

Unit 4: Circles

Content Area: **Math**
Course(s):
Time Period:
Length: **6 weeks**
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 #4 is all about circles and starts by deriving the equation of a circle. By deriving the equation for the circle, it helps prepare artists to move from the general plane into the coordinate plane. We then spend time studying many aspects of circles including tangents, arc lengths, secants, and chords.

Learning Objectives

- Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.
- Prove that all circles are similar.

Essential Skills

- Describe that inscribed angles on a diameter of a circle are right angles.
- Describe that the angle that is formed where the radius of a circle meets the line tangent to a circle is a perpendicular angle.
- Describe the relationship among inscribed angles, radii, and chords.
- Describe the relationship between central angle, inscribed angle and circumscribed angles.
- Identify inscribed angles, radii, and chords.
- Prove all circles are similar.

Standards

MATH.9-12.G.C.A.1

Prove that all circles are similar.

MATH.9-12.G.C.A.2

Identify and describe relationships among inscribed angles, radii, and chords. Include the

relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.

Instructional Tasks/Activities

G.C.A.1 Worksheet #1 – Circle Similarity

- g.c.a.1worksheet1.docx
- g.c.a.1worksheet1ans.pdf

G.C.A.2 Worksheet #2 – Arc Relationships

- g.c.a.2worksheet2.docx
- g.c.a.2worksheet2ans.pdf

- G.C.A.1 Worksheet #1 – Circle Similarity
- G.C.A.2 Worksheet #2 – Arc Relationships

Assessment Procedure

- Class discussions
- Classroom Total Participation Technique
- Classwork/homework
- 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
