



Marietta City Schools
District Unit Planner

Second Grade

Unit Name **Unit 6: Geometry and Patterns**

Unit duration (Days)

3-4 Weeks

[GA K-12 Standards](#)

*In this unit, students will reason about attributes (features) of shapes as they describe, compare, and draw them. Students identify lines of symmetry in everyday objects. Students partition circles and rectangles and recognize that equal shares may be different shapes. Students will use shapes to create growing and shrinking patterns and identify and describe these patterns using addition and subtraction. *Students will continue to review and develop their understanding of the value of numbers to 1,000, the counting sequence, and solve real world problems involving addition and subtraction within 1,000.*

2.GSR.7 Draw and partition shapes and other objects with specific attributes, and conduct observations of everyday items and structures to identify how shapes exist in the world.

- **2.GSR.7.1** Describe, compare and sort 2- D shapes including polygons, triangles, quadrilaterals, pentagons, hexagons, and 3- D shapes including rectangular prisms and cones, given a set of attributes.
- **2.GSR.7.2** Identify at least one line of symmetry in everyday objects to describe each object as a whole.
- **2.GSR.7.3** Partition circles and rectangles into two, three, or four equal shares. Identify and describe equal-sized parts of the whole using fractional names (“halves,” “thirds,” “fourths,” “half of,” “third of,” “quarter of,” etc.).
- **2.GSR.7.4** Recognize that equal shares of identical wholes may be different shapes within the same whole.

2.NR.2 Apply multiple part-whole strategies, properties of operations and place value understanding to solve real-life, mathematical problems involving addition and subtraction within 1,000. **Teacher Note: 2nd grade should only be adding and subtracting tens and hundreds to 3 digit numbers and not any 3 digit with any 3 digit****

- **2.NR.2.1** Fluently add and subtract within 20 using a variety of mental, part-whole strategies.

2.PAR.4 Identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns.

- **2.PAR.4.1** Identify, describe, and create a numerical pattern resulting from repeating an operation such as addition and subtraction.
- **2.PAR.4.2** Identify, describe, and create growing patterns and shrinking patterns involving addition and subtraction up to 20.

2.MDR.5: Estimate and measure the lengths of objects and distance to solve problems found in real-life using standard units of measurement, including inches, feet, and yards.

- **2.MDR.5.5** Represent whole-number sums and differences within a standard unit of measurement on a number line diagram.

2.MP. 1-8 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.

- **2.MP.1** Make sense of problems and persevere in solving them.
- **2.MP.2** Reason abstractly and quantitatively.
- **2.MP.3** Construct viable arguments and critique the reasoning of others.
- **2.MP.4** Model with mathematics.
- **2.MP.5** Use appropriate tools strategically.
- **2.MP.6** Attend to precision.
- **2.MP.7** Look for and make use of structure.
- **2.MP.8** Look for and express regularity in repeated reasoning.

The [Framework for Statistical Reasoning](#) and the [Mathematical Modeling Framework](#) should be taught throughout the units. The [K-12 Mathematical Practices](#) should be evidenced at some point throughout each unit depending on the tasks that are explored. It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.

Essential Questions/ I CAN Statements

- I can describe geometric figures.
- I can classify shapes by their attributes.
- I can sort geometric figures based on attributes.
- I can use terms like angle, vertex (vertices), faces, sides, and edges to describe geometric figures.
- I can identify at least one line of symmetry in an everyday object.
- I can describe an object using what I know about symmetry.
- I can partition circles and rectangles into halves, thirds, and fourths (quarters).
- I can describe the shares using the words halves, thirds, and fourths (quarters).

Tier II Vocabulary Words- High Frequency Multiple Meaning

Attribute, edge, column, circle, cone, cube, cylinder, edge, equal, halves/ half of

Tier III Vocabulary Words- Subject/ Content Related Words

Irregular polygon, fourths, fractions, hexagon, partition, pentagon, quadrilateral, quarter of, rectangle, rectangular prism, solid figure, symmetry, third of, triangle, vertex/vertices

[K-12 Mathematics Glossary](#)

Assessments

Formative Assessment(s):

- MCS K-5 Activity & Assessment Collection
- Unit 6 Assessment

It is the responsibility of each schools' grade level PLC to identify appropriate instructional lessons and resources, based on data and student needs, using the suggested pacing duration. The following learning tasks have been vetted to align to the standards included in this unit. The GA Dept. of Education strongly recommends that any additional tasks, resources, and/or assessments used for instruction should be vetted using the [Quality Assurance Rubric](#), to ensure alignment to the state standards.

