

Unit 5: Modeling

Content Area: **Math**
Course(s):
Time Period:
Length: **1 week**
Status: **Published**

State Mandated Topics Addressed in this Unit

<u>State Mandated Topics Addressed in this Unit</u>	
N/A	N/A

Unit Summary

Unit #5 focuses on the relations on the coordinate plane. It's also a nice transition into Algebra II as it links many of the Geometric concepts that we have encountered throughout the year to Algebra. In that manner, it's a great way to review the year and many of the key concepts from Algebra I.

Learning Objectives

- Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).
- Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).

Essential Skills

- Apply geometric methods to solve design problems.
- Use geometric shapes, their measurements, and their properties to describe objects. Example a basketball is a sphere.

Standards

- | | |
|--------------------|--|
| MATH.9-12.G.MG.A.1 | Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). |
| MATH.9-12.G.MG.A.3 | Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). |

Instructional Tasks/Activities

G.MG.A.3 Problems G.C – Modeling Problems about Circles

- g.mg.a.2worksheet1.docx

G.MG.A.3 Problems G.CO – Modeling Problems about Congruence

- g.mg.a.2worksheet1.docx

G.MG.A.3 Problems G.GMD – Modeling Problems about Area and Volume

- g.mg.a.2worksheet1.docx

G.MG.A.3 Problems G.SRT – Modeling Problems about Similarity and Trigonometry

- g.mg.a.2worksheet1.docx

- G.MG.A.3 Problems G.C – Modeling Problems about Circles
- G.MG.A.3 Problems G.CO – Modeling Problems about Congruence
- G.MG.A.3 Problems G.GMD – Modeling Problems about Area and Volume
- G.MG.A.3 Problems G.SRT – Modeling Problems about Similarity and Trigonometry

Assessment Procedure

- Class discussions
- Classroom Total Participation Technique
- Classwork
- Compare/contrast journals
- DBQ
- Electronic active responders
- Essay
- Exit Ticket/Entrance Ticket/Do Now
- Identify the error problems
- Journal / Student Reflection
- Kahoot
- Other named in lesson
- Peer Review
- Performance
- Problem Correction
- Project
- Quiz
- Response and analysis questions
- Rubric
- Teacher Collected Data

- Teacher observations
- Test
- Worksheet

Recommended Technology Activities

- Appropriate Content Specific Online Resource
- Appropriate Content Specific Online Resource
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Gimkit
- GoGuardian
- Google Classroom
- Google Docs
- Google Slides
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Quiziz
- Screencastify
- Use of ChromeBooks for research and simulations, calculator activities throughout the unit as appropriate.

Accommodations & Modifications & Differentiation

Accommodations and Modifications should be used to meet individual needs. Their IEP and 504 plans should be used in addition to the following suggestions.

Special Education

Modifications and accommodations to this unit will be based on individual IEP needs and through the collaboration of the classroom teacher and the special education teacher under the direction of the Supervisor of Special Education.

Gifted and Talented

- Compare & Contrast
- Conferencing
- Debates
- Jigsaw
- Peer Partner Learning
- Problem Solving
- Structured Controversy
- Think, Pair, Share
- Tutorial Groups

Instruction/Materials

- alter format of materials (type/highlight, etc.)
- color code materials
- eliminate answers
- extended time
- extended time
- large print
- modified quiz
- modified test
- Modify Assignments as Needed
- Modify/Repeat/Model directions
- necessary assignments only
- Other (specify in plans)
- other- named in lesson
- provide assistance and cues for transitions
- provide daily assignment list
- read class materials orally
- reduce work load
- shorten assignments
- study guide/outline
- utilize multi-sensory modes to reinforce instruction

Environment

- alter physical room environment
- assign peer tutors/work buddies/note takers
- assign preferential seating

- individualized instruction/small group
- modify student schedule (Describe)
- other- please specify in plans
- provide desktop list/formula

Resources

- <http://geometrycommoncore.com>
- <https://www.engageny.org/resource/high-school-geometry>
- <https://education.ti.com/en/timathnspired/us/standards-search>

- <http://geometrycommoncore.com>
- <https://education.ti.com/en/timathnspired/us/standards-search>
- <https://www.engageny.org/resource/high-school-geometry>

Honors Modifications
