

Attribute Activities

Materials: Create a student set of attribute blocks with [border](#) and [non-border](#) shapes. Copy one cardstock page each of red, yellow, blue, and green.

- Sorting - Ask the students to organize their blocks by color. Ask, "how many piles did you get?" (4) Discuss what other attributes the blocks could be sorted: shape, size, border/non-border.
- Talk about different pieces - "What can you tell me about this piece?" Possible examples:
 - Yellow triangle: equilateral triangle, it's yellow, 3 sides, 3 vertices, etc.
 - Red Hexagon: 6 sided, 6 vertices, it's red, etc.
 - Green Circle: round, no angles or vertices, etc.
 - Blue Square and Rectangle: 4 sides, 4 vertices, 4 right angles, both are rectangles, etc.
- Carroll Diagram - Use the Carroll Diagram to sort attribute blocks.

	Green	Not Green
Triangle	All green triangles.	Everything that is a triangle, but not green.
Not a Triangle	Everything green, but not a triangle.	Everything that is not green and not a triangle.

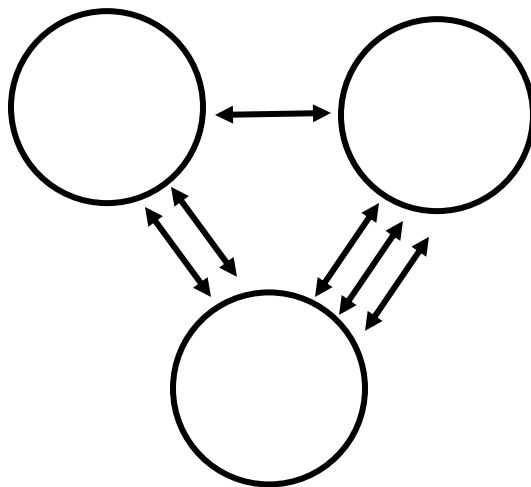
- Sorting Activity - Ask students the following questions:
 - How many blocks are in this set?
 - How many blocks are red?
 - How many blocks are red triangles? How many small red triangles?
 - Predict then find how many blocks are either red OR small pieces?
 - Find the red AND small pieces?
- Shapes with 1, 2, or 3 differences.
Have students show a partner a block that has one attribute difference only, 2 attribute differences only, or 3 attribute differences only.

- Difference trains

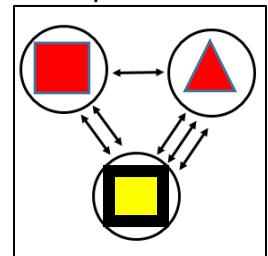
- Give students each one set of attribute blocks.
- Players take turns placing blocks in a row.
- Each succeeding block must be different in only one way, e.g., size, shape, color, or border/non-border. The piece can be placed on either side of the train.
- Variation: Place blocks that are different in 2 ways, or 3 ways.

- Difference boards

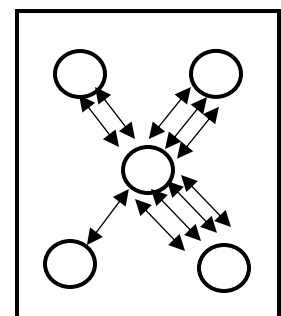
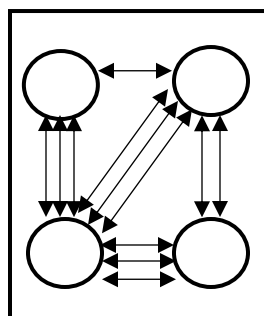
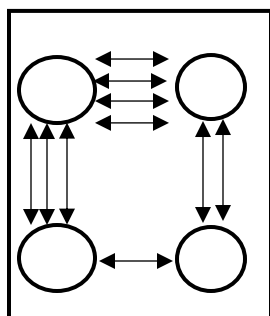
- Have students draw the following difference board:



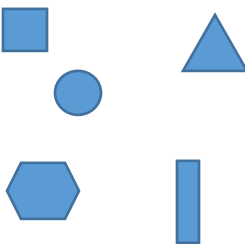
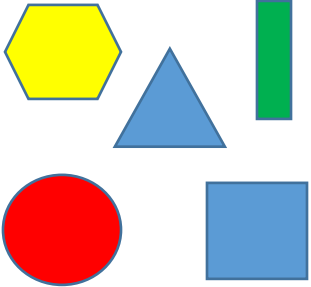
Example:

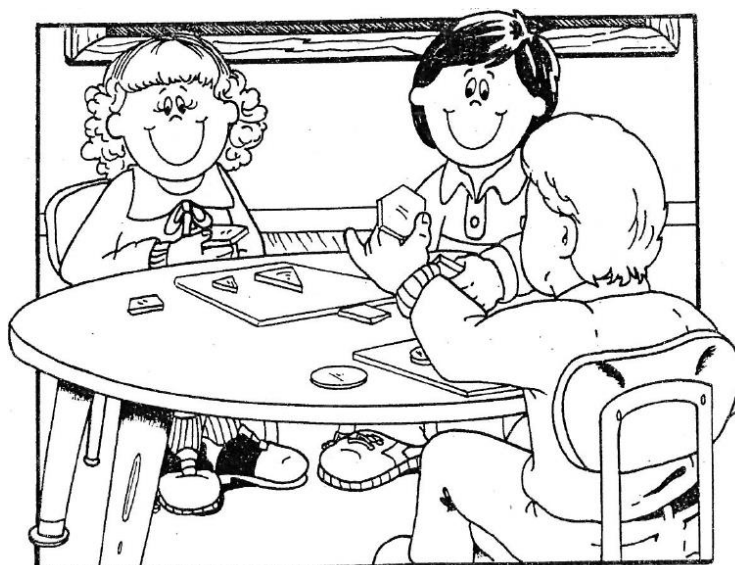


- Ask students to place an attribute block in each circle using the following rules:
 - ✓ One arrow indicates one attribute difference.
 - ✓ Two arrows indicates two attribute differences.
 - ✓ Three arrows indicates three attribute differences.
- Have students create their own difference board and have a partner place attributes according to the arrows they have drawn. Include a variety of possible arrangements and arrows:



- Guess My Rule - Cut apart the Attribute Rule Cards. Mix the cards and place facedown. Label one sheet of paper "These fit the rule." Label another sheet of paper "They do not fit the rule." Copy 1 set of Attribute Shapes (per group) on red, yellow, blue and green cardstock.
 - Have students take turns being the "Rule Maker." The Rule Maker takes the top card from the stack and puts the card face up for everyone to see.
 - Group members take turns choosing an attribute block. If the block fits the rule on the card, they place it on the paper that says "These fit the rule." If the block does not fit the rule, students place it on the paper that says "These do not fit the rule."
 - Students write the rule in their journal, draw or describe all the blocks that fit the rule and/or do not fit the rule. Have students make rules of their own and have other students solve them. Variation: Use Venn Diagrams.

<p>Rule: Small blue shapes</p>	<p>These fit the rule</p> 	<p>These do not fit the rule</p> 
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Attribute Rule Cards

Small blue shapes	Large red shapes	Large shapes but not triangles	Circles, but not red
Blue and yellow shapes, but not circles	Red and yellow small shapes	Not triangles or squares	Large triangles but not yellow
Large circles but not red	Large circles or squares	Small and hexagons	Large or rectangles