Objective or Content	Learning Experiences		Differentiation Considerations
<p>2.GSR7.1 Describe, compare and sort 2-D shapes including polygons, triangles, quadrilaterals, pentagons, hexagons, and 3-D shapes including rectangular prism and cones, given a set of attributes.</p> <p>2.GSR7.2 Identify at least one line of symmetry in everyday objects to describe each object as a whole.</p>	<p style="text-align: center;"><u>GA DOE Learning Plans</u></p> <p><u>Natural Shapes (1-2 Days)</u> <i>In this learning plan, students will use their knowledge of shapes to identify shapes in nature.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials <p><u>Four Triangles Many Shapes (3-4 Days)</u> <i>In this learning plan, students describe, and sort shapes they create with 4 triangles.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials <p><u>Investigating 3D Figures</u> <i>In this task, students visualize and discuss the attributes of 3-dimensional figures and construct a cube using simple materials.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials <p><u>Pattern Block Design</u> <i>In this learning plan, students will use pattern blocks to compose shapes and to recognize shapes that are made up of equal-size shapes.</i></p>	<p style="text-align: center;"><u>MCS Curriculum Resources</u></p> <p><u>SAVVAS enVision Topic 13: Shapes and Their Attributes</u></p> <ul style="list-style-type: none"> • Lesson 13-1: 2-Dimensional Shapes • Lesson 13-2: Polygons and Angles • Lesson 13-3: Draw 2-Dimensional Shapes • Lesson 13-4: Cubes • Lesson 13-8: Problem Solving: Repeated <p><u>MIP Module 14: Describing Geometric Shapes</u> <i>The key idea focused on in this module include identifying and describing two-dimensional and three-dimensional shapes, drawing shapes with specific attributes.</i></p> <ul style="list-style-type: none"> • Defining vs. Non-Defining Attributes of Shapes pg. 313-314 • Making Right Angle Finders pg. 314-315 • Exploring and Defining Shapes pg. 315-316 • Introducing Quadrilaterals pg. 317-318 • Quadrilaterals on the Geoboard pg. 318 • The Greedy Triangle pg. 319-320 • Describing Three-Dimensional Shapes pg. 320-321 • Additional Ideas for Support and Practice pg. 321-326 	

	<ul style="list-style-type: none"> • Teacher Guidance • Student Materials <p>Mosaic Puzzle <i>In this learning plan, students use a 7-piece mosaic puzzle to investigate two-dimensional shapes and their attributes.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials <p>Greedy Shapes <i>In this learning plan, students will explore attributes of a triangle and begin to reason with other shapes.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials 		
<p>2.GSR.7.3 Partition circles and rectangles into two, three, or four equal shares. Identify and describe equal-sized parts of the whole using fractional names “halves,” “thirds,” “fourths,” “half of,” “third of,” “quarter of,” etc.</p> <p>2.GSR.7.4 Recognize that equal shares of identical wholes may be different shapes within the same whole.</p>	<p>Making Cakes <i>In this learning plan, students will use partitioning strategies to create equal parts to solve problems.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials <p>Symmetry in the Real World <i>In this learning plan, students will discover lines of symmetry in everyday objects and use these lines of symmetry to describe each object as a whole.</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Materials 	<p><u>SAVVAS enVision Topic 13: Shapes and Their Attributes</u></p> <ul style="list-style-type: none"> • Lesson 13-5: Equal Shares • Lesson 13-6: Partition Shapes • Lesson 13-7: Equal Shares, Different Shapes <p><u>MIP Module 15: Partitioning Shapes</u> <i>The key ideas focused on in this module include partitioning circles and rectangles into two, three and four equal shares, understanding and correctly using terms such as half of, third of, fourth of and quarter of and understanding that equal shares of the same size do not have to look the same.</i></p> <ul style="list-style-type: none"> • Brownies and Cupcakes: Introducing Thirds pg. 329-332 • Sharing Granola Bars pg. 329-335 • Creating Fourths pg. 335-337 • Size Matters pg. 338 • Additional Ideas for Support and Practice pg. 338-341 	

<p>2.PAR.4 Identify, describe, extend, and create repeating patterns, growing patterns, and shrinking patterns.</p>			<p>Number Path State the forward and backward number word sequence in the range 0 –100 for twos, fives, and tens</p> <p>Smiley Face Solving multiplication and division problems using skip counting by twos, fives, and tens</p> <p>Three’s Company Solve multiplication problems by using repeated addition</p>
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Content Resources

MCS Links:

- [MCS 2nd Grade Math Curriculum Map](#)
- [MCS Math Instructional Framework](#)

GA DOE Links:

Access all GADOE Curriculum Resources at the following site: [GaDOE Inspire](#).

Additional Resources:

- Geoboards
- [Numberless Word Problems](#)
- [Visual Patterns](#)