

Nita's PLAYbook Sample Lesson - Task 11

Geometry Tasks

Task 11: Naming Shapes by Attributes

MATERIAL OPTIONS

Select a manipulative and provide one copy of the appropriate workmat to each child. Provide additional materials as noted.

MANIPULATIVE	WORKMAT	ADDITIONAL MATERIALS
connecting tiles	PP	2D shape cards
Unifix® cubes	QQ	2D shape cards
3D tangram blocks	RR	3D shape cards
attribute blocks	SS	2D shape cards, yarn (6" long)
measuring worms	TT	2D shape cards
weighted numbers (pattern blocks)	TT	2D shape cards
cubes	VV	3D shape cards
penguins	UU	2D shape cards
Jumbo Cuisenaire® rods	VV	3D shape cards
2D tangram pieces	UU	2D shape cards
two-colored counters	SS	2D shape cards, yarn (6" long)
pop cubes	VV	3D shape cards
bears	QQ	2D shape cards
art supplies	WW	3D shapes (sphere, cylinder), 3D shape cards, modeling clay, plastic trays
cutting, folding, and tracing supplies	PP	2D shape cards, 4 square tiles, paper in different sizes

LEARNING GOAL

Identify two- and three-dimensional shapes and sort them by their attributes.

VOCABULARY

not, vertices, sides, rectangle, circle, rhombus, quadrilateral, triangle, hexagon, flat shapes, sphere (like a ball), cylinder (like a can), rectangular prism (like a box with rectangle faces), triangular prism (like a box with triangle and rectangle faces), rolls, slides, fat shapes

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Geometry Tasks

Nita's Coaching Tips

While children complete the task, ask:

- Why is this shape a [triangle]? How many vertices does it have? How many sides?
- Is this shape a “fat” or a “flat” shape? How do you know?
- Why is this shape on the workmat? Why is this shape not on the workmat? What is missing?
- What are the blue circles called on the workmat? How many are there on [Workmat PP]? What color are the lines?
- Point to a shape. Can you name this shape? My friend said it was a [rhombus]. Why do you think my friend is wrong?

If children answer incorrectly:

- Place a shape incorrectly on the workmat. Ask: *Does this [triangle] belong on the workmat?* If the child says yes, state that you made a mistake and give the correct answer.



INTRODUCE

In this task, the manipulatives are used to mark the vertices so they can easily be counted, to mark the sides of the shapes, or to create the shapes.

1. Show the workmat for the manipulative you have selected. Have children use manipulatives to make shapes or add to the shape shown on the workmat. For example, the worms can be matched to the sides, the Unifix® cubes can be matched to the vertices, or the connecting tiles can be used to make the shapes shown.

2. Explain the attribute by modeling it specifically for the shape shown. Read the identifying labels and attributes using those shown on the workmat.

For 2D shapes (“flat” shapes):

- triangle: three sides, three vertices (tangrams and penguins; Workmat UU)
- hexagon: six sides, six vertices (measuring worms and pattern blocks; Workmat TT)
- rectangle: four sides, four vertices, four square corners (connecting tiles and paper; Workmat PP)
- rhombus: four sides of the same length, four vertices (attribute blocks and two-colored counters; Workmat SS)
- quadrilateral: four sides, four vertices (Unifix® cubes and bears; Workmat QQ)

For 3D shapes (“fat” shapes):

- sphere: looks like a ball, rolls (modeling clay and 3D shapes; Workmat WW)
 - cylinder: looks like a can, sometimes rolls and sometimes slides on a ramp (modeling clay and 3D shapes; Workmat WW)
 - rectangular prism: looks like a box with rectangle faces, slides on a ramp (pop cubes, Jumbo Cuisenaire® rods, and cubes; Workmat VV)
 - triangular prism: looks like a box with triangle faces, slides on a ramp (3D tangram blocks; Workmat RR)
3. After the shapes have been made using the manipulatives, children place the illustrated shape cards with the same attributes on the workmat. Shape cards that do not have those attributes are placed to the side of the workmat.
 4. Children then tell the name of the shapes they have placed on the workmat and the identifying attributes.

REVIEW

Select four shapes and teach those using the corresponding workmats and shape cards.

EXTEND

Use all or most of the shapes to introduce children to the labels and attributes in this task.

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Task 11: Naming Shapes by Attributes

Instructions for Specific Manipulatives

Attribute Blocks and Two-Colored Counters

Use the yarn to check the length of the sides to determine if the shape is a rhombus. Note that a square is a rhombus because all four sides are equal in length.

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Weighted Numbers

After the hexagons are identified, children find the number that tells how many vertices and sides there are on a hexagon.

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Counters or Cubes

Children make as many boxes or rectangular prisms as they can using only the cubes. Children repeat the task using the pop cubes.

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Art Supplies

Children form a sphere and a cylinder using modeling clay. The creations can then be placed on the workmat.

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Cutting, Folding, and Tracing Supplies

Children fold pieces of paper to make a variety of rectangles. Note: a square is a rectangle because it has four vertices, four sides, and four square corners.

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Geometry Tasks

Check Progress

- Have children make their own pages for a class book of shapes using precut shapes, shapes that they have cut or folded, and shapes cut out from a magazine or catalog. Children can make a page containing all shapes that can be described with one word. For example, the word *quadrilateral* would include rectangles, squares, rhombi, and any other shape that has four sides and four vertices.

See page 91 for routines, centers, and activities related to naming shapes by attributes.



Log on to Nita's Online Playbook to see this task taught in a classroom setting.

Game: Partners Play "Memory Match It!"

Materials:
2D or 3D shape cards (or both)

Goal:
To collect the most matches

Procedure:

1. Place the cards face down in an array form. For example, if you use all 2D and 3D shape cards, you could make a 4×5 array.
2. Each player turns over two cards at a time to find a match. A match means that both cards can be named with the same word.
3. If a match is found, the player collects both cards. If there is no match, the cards are turned over and the other player takes a turn.
4. The game is over when all the cards are taken or there are no matches left.