



Marietta City Schools
District Unit 6 Planner

Fourth Grade

Unit Name	<i>Unit 6: Reasoning with shapes</i>	Unit duration (Days)	<i>4-5 Weeks</i>
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[GA K-12 Standards](#)

Previously students have learned that a right angle is a square corner, and that an acute angle is smaller than a right angle and an obtuse angle is larger than a right angle. In 4th grade, students will be introduced to the idea of degrees using a 360° protractor. They will begin measuring and exploring angles as an attribute to shapes.

4. GSR.8-Identify and draw geometric objects, classify polygons based on properties, and solve problems involving area and perimeter of rectangular figures

- 4.GSR.8.1 Explore, investigate, and draw points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, parallel lines, and lines of symmetry. Identify these in two dimensional figures.
- 4.GSR.8.2 Classify, compare, and contrast polygons based on lines of symmetry, the presence or absence of parallel or perpendicular line segments, or the presence or absence of angles of a specified size and based on side lengths.
- 4.GSR.8.3 Solve problems involving area and perimeter of composite rectangles involving whole numbers with known side lengths.

4.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. (It is important to note that MPs 1, 3 and 6 should support the learning in every lesson.)

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

I CAN Statements

- I can explore lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines and parallel lines.
- I can identify angles (right, acute, obtuse), perpendicular lines, parallel lines, and lines of symmetry.
- I can identify lines and angles within polygons.
- I can classify, compare, and contrast polygons.
- I can classify, compare, and contrast polygons by angle measures.
- I can classify, compare, and contrast triangles by angle measures.
- I can classify, compare, and contrast triangles based on or the presence or absence of angles of a specified size and based on side lengths.
- I can draw lines of symmetry in a figure.
- I can tell how many lines of symmetry are in a figure.
- I can estimate the area of a given object using grid paper
- I can justify my estimate of a given object using grid paper.
- I can give the precise area of a given object counting the squares on grid paper.
- I can determine the area of rectangles and squares using a variety of strategies.
- I can determine the perimeter of rectangles and squares using a variety of strategies.
- I can solve problems involving the area and perimeter of rectangles and squares.
- I can determine the area and perimeter of composite rectangles.
- I can find the area of a rectangle multiplying length times width.
- I can find the area of a composite figure by decomposing it into rectangles.
- I can find the perimeter of composite rectangles by adding the lengths of all sides.

Tier II Vocabulary Words- High Frequency Multiple Meaning

Tier III Vocabulary Words- Subject/ Content Related Words

Explore, investigate, draw, identify, classify, compare, contrast, area, quadrilateral , rectangles, triangle, rhombus, kites, square, parallelograms, trapezoids, pentagons, triangle, perimeter

acute angle, perpendicular, angle, polygon, congruent, equilateral, isosceles triangle, right angle, right triangle, line segment, scalene triangle, obtuse angle, parallel, symmetry, point, line, line segment, rays, angles
[K-12 Mathematics Glossary](#)

Assessments

Assessments

Formative Assessment(s):

- [MCS K-5 Activity & Assessment Collection](#)
- MIP pg. 252
- MIP pg. 257
- MIP pg. 258
- MIP pg. 263
- MIP pg. 268
- MIP pg. 303 (angles)
- MIP pg. 304 (angle types)
- MIP p. 310 (measuring angles)

Summative Assessment:

Unit 6 Summative Assessment
 Unit 6 Blueprint

- 4.GSR.8.1 MCS Mini 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>4. GSR.8-Identify and draw geometric objects, classify polygons based on properties, and solve problems involving area and perimeter of rectangular figures</p>	<p style="text-align: center;"><u>GA DOE Learning Plans</u></p> <p><u>Geometric Properties Demos</u> 4.GSR.8.1, 4.GSR8.2 <i>In this learning plan, students will explore lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, and parallel lines, and identify these in two-dimensional figures. (Suggested Time Frame: 1 -2 Days)</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles <p><u>Points, Lines, Rays, Oh My!</u> 4.GSR.8.1, 4.GSR.8.2 <i>In this learning plan, students will explore, investigate, and draw points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, parallel lines, and lines of symmetry. Students will identify these in two-dimensional figures. (Suggested Time Frame: 1-2 Days)</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles <p><u>Investigating Angles in Polygons</u> 4.GSR.8.1, 4.GSR.8.2 <i>This learning plan is intended to have students explore, investigate, and draw geometric elements and identify these in two-dimensional figures. Students will classify, compare, and contrast polygons based on the presence or absence of angles of a specified size and based on side lengths. (Suggested Time Frame: 1 - 2 Days)</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles 	<p style="text-align: center;"><u>MCS Curriculum Resources</u></p> <p><u>Savvas EnVision Topic 16: Lines, Angles and Shapes</u> <i>Topic 16 focuses on understanding how shapes can be analyzed, described, and classified, with attention to properties of sides, angles, and lines of symmetry.</i></p> <ul style="list-style-type: none"> • Lesson 16-1- Lines (Except intersecting lines) • Lesson 16-2-Classify Triangles (Just angles?) • Lesson 16-3-Classify Quadrilaterals • Lesson 16-4- Line Symmetry • Lesson 16-5- Draw shapes with Symmetry • Lesson 16-6-Critique Reasoning <p><u>Savvas EnVision Topic 13: Measurement: Find Equivalence in Units of Measure</u> <i>Topic 13 focuses on converting measurements from larger to smaller units with one unit of measurement, customary or metric. It also focuses on solving real-world problems involving distance or area and perimeter.</i></p> <ul style="list-style-type: none"> • Lesson 13-6-Solve area and perimeter problems <p><u>MIP Module 12- Understanding Area and Perimeter</u> <i>In fourth grade, students use their mathematical reasoning and their understanding of the concepts of area and perimeter to find solutions to real-world and mathematical problems.</i></p> <ul style="list-style-type: none"> • Revisiting Area and perimeter p. 250 - 251 • Area or Perimeter? p. 251 - 252 • Pattern Block Area and Perimeter p. 253 • Challenge Problem p. 253 • Pick a Problem p. 254 • Perimeter known, Side Missing p. 255 	<p style="text-align: center;"><u>GADOE Intervention Tasks</u></p> <p><u>Fold and Cut</u> :Explore line symmetry and the names and attributes of two dimensional mathematical shapes.</p>

