Core Content

Cluster Title: Reason with shapes and their attributes.

Standard 3: Partition circles and rectangles into two and four equal shares; describe the shares using the words *halves*, *fourths*, and *quarters;* and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

MASTERY Patterns of Reasoning:

Conceptual:

Students will understand that circles and rectangles can be divided into equal shares.
Students will understand that circles and rectangles can be divided into non-equal shares.
Students will understand that two equal shares of a shape are halves.
Students will understand that four equal shares of a shape are fourths or quarters.
Students will understand that decomposing circles and rectangles into more equal shares creates smaller shares.

Procedural:

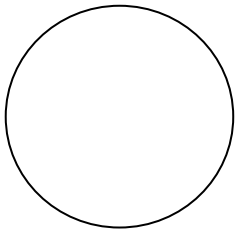
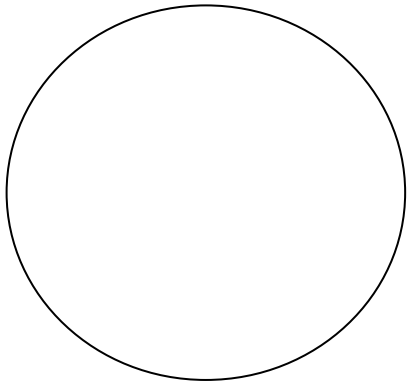
Students can identify shares as halves and fourths/quarters.
Students can identify a share as half of or fourth of/quarter of a whole.
Students can determine that two or four equal shares can equal a whole.
Students can explain part/whole relationships using mathematical vocabulary (halves, fourths, quarters, etc.).
Students can combine halves and fourths into a whole.

Representational:

Students can partition circles and rectangles into two equal shares using manipulatives (e.g., fraction circles).
Students can partition circles and rectangles into four equal shares using manipulatives (e.g., fraction circles).

Supports for Teachers

Critical Background Knowledge	
Conceptual: Students will understand attributes of a circle. Students will understand attributes of a rectangle. **Procedural:** Students can identify circles of various sizes and orientations. Students can identify rectangles of various sizes and orientations. **Representational:** Students can draw a circle. Students can draw a rectangle.	
Academic Vocabulary and Notation	
half, whole, quarter, fourth, partition, equal share, fourth of, half of, quarter of,	
Instructional Strategies Used	**Resources Used**
Partition many different circles and rectangles into equal shares (pizza, cookies, Hershey bars, graham crackers, apples, sandwiches, tortillas, etc.). Use Geoboards to create rectangles and circles and divide them into halves and fourths.	Smart Board applications—keyword “equal parts” Ideas for teaching partitioning Ideas for Teaching Fractions: http://www.superteacherworksheets.com/fraction-cont.html Murphy, Stuart J. *Give Me Half (MathStart 2)*. HarperCollins, 1996.

Assessment Tasks Used	
Skill-Based Task: Partition the rectangle into halves. Partition the circle into fourths. 	**Problem Task:** Sam is having a pizza party. Show how Sam can share the pizza equally.