Unit 3: Reasoning with Shapes

Unit #:	APSDO-00017521	Duration:	15.0 Week(s)	Date(s):	11-14-2016 to 11-14-2016

Team:
Jodi Kryzanski (Author), Erin Dolch, Jennifer Gregg, Kristen Jakupco, Lori Maniatis, Jeana Occhialini, Mary Labowsky, Kristin Cutler, Michele Lemis, Anne Marie Riley, Sally Tino-Pirla, Lisa Banever, Rebecca Haughey, Traci Protz
Grades:
2
Subjects:
Mathematics

Unit Focus

In this unit, students focus on the exploration of 2-D and 3-D shapes and how they are constructed. Students will learn to recognize 2-D and 3-D shapes and describe their specific attributes, such as number of sides, angles and vertices. Upon completion of this unit, students will also be able to partition circles and rectangles into two, three and four equal shares and describe the shares using the words halves, thirds and fourths. Primary instructional materials for this unit include On Core and Everyday Mathematics.

Stage 1: Desired Results - Key Understandings

Established Goals

Common Core
Mathematics: 2

- Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.1 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. *CCSS.MATH.CONTENT.2.G.A.1*
- Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. *CCSS.MATH.CONTENT.2.G.A.2*
- Partition circles and rectangles into two, three, or four equal shares, describe the

Transfer

T1 (T40) Describe, classify, and compare objects by their attributes.
T2 (T41) Compose/decompose shapes or attributes to form new shapes.
T3 (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense.

Meaning

Understandings	Essential Questions
U1 (U400) Objects in the world can be described by their shape. **U2** (U401) Every shape has properties that define it. **U3** (U411) 2-D shapes can be categorized by the number and nature of the attributes that	**Q1** (Q401) How do these shapes (categories of shapes) compare with one another? **Q2** (Q402) What shape(s) can I create? How do I show its attributes? **Q3** (Q510) What type(s) of problem is this?

shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. *CCSS.MATH.CONTENT.2.G.A.3* • Reason abstractly and quantitatively. *CCSS.MATH.MP.2*	form them. **U4** (U414) 3-D shapes can be categorized by the number and nature of their surfaces. **U5** (U510) Every problem is a member of a category of problems that has a similar structure and set of characteristics.	
	Acquisition of Knowledge and Skill	
	Knowledge	**Skills**
		S1 Identify the 3D shape for a given object **S2** Identify polygons and their attributes **S3** Recognize and count faces, edges, and vertices of all 3D shapes **S4** Count angles of a polygon **S5** Write a fraction for a shaded part of the whole **S6** Draw equal parts for a given fraction **S7** Divide figures into halves, thirds and fourths **S8** Describe shares using words: halves, thirds and fourths