Marietta City Schools

2024–2025 District Unit Planner

Grade 7 Honors Mathematics

Unit title	Unit 4: Making Relevant Connections with Geometry	**MYP year**	2	**Unit duration (hrs)**	*22.5 hours*

Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GA DoE Standards

Standards

7.GSR.5 Solve practical problems involving angle measurement, circles, area of circles, surface area of prisms and cylinders, and volume of cylinders and prisms composed of cubes and right prisms.
7.MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals.

Concepts/Skills to support mastery of standards

- Measure angles with and without a protractor. (GSR 5.1-5.2)
- Solve multi-step with supplementary, complementary, and vertical angles.(GSR 5.3)
- Derive the formulas for circumference and area of a circle.(GSR 5.4)
- Describe the relationship between pi and radius and diameter.(GSR 5.4)
- Solve real-world problems given the formulas for the area and circumference.(GSR 5.5)
- Solve real-world problems involving surface area of right prisms and cylinders.(GSR 5.6)
- Describe cross-sections from slicing three-dimensional figures. (GSR 5.7)
- Find the volume of geometric figures and explore volume as a measurable attribute of cylinders and right prisms(GSR 5.8)

Gifted Standards
Strand 2: Creative Thinking Skills
Students will develop and utilize creative thinking through a variety of products
and problem solving.
Strand 3: Higher Order Thinking and Problem Solving Skills
Students will develop and utilize critical thinking, higher order thinking, logical thinking and problem solving skills in various situations.
Strand 4: Advanced Communication and Collaboration Skills
Students will develop advanced communication and collaboration skills in
working toward a common goal with shared

accountability for the final outcome.

Vocabulary

Area
Circumference
Supplementary angles
Complementary angles
Vertical angles
Pi
Radius
Diameter
Adjacent angles
Two-dimensional
Three-dimensional
Volume

Notation

Key concept	Related concept(s)	Global context
Form The shape and underlying structure of an entity or piece of work, including its organization, essential nature and external appearance.	**Measurement, Space**	**Orientation in space and time**

Statement of inquiry

We can use formulas to model structures and relationships in the real world.

Inquiry questions

Factual— What is pi? What is the relationship between supplementary angles? What is the relationship between complementary angles? What is a cross-section?

Conceptual— How are all circles related? How are area and circumference of a circle related? How do relationships between sides and angles help you identify and describe shapes?

Debatable— Is there a best method for finding surface area?

MYP Objectives	Assessment Tasks

*What specific MYP **objectives** will be addressed during this unit?*	***Relationship** between summative assessment task(s) and statement of inquiry:*	*List of common formative and summative assessments.*
Criterion A: Knowing and Understanding Criterion C: Communication in Mathematics Criterion D: Applying Mathematics in Real Life Contexts:	Students will be expected to learn about drawing geometric figures using rulers and protractor with an emphasis on triangles, students will also write and solve equations involving angle relationships, area, volume, and surface area of fundamental solid figures	**Formative Assessment(s):** Unit 4 CFA **Summative Assessment(s):** Unit 4 Summative MYP: Designing a Sports Bag
Approaches to learning (ATL)		
Category: Social **Cluster: Collaboration Skills** **Skill Indicator: Give and receive meaningful feedback.** **Category: Thinking** **Cluster: Critical Thinking, Creative Thinking & Transfer** **Skill Indicator: Apply skills and knowledge in unfamiliar situations.**		

Learning Experiences Add additional rows below as needed.		
Objective or Content	**Learning Experiences**	**Personalized Learning and Differentiation**
7.GSR.5 Solve practical problems involving angle measurement, circles, area of circles, surface area of prisms and cylinders, and volume of cylinders and prisms composed of cubes and right prisms.	CLE - Vocabulary	In this learning plan, we will use the GA DOE vocabulary words and definitions. Students will help create a graphic organizer with the vocabulary words of the unit.
7.MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals. 7.GSR.5 Solve practical problems involving angle measurement, circles, area of circles, surface area of prisms and cylinders, and volume of cylinders and prisms composed of cubes and right prisms. • 7.GSR.5.1 Measure angles in whole non-standard units. • 7.GSR.5.1 Measure angles in whole nonstandard units. • 7.GSR.5.2 Measure angles in whole number degrees using a protractor.	CLE: Light It Up	Learning Plan Description: In this learning plan, students will recreate the Northern Lights using their understanding of measuring angles using a 180° protractor.
7.MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals. 7.GSR.5 Solve practical problems involving	CLE - Deriving Circle Relationships Part 2	In this learning plan, students will extend their understanding of area and derive the formula for the area of a circle by rearranging the area of a square and by adapting the formula for the area of a parallelogram.

angle measurement, circles, area of circles, surface area of prisms and cylinders, and volume of cylinders and prisms composed of cubes and right prisms. ● 7.GSR.5.4 Explore and describe the relationship between pi, radius, diameter, circumference, and area of a circle to derive the formulas for the circumference and area of a circle. ● 7.GSR.5.5 Given the formula for the area and circumference of a circle, solve problems that exist in everyday life		

Content Resources

Intervention Tasks

• Making Benchmarks Partition and/or combine like measures and communicate them, using numbers and units. 7.GSR.5.8

• Odd Solids Sort objects by their spatial features, with justification. 7.GSR.5.7

• Post It! Sort objects by their spatial features, with justification. 7.GSR.5.7

• Perspective on Picasso Identify classes of two- and three-dimensional shapes by their geometric properties. 7.GSR.5.7

• Building Specs Relate three-dimensional models to two-dimensional representations, and vice versa. 7.GSR.5.7

• Growth Industry Use linear scales and whole numbers of metric units for length, area, volume and capacity, weight (mass), angle, temperature, and time. 7.GSR.5.6

NCTM Illuminations

GaDoe Framework

Savvas:**6-11 Savvas Correlation to 2021 standards**