

3–5 Years

Mathematics: Geometric and Spatial Knowledge

WHEN INTRODUCED AND EMPHASIZED: Weeks 4–6, 9–10, and 35–36

BEHAVIORS TO OBSERVE

- Recognizing and Labeling Shapes
- Creating Basic Shapes
- Recognizing How Shapes Are Related to Each Other
- Recognizing Variations of Basic Shapes

OBSERVATION OPPORTUNITIES

Recognizing and Labeling Shapes

In what ways does the child recognize and label shapes as he/she:

- finds circles and squares on a shape hunt (Week 4, Day 3 group activity)?
- creates various shapes with play dough; labels and describes shapes made (Week 4, Day 5 center activity)?
- matches shapes, recognizes shapes in the room, and labels shapes as he/she plays (any free play period after Week 4, Day 4)? Examples: He/she points to a block and says “This block is a square.” He/she points to a cereal box in dramatic play and says “The box is a rectangle.”

Creating Basic Shapes

In what ways does the child form basic shapes as he/she:

- draws or creates shapes with different materials in the classroom (any free play period after Week 5, Day 3)? Example: He/she draws recognizable shapes with finger in sand.
- “traces” the outline of shapes with yarn (Week 5, Day 5 center activity)?
- makes basic shapes with yarn (Week 9, Day 1 group activity)?

Recognizing How Shapes Are Related to Each Other

In what ways does the child recognize how shapes are related to each other as he/she:

- puts together two triangles to form a square and/or puts together two squares to form a rectangle (Week 9, Day 2 group activity)?
- combines shapes to create a picture (Week 9, Day 3 center activity)?

- creates a new shape by cutting a shape in half or combining two shapes (any free play period after Week 9, Day 2)? Example: Child folds a square on the diagonal, cuts it in half, and says he/she has made two triangles.

Recognizing Variations of Basic Shapes

In what ways does the child recognize variations of basic shapes as he/she:

- names a shape that a food item resembles (any mealtime after Week 5, Day 2)? Examples: Child notices that a cracker is shaped like a square or rectangle, or that a biscuit is shaped like a circle.
- finds examples of the hidden shapes by selecting from his/her collection of shapes (Week 10, Day 3 group activity)?
- creates shapes with play dough; compares play dough shapes to triangle pattern blocks (Week 10, Day 4 center activity)?

FOLLOW-UP LEARNING SUPPORTS

Reinforce

The following activities are designed to support the ongoing development of geometric and spatial knowledge.

Recognizing and Labeling Shapes

- Encourage a child to describe why he/she matched a classroom item to its corresponding shape.
- Encourage a child to find and name shapes outside. Invite the child to describe the shapes found, such as a round stone shaped like a circle.

Creating Basic Shapes

- Encourage a child to describe characteristics of each shape he/she made.
- Invite children to combine two or more shapes and determine what type of shape is made.

Recognizing How Shapes Are Related to Each Other

- Encourage two children to work together to create a “shape house” with various classroom materials, such as blocks, play dough, or paper and writing tools. Invite children to take turns explaining what shapes they used to build the “house.”
- Repeat the Week 44, Day 4 group activity to encourage children to figure out how many triangles are in a hexagon.

Recognizing Variations of Basic Shapes

- Provide different sizes of triangles. Encourage children to describe how the triangles are the same and different.
- Encourage children to draw or make variations of shapes and describe the shapes. Encourage children to describe the characteristics of the shapes.

Reintroduce

The following activities are designed to support the development of geometric and spatial knowledge among children who need additional support for understanding shapes and spatial relationships. These activities are also appropriate for all children.

Recognizing and Labeling Shapes

- Repeat the Week 4, Day 1 group activity to promote understanding of a shape, circle, triangle, and square.
- Repeat the Week 5, Day 1 group activity to emphasize characteristics of a rectangle.

Creating Basic Shapes

- Repeat the Week 5, Day 3 group activity to review how to draw a triangle, including how to make a triangle with fingers.
- Repeat the Week 9, Day 1 group activity to emphasize the number of corners and straight lines of each shape as children trace the outline of the shape with yarn.

Recognizing How Shapes Are Related to Each Other

- Repeat Week 9, Day 2 group activity to support children's understanding of how two squares can form a rectangle, and how a square cut on the diagonal forms two triangles.
- Provide pattern blocks and encourage children to place two squares together to make a rectangle, or two triangles together to make a square.

Recognizing Variations of Basic Shapes

- Repeat the Week 5, Day 2 group activity to emphasize how corners are the same on rectangles, but can be different sizes on triangles.
- Use the Week 10, Day 2 group activity to help children understand that shapes can be different sizes. Emphasize that shapes come in different sizes.