

## Attribute Blocks

### INTRODUCTION

*Learning About...® Attribute Blocks* is a resource providing hands-on activities and ideas that allow you, the teacher, to lead students in an active exploration of the world of mathematics. The activities presented involve students in the process of exploring abstract concepts through the use of manipulatives. Students are encouraged to think critically, plan strategy, and share conclusions.

**This *Learning About...® Attribute Blocks* activity guide emphasizes:**

- communication
- exploration
- problem solving
- analysis

Each set of Attribute Blocks consists of 60 blocks in three colors (red, yellow, blue), five shapes (circle, square, rectangle, triangle, hexagon), two sizes (large, small), and two thicknesses (thick, thin). The Attribute Blocks are contained in a compartmentalized plastic storage box. The storage box lid can be used as a template or shape sorter.

**Attribute Blocks can be used to:**

- identify shapes, colors, and sizes
- sort and classify by size, color, shape, and thickness
- create and identify sets
- create and identify patterns
- develop logical thinking

**Exploring with Attribute Blocks**

Students at all grade levels should be allowed time to freely explore and experiment with the Attribute Blocks before guided activities begin.

### SETS

**Group Size:** Pairs or Small Groups

**Procedure:** Provide a set of Attribute Blocks for each group of students. Ask students to describe the blocks. Discuss how the blocks are alike and how they are different.

Write the word “set” on the board. Challenge students to provide a definition of the word “set.” **[possible answer—things that go together]** Encourage students to give examples of sets. **[baseball cards, watercolor paints, crayons, luggage, etc.]**

Hold up or display the following blocks:

blue large hexagon  
blue large circle  
red small square  
blue large square

**Ask:**

- Do all of these blocks belong to the same set? **[No. The red small square does not belong.]**
- Describe this set. **[blocks that are blue and large]**

Hold up or display the following blocks:

red large hexagon  
blue large hexagon  
yellow small hexagon  
red large circle  
yellow large hexagon

**Ask:**

- Do all of these blocks belong to the same set? **[No. The red large circle does not belong.]**
- Describe this set. **[blocks that are hexagons]**

Hold up the following blocks:

thin blue large rectangle  
thin red large rectangle  
thick yellow large square  
thin yellow large rectangle

**Ask:**

- Do all of these blocks belong to the same set? **[No. The thick yellow large square does not belong.]**
- Describe this set. **[blocks that are thin, large rectangles]**

Direct students to work in groups to create and identify sets of blocks. One student in each group will create a set of blocks using one attribute (thickness, color, size, or shape). The other members of the group are to identify the attribute that distinguishes the set.

After each set is created and correctly identified, students will exchange roles. Circulate among the groups. As students become proficient at creating and identifying sets distinguished by one attribute, challenge students to create more complex sets, distinguished by two or more attributes.

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