

Replicating Reflections

Plant Part Art- Lesson 3

Lesson written by Jenna Mobley for Georgia Organics



For the Classroom:

- Group structure - whole group or small group
- Location - at tables
- Approximate time - 20 minutes



Standards:

- CCSS.MATH.CONTENT.4.G.A.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Materials:

- Green paper (3 per child)
- Yellow paper (1 per child)
- Scissors (1 per child)
- Pencil (1 per child)
- Okra pod, cut lengthwise
- Okra leaf
- Mirror
- ["Searching for Symmetry in Okra" Posters](#)
- ["Replicating Reflections and Rotations" Examples](#)

Procedure:

1. Engage:

- a. Display "Searching for Symmetry in Okra" Posters or student work created in Lesson 2. "If both okra leaves and okra pods have reflectional symmetry, we should be able to put a mirror on the line of symmetry and see the entire shape." Demonstrate for children.
- b. "Likewise, if we fold a piece of paper in half, we should be able to cut out half of the shape along the fold. Then when we open it up, we should see the entire shape."

2. Explore:

- a. Distribute 2 pieces of green paper, 1 pair of scissors, and a pencil to each child.
- b. Model for children how to fold the paper in half and draw half of the shape of an okra pod along the fold. Cut along the line, then open up the paper to reveal the entire shape. Provide time for children to do the task independently.
- c. Then repeat for the shape of the okra leaf.

3. Elaborate:

- a. Distribute 1 more piece of green paper and 1 piece of yellow paper to each child.
- b. Challenge students to fold the yellow paper in half, twice. Then draw a quarter of the shape of a flower (one petal) around the central point. Cut along the line, then open up the paper to reveal the entire shape and its rotational symmetry. Provide time for children to try it independently.
- c. Challenge students to continue that process to make a shape similar to the cross-section of okra with 8 points.

Teacher's Note:

Children can use a dark red colored pencil to color the inside of the yellow flower, to closer replicate the coloring on the okra flower. All of the children's leaves, pods, and flowers could be added to large construction paper stems for a collaborative art project to be displayed on the hallway wall or on the classroom door.