# Unit #5 Modeling

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

## State Mandated Topics Addressed in this Unit

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|---|---|
| N/A | N/A |

## Unit Name

## Learning Objectives

- Objective 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).★

- Objective 2 - Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★

- Objective 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).★

## Essential Skills

- Essential Skill 1 - Use geometric shapes, their measurements, and their properties to describe objects. Example a basketball is a sphere.

- Essential Skill 2 - Apply concepts of density based on area and volume in modeling situations.

- Essential Skill 3 - Apply geometric methods to solve design problems.

## 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.2 | Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). |
| 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.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

- Classroom Total Participation Technique
- Classwork
- DBQ
- Essay
- Exit Ticket/Entrance Ticket/Do Now
- Journal / Student Reflection
- Kahoot
- Other named in lesson
- Peer Review
- Performance
- Problem Correction
- Project
- Quiz
- Rubric
- Teacher Collected Data
- 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

## 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.

## 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

## Honors Modifications

## Resources

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