Core Content

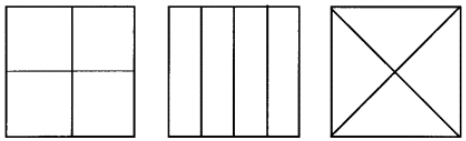
Cluster Title: Reason with shapes and their attributes.
Standard 2: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. (For example, partition a shape into 4 parts with equal areas, and describe the area of each part as 1/4 of the area of the shape.) **Note: This domain is limited to fractions with denominators 2, 3, 4, 6, and 8.**
MASTERY Patterns of Reasoning:
Conceptual: Students will understand that shapes can be divided into equal parts. Students will understand that each part is a fraction of the whole. **Procedural:** Students can divide a variety of shapes into equal parts. Students can label each part as a fraction. Students can explain their reasoning verbally or in written form. (e.g., 1/2 is 1 out of 2 equal parts.). **Representational:** Students can model the division of shapes into equal parts.

Supports for Teachers

Critical Background Knowledge
Conceptual: Students will understand that rectangles can be divided into two, three, or four equal shares. Students will understand that equal shares of identical wholes do not have to have the same shape. Students will understand what a numerator and a denominator represent. Students will understand that area is additive. **Procedural**: Students can divide circles and rectangles into two, three, or four equal shares. Students can label the parts of the whole.

Code: 3G2

Students can describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths, etc.
Students recognize that equal shares of identical wholes need not have the same shape.



Representational:
Students can model the division of a square into 4 equal parts 3 different ways.

Academic Vocabulary and Notation

halves (1⁄2), thirds (1/3), fourths (1⁄4), sixths (1/6), eighths (1⁄8), equal parts, area

Instructional Strategies Used	Resources Used
Model shapes and then divide them in to equal parts. Now see if you can take the same shape and divide it equally but in a different way than before. Explain that even though the pieces may look very different, they are still the same unit fraction of the whole. Explore how many triangles, rhombi, or trapezoids will fit on a variety of pattern block shapes. Fold and cut paper into different fractional pieces. Use the following manipulatives: pattern blocks, graph paper, geoboards, colored paper.	See books from the third grade Numbers and Operations–Fractions domain. http://nlvm.usu.edu/en/nav/category_g_2_t_3.html

Assessment Tasks Used	
Skill-Based Task: What fraction of the shape is missing—1/2, 1/3, 1/4, or 3/4? 	**Problem Task:** What are all the ways you can divide a rectangular birthday cake into 8 equal parts? Explain which way you would like the cake to be cut for your birthday.