

# LESSON 5

## Objective

Sort objects by one attribute.

## Common Core State Standards

- **K.MD.3** Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

## Measurement and Data

# Sort by One Attribute

As part of sorting, children must recognize and describe the attributes of an object, such as color, shape, and size. Then children must group the object with objects that share the same attribute or attributes. This requires that children identify similarities and differences in order to tell which objects belong and which do not belong. Matching and sorting objects by one attribute lays the foundation for patterning, which is a basic part of algebra.

**Try It!** Perform the Try It! activity on the next page.

## Talk About It

Discuss the Try It! activity.

- **Ask:** *What is sorting?*
- **Ask:** *When you sorted the Attribute Blocks by color, how many different groups did you make? How were the blocks in each group the same? (Repeat questions for sorting by shape and sorting by size.)*
- Display the following block shapes for children: circle, square, rectangle, triangle. **Say:** *Imagine that you have a set of blocks that are circles, squares, rectangles, and triangles.* **Ask:** *If you sorted the blocks by shape, how many groups would you make?*

## Solve It

With children, reread the problem. Then instruct children to draw a picture showing one of the ways that they sorted the blocks. Encourage children in each group to show the blocks sorted in different ways (by color, by shape, or by size). Then ask children to use their drawings to explain one of the ways of sorting the blocks to the other children in their group.

## More Ideas

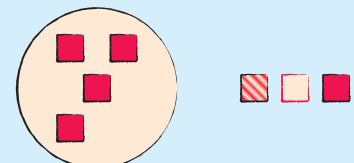
For other ways to teach about sorting objects by one attribute—

- Give each group of children an assortment of Link 'N' Learn® Links. Have children sort the links into groups by color and make one necklace of each color.
- Give each group of children a variety of Pattern Blocks in assorted shapes. Have them sort the blocks by shape.
- Give each group of children an assortment of Three Bear Family® Counters. Then have children sort the counters into groups based on size.

## Formative Assessment

Have children try the following problem.

Circle the shape that belongs with the rest.



**Try It!** 20 minutes | Groups of 6

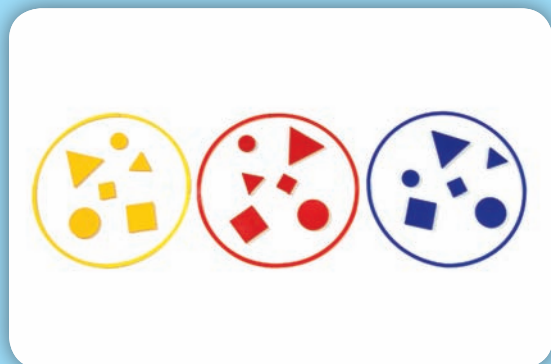
Here is a problem involving sorting objects by one attribute.

*Ms. Barton divided her class into groups. Then she gave each group 3 small and 3 large circles, 3 small and 3 large squares, and 3 small and 3 large triangles. Each shape and size came in yellow, red, and blue. What are three ways the children can sort the blocks?*

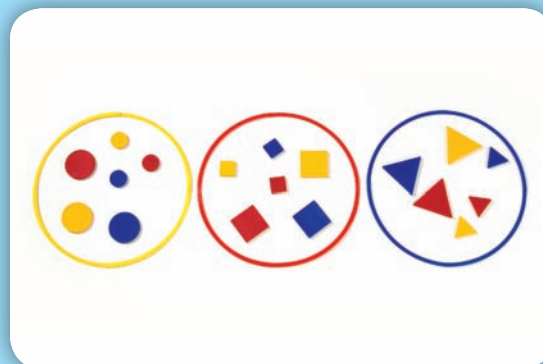
Introduce the problem. Then have children do the activity to solve the problem. Distribute materials to each group. Make sure that the Attribute Blocks you give to each group are all the same thickness to avoid possible confusion based on this additional attribute. **Say:** *When you sort, you put things into groups with other things that are the same.*

**Materials**

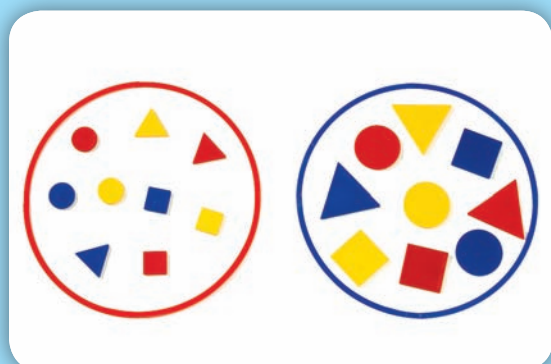
- Attribute Blocks (3 small and 3 large of each of the following shapes in yellow, red, and blue per group: circle, square, and triangle)
- Attribute Sorting Circles (3 per group)



**1. Say:** *You will be sorting these blocks by color.* Instruct children to place the blocks in the corresponding Sorting Circles by color. Then have children check that the blocks were sorted correctly, clear the Sorting Circles, and put all of the blocks into a pile.



