

Grade 5

Unit 4.2	Unit Title Geometry – Two-Dimensional Shapes	Lesson 1 of 2	Day 1 - 3
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Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p>5.G.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. <i>For example, all rectangles have 4 right angles and squares are rectangles, so all squares have 4 right angles.</i></p>	<ul style="list-style-type: none"> •Identify and classify polygons. •Recognize that attributes belonging to a category of two-dimensional figures (shapes) also belong to all subcategories of that category. •Classify and draw triangles (and quadrilaterals) using their properties. 	<p>SMP3 Construct viable arguments and critique the reasoning of other.</p> <p>SMP4 Model with mathematics.</p> <p>SMP6 Attend to precision.</p>	<ul style="list-style-type: none"> •How do you identify and classify polygons? •How can you classify triangles? •How can you classify quadrilaterals? •How can you use the strategy <i>act it out</i> to approximate whether the sides of a figure are congruent?
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> •Recognize line segments and angles. •Classify an angle as right, acute, or obtuse. •Understand opened and closed plane figures. •Meaning of congruent sides and vertex. 	<p>Attributes, category, subcategory</p> <p>Polygon, regular polygon</p> <p>Triangle, quadrilateral, pentagon, hexagon, heptagon, octagon, nonagon, decagon</p> <p>Types of triangles (by sides): equilateral, isosceles, scalene, (by angle) acute, obtuse, right</p>	<p>That a square is a rectangle.</p> <p>Meaning of vocabulary words.</p>	<p>OnCore Lessons 97 – 99 Student pages 193 – 198</p> <p>Investigations Unit 5 Session 1.1, 1.2, 1.4 – 1.6</p> <p>K-5 Math Resources <u>Identifying Quadrilaterals</u> <u>Quadrilateral Tangram Challenge</u></p>

Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
<p>Teachers will guide students to identify, classify and name polygons by their number of sides. They will help students to classify and draw triangles and rectangles given their attributes of number of sides or angle sizes. Teachers will help students to understand that attributes belonging to a category of 2-D figures also belong to subcategories of that category. Teachers will use OnCore Lessons, Investigations as needed, and K-5 Math Resources as time allows.</p>	<p>Students will become proficient at classifying triangles (according to side lengths and angles measures) and classifying quadrilaterals according to their attributes. They will learn to use the strategy <i>act it out</i> to determine whether the sides of a figure are congruent. Students will understand that attributes belonging to a category of 2-dimensional figures (shapes) also belong to all subcategories of that shape. See 5.G.3 Example.</p>

Grade 5

Unit 4.2	Unit Title Geometry – Two-Dimensional Shapes	Lesson 2 of 2	Day 4 - 5
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Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
5.G.4 Classify two-dimensional figures in a hierarchy based on properties.	Classify two-dimensional figures in a systematic order based on properties.	SMP3 Construct viable arguments and critique the reasoning of other. SMP4 Model with mathematics. SMP6 Attend to precision.	Can you draw a diagram that shows the relationship and hierarchy of quadrilaterals or triangles?
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> •Recognize parallel and perpendicular lines. •Understand the meaning of congruent sides and angles of a plane figure. 	Parallel line Perpendicular line <i>Types of quadrilaterals:</i> Parallelogram, rectangle, rhombus, square, trapezoid <i>Types of triangles (by sides):</i> equilateral, isosceles, scalene, (by angle) acute, obtuse, right	Misinterpreting vocabulary words.	OnCore Lesson 100 Student pages 199- 200 Investigations Unit 5 Session 1.3 Investigations Snap-in Unit 5 Session 2.7A <i>Assessment for both G.3&G.4.</i> K-5 Math Resources Triangle Hierarchy Diagram □Quadrilateral Hierarchy Diagram

Instruction

9. Instruction Practices (What are the teachers doing)	10. Learning Practices (What are the students doing)
Teachers will guide students to classify 2-dimensional figures (mainly triangles and quadrilaterals) in a hierarchy based on their properties. Quadrilaterals may be ordered by their number of parallel sides and/or right angles, Triangles by the number of congruent sides and/or type of angles. Understanding this hierarchy also helps students to understand the relationship between the shapes. Teachers will use the OnCore Lesson 100 along with Session 1.3. If time allows, the K-5 Math Resource Activities. Assessment may be considered.	Students will learn to classify 2-D figures (triangles and quadrilaterals) in a hierarchy based on their properties. They will become familiar with a diagram that shows the relationship between quadrilaterals and the number of their parallel sides and/or right triangles. Students will study the properties of triangles to place them in a hierarchy based on these results. They will practice using the OnCore and Investigations student pages along with the K-5 Math Resource activities where they will construct a diagram of triangle and quadrilateral hierarchies’.