Investigating Angles in Triangles

4.GSR.8.1, 4.GSR.8.2

This learning plan is intended to have students explore, investigate, and draw geometric elements and identify these in triangles. Students will classify, compare, and contrast triangles based on the presence or absence of angles of a specified size and based on side lengths. (Suggested Time Frame:)

- [Teacher Guidance](#)
- [Student Reproducibles](#)

Exploring Symmetry

4.GSR.8.1, 4.GSR.8.2

In this learning plan, students will explore lines of symmetry in various polygons and designs. (Suggested Time Frame: 1 - 2 Days)

- [Teacher Guidance](#)
- [Student Reproducibles](#)

Exploring Area

4.GSR.8.3

In this plan, students will estimate the area of different size pieces of chocolate and count the squares to determine if their estimate is right or wrong. While the sizes of the chocolate are similar, the areas are different. (Suggested Time Frame: 1 - 2 Days)

- [Teacher Guidance](#)
- [Student Reproducibles](#)

Area and Perimeter of Rectangles, Squares, and Composite Rectangles

4.GSR.8.3

In this learning plan, students will estimate the area of different size pieces of chocolate and count the squares to determine if their estimate is right or wrong. While the sizes of the chocolate are similar, the areas are different. (Suggested Time Frame: 1 - 2 Days)

- [Teacher Guidance](#)
- [Student Reproducibles](#)

- Area Known, Side Missing p. 257
- Finding the Area and Perimeter of Irregular Figures p. 260 - 263
- Pentomino Search p. 265 - 266
- Exploring Perimeters p. 266 - 268
- Same Perimeter, Different Area p. 268 - 269
- Missing Side Challenge p. 260
- Measuring Area and Perimeter p. 264
- Spaghetti and Meatball for All p. 270
- Twice as Much p. 271
- Ordering Rectangles p. 271

MIP Module 14-Exploring Geometry and Geometric Measurement

In fourth grade, students use their mathematical reasoning and their understanding of the concepts of area and perimeter to find solutions to real-world and mathematical problems.

Lines points and Angles

- Points, Lines, Line Segments and Rays p. 294-296
- Geoboards p. 297-299
- Measuring Angles p. 299-302
- Sorting Angles p. 302-303
- Comparing Angles with Geoboards p. 304
- Identifying Points, Lines and Rays p. 305
- Talk About It/Write About It p. 306
- Lines and Angle Hunt p. 306
- Art and Geometry p. 306

Measuring and Drawing Angles

- Introducing a Protractor p. 307
- Drawing Angles with a Protractor p. 309
- Talk About It/Write It p. 311
- Measuring Angles (Angles) p. 311
- Angle Puzzles p. 312
- Estimating Degree Measurements with Angle Plates p. 312-313
- Exploring Adjacent Angles p. 313-314

	<p><u>K-12 School Building</u></p> <p>4.GSR.8.3 <i>In this learning plan, students will explore area of composite rectangles through the context of the construction of a K-12 school building. (Suggested Time Frame: 2 - 3 Days)</i></p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles • Notice and Wonder <p><u>Finding Area and Perimeter of Composite Rectangles</u></p> <p>4.GSR.8.3 In this learning plan, students will find the area of composite figures by separating them into non overlapping rectangles. Once they have done this, they will find the area of each simpler rectangle and then add the areas together to find the total area of the composite figure. (Suggested Time Frame: 1 - 2 Days)</p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles <p><u>Perimeter’s Connection to Area</u></p> <p>4.GSR.8.3 In this learning plan, students will find the perimeter and area of rectangles and plan for a school garden. (Suggested Time Frame: 2 -3 Days)</p> <ul style="list-style-type: none"> • Teacher Guidance • Student Reproducibles 		
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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:

- Number Corner or Calendar Time
- Number Talks
- Estimation Activities/[Estimation 180](#)
- [Which One Doesn’t Belong?](#)
- [Same or Different?](#)

- [Splat!](#)
- [Splash Learn - Area and Perimeter Games](#)
- [Splash Learn - Identify Parallel and Perpendicular Lines](#)