**2. Say:** *Now you will be sorting these blocks by shape.* Instruct children to sort the blocks by shape by putting circles in the yellow Sorting Circle, squares in the red Sorting Circle, and triangles in the blue Sorting Circle. Then have children check that the blocks were sorted correctly, clear the Sorting Circles, and put all of the blocks into a pile.



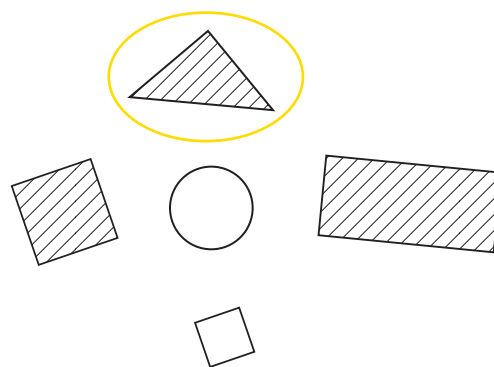
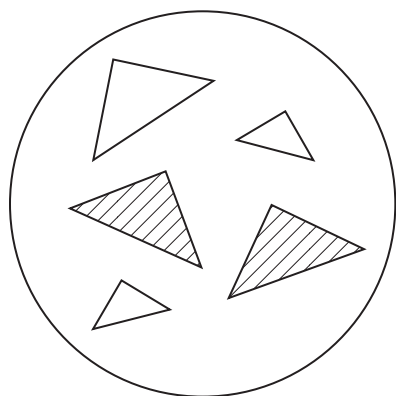
**3. Say:** *Now you are going to sort blocks by size.* **Ask:** *How many Sorting Circles will you need?* Guide children to the conclusion that they will need to use two Sorting Circles to sort their blocks by size (large and small). Then have children sort their blocks by size.

**Look Out!**

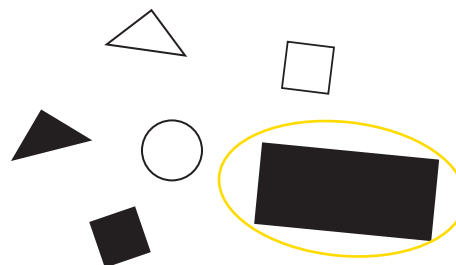
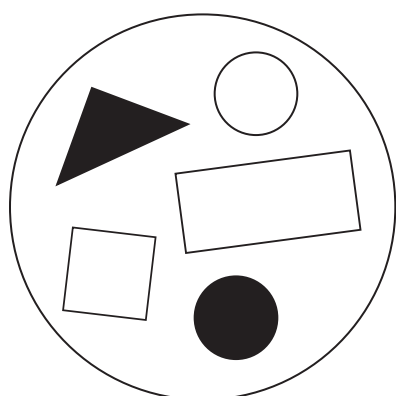
Watch out for children who are confused by the attributes that they are not sorting by in each step. For example, when sorting by color, children may become confused or focus on the different shapes and sizes of the blocks. Remind these children in each step that they are sorting by only one attribute.

Check children's work.

1.



2.

**Directions**

1. Circle the shape that belongs with the shapes inside the Sorting Circle. 2. Circle the shape that belongs with the shapes inside the Sorting Circle.



## Answer Key

Check children's work.

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### Challenge

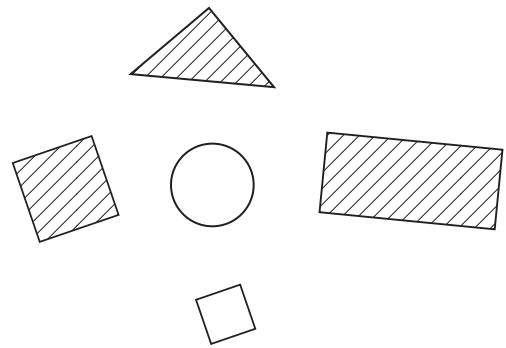
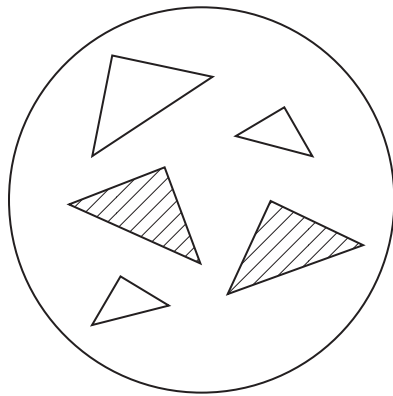
Use Attribute Blocks. Sort the blocks anyway you like. Draw and color the blocks you sorted. Describe how you sorted them.

