



Grade 3 - Unit F - Quadruple the Fun

Unit Focus

In Unit 6, students analyze polygons in various contexts including in relationship to fractions. They develop increasingly precise ways to describe, classify, and make generalizations about two-dimensional shapes, particularly quadrilaterals. Models such as tangrams, toothpicks, colored tiles, linear units, and geoboards help build an understanding that shared attributes can define a larger category. In addition, quadrilaterals are partitioned into parts with equal areas and the area of each equal part is expressed as a unit fraction of the whole.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer	
Standards - Common Core - Mathematics: 3 - Reason with shapes and their attributes. - Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. (CCSS.MATH.CONTENT.3.G.A.1) - Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape. (CCSS.MATH.CONTENT.3.G.A.2) - Mathematical Practices - Attend to precision. (CCSS.MATH.MP.6) - Look for and make use of structure. (CCSS.MATH.MP.7) Madison Public Schools Profile of a Graduate Design: Engaging in a process to refine a product for an intended audience and purpose. (POG.2.2)	<i>Students will be able to independently use their learning to...</i> T1 Identify and generalize patterns and structure in numbers, expressions, data and objects. T2 Demonstrate fluency with mathematical computations and definitions.	
	Meaning	
	Understanding(s)	Essential Question(s)
	<i>Students will understand that...</i> U1 Mathematicians see patterns to make generalizations about structures and relationships. U2 Mathematicians communicate precisely and clearly using mathematical definitions.	<i>Students will keep considering...</i> Q1 What generalizations can be made from this pattern? Q2 How can I use mathematical definitions to better explain my solution?
	Acquisition of Knowledge and Skill	
	Knowledge	Skill(s)
	<i>Students will know...</i> K1 shared attributes of shapes help define a larger category. K2 two-dimensional shapes can be described and classified to make generalizations about them. K3 equivalent fraction pieces do not have to be congruent in order to have equal area. K4 Vocabulary: angle, attribute, polygon, quadrilateral, rhombus, rectangle, square, trapezoid, congruent, parallel, parallelogram, hexagon, pentagon, equilateral, equivalent fraction, area, half, congruent, symmetry, denominator, numerator, fraction, acute angle, obtuse angle, right angle, perpendicular lines, vertex/corner	<i>Students will be skilled at...</i> S1 defining attributes of quadrilaterals S2 identifying rhombuses, rectangles, squares, trapezoids and parallelograms as quadrilaterals S3 constructing and drawing quadrilaterals that are not rhombuses, rectangles or squares S4 building models of shapes based on generalizations and nonexamples S5 recognizing congruent and noncongruent fraction pieces S6 partitioning shapes into parts with equal area