit



## Geometry Scope and Sequence

Trimester III (March - June)	
<p><b>Topic: Unit 10 - Circles (3 weeks)</b></p> <p>NJSLA Geometry Standards: G-C A.1,2,3,4 G-C B.5</p>	<p><b>Topic: Unit 11 - Area (3 weeks)</b> <b>Topic: Unit 12 - Volume (2 weeks)</b></p> <p>NJSLA Geometry Standards: G-CO A.3 G-MG A.1,2</p>
<p><b>Topic: Unit 13 - Equations of Circles &amp; Unit Circle Trig (6 wks)</b></p> <p>NJSLA Geometry Standards: G-GMD A.1 G-GMD A.3 G-GMD B.4</p>	<p><b>Topic: Unit 14 - Fractals (3 weeks)</b></p> <p>NJSLA Geometry Standards: G-GPE A.2,3</p>
<p><b>Materials Used in this Unit</b></p> <p><b>Geometry for Enjoyment and Challenge – New Edition; McDougal, Little &amp; Company</b> <b>OpenStax (online textbook) Algebra and Trigonometry</b></p> <p><b>Textbook, Protractors, Compass, Straightedge, Manipulatives, Technology Resources (Khan Academy), and other Teacher Resources</b></p>	
<p style="text-align: center;"><b>21<sup>st</sup> Century Skills</b> (The ones that apply for this unit are in bold)</p> <ul style="list-style-type: none"> <li>· <b>Creativity &amp; Innovation</b></li> <li>· <b>Critical Thinking &amp; Problem Solving</b></li> <li>· <b>Communication &amp; Collaboration</b></li> <li>· Media Literacy</li> <li>· Information Literacy</li> <li>· Information, Communication &amp; Technology</li> </ul>	
<p style="text-align: center;"><b>Interdisciplinary Connections:</b></p> <p><b><i>Social Studies - Students will find and analyze circle graphs to determine angles, arc, area involving circles.</i></b> <b><i>English/Language Arts - Students will use properties of triangles (triangle sum, equilateral, right isosceles) and write 3-part poetry illustrating triangle properties.</i></b></p>	

**Career Education Standards 9.2**

**Building a Rollercoaster – Tangents, Slopes, and Loops – Circles**

**Tiling with kites, darts, and diamonds – Connection to Chemistry – Area**

**Design/Develop a box to hold a given maximum volume with a given minimum surface area – SA/Vol**

**Research mathematics in space – Circles/Conics**

**Pop-Up Cards - Fractals**

**9.2.8.B.3 Evaluate communication, collaboration, and leadership skills that can be developed through school, home, work, and extracurricular activities for use in a career.**

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