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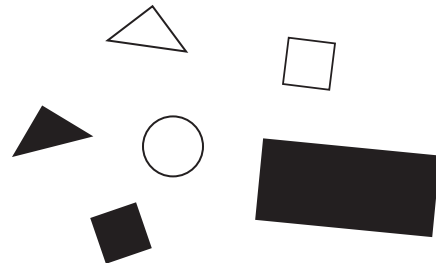
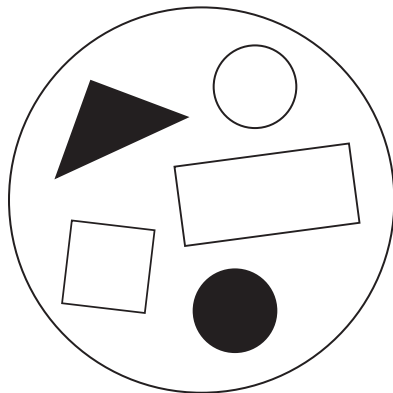


Name \_\_\_\_\_

1.

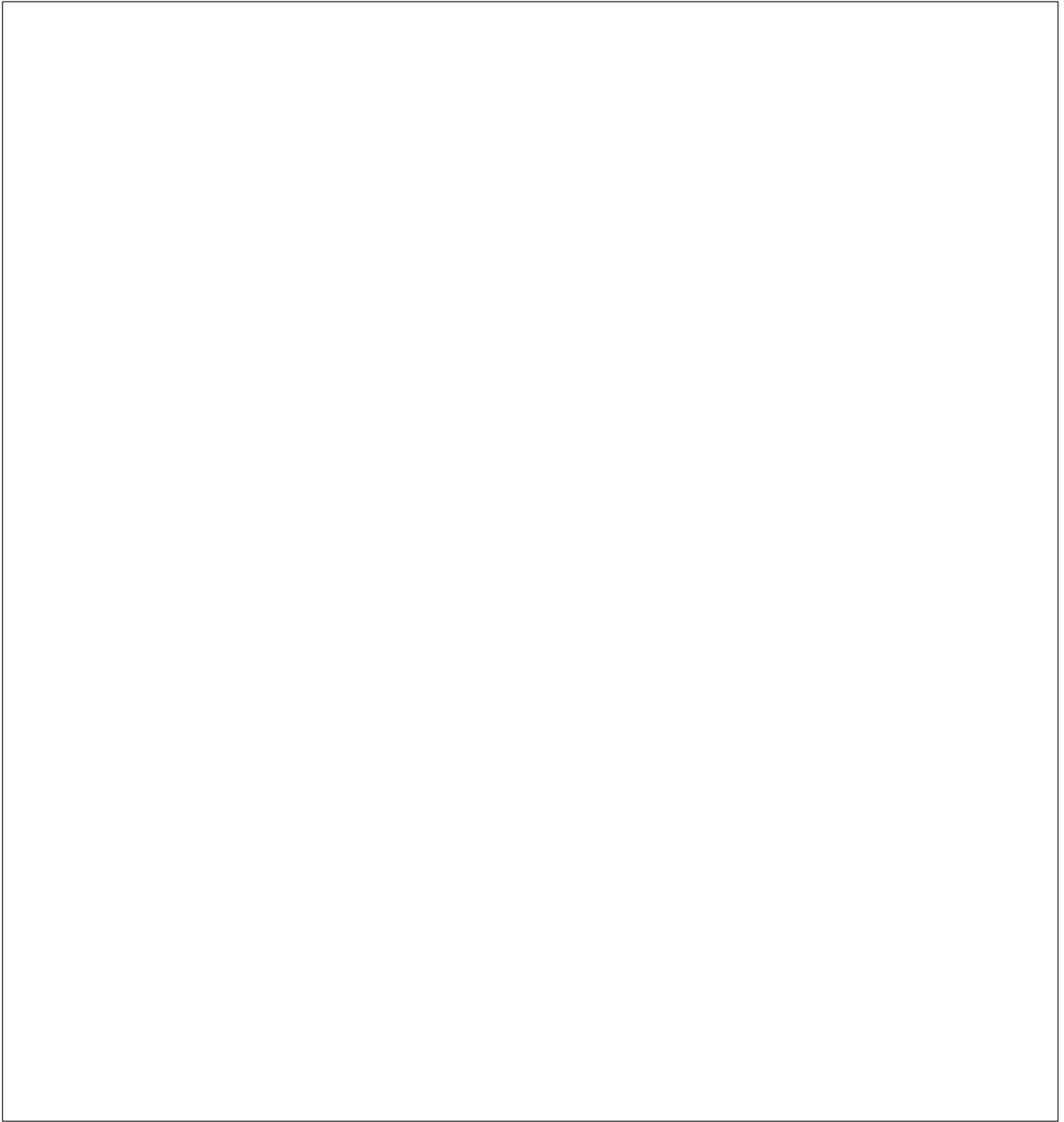


2.

**Directions**

**1.** Circle the shape that belongs with the shapes inside the Sorting Circle. **2.** Circle the shape that belongs with the shapes inside the Sorting Circle.

Name \_\_\_\_\_



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### Challenge

Use Attribute Blocks. Sort the blocks anyway you like. Draw and color the blocks you sorted. Describe how you sorted them.

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