

K

Topic 15: Position and Location of Shapes

Lessons 1-5

Math Intervention Resources

Reteach

MDIS:

D47: 15-1, 15-2, 15-3, 15-4, 15-5,

Reinforce

Envision Math Games:

Topic Games:

- Math Up!

envision Online Games

- Geometry
- Position and location

Symbaloo

Building Blocks (Golden CD)

10 Block Materials:

Guided Practice

While children are probably familiar with the terms *in front of* and *behind* in an everyday sense, they might not be able to apply this knowledge to two-dimensional pictures.

It is important to act out the meaning of the words as they are introduced and to give children physical experiences placing objects in front of and behind each other. These experiences can help children transfer their knowledge to two-dimensional pictures.

Assessments

K

Topic 15: Position & Location of Shapes

Lesson 15-1

MDIS: D47

Inside and Outside

Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will describe an object as <i>inside</i> or <i>outside</i> a given place.	The position of objects can be determined in relation to surrounding objects and described using words.	inside (in) outside (out)	Solid Figures (or Teaching Tool 24), Attribute Blocks (or Teaching Tool 36)



Math Background

Research says ... children first deal with topological aspects of shapes such as inside/outside and curved/straight as they develop more specific geometric ideas such as length

and area (Piaget & Inhelder, 1963). As children explore position and location in the lessons in this topic, they are building the foundation for identifying specific shapes.

2

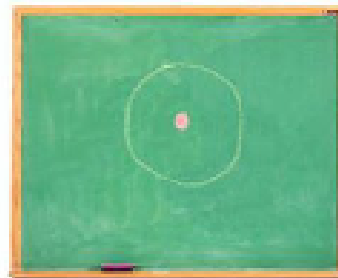
Guided Practice

Remind children to think about where each animal is in relation to the pond.

Error Intervention

If children have difficulty determining the position of the animals in relation to the pond,

then draw a circle on the board. Have children color inside the circle.



Do you understand? *How do you know if you are inside or outside a room?* [If the room is all around me, then I am inside. Accept reasonable answers.]

Reteaching Display a box of crayons. Ask volunteers to take a crayon from inside the box and put it outside the box. Have children use the words *inside* and *outside* to describe their actions. Then have volunteers put the crayons back in the box, again using *inside* and *outside* to describe their actions.



Common Core

Domain

Geometry

Cluster

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

Standard

K.G.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.

Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

K

Topic 15: Position & Location of Shapes

Lesson 15-2

MDIS: D47

Above, Below, and On

Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will describe an object as above, below, or on a given object.	The position of objects can be determined in relation to surrounding objects and described using words.	above (over) below (under) on (top of)	Solid Figures (or Teaching Tool 24), Attribute Blocks (or Teaching Tool 36), blunt-tipped scissors, glue



Math Background

Sometimes children associate the word over with something being finished. (The TV show is over.) Create several opportunities for children to hear the preposition over (above) in the context necessary for the lesson. (The window is over the radiator.)

2

Guided Practice

Remind children to think about where each toy is in relation to the slide.

Error Intervention

If children have difficulty determining the position of the toys in relation to the slide,

then ask children to put a pencil on the table, below the table, and then hold it above the table.

Do you understand? Describe how you can put an object above, below, or on a toy or a book. Help children respond by using the words above, below, or on in complete sentences.

Reteaching Display pictures of the following solid figures, and review their properties with children: sphere, cube, cylinder, cone. Have children gather real-world objects that resemble the solid figures such as a tissue box, glue stick, ball, or party hat. Place objects in various positions and have children use position words to locate the objects such as *The glue stick is on the desk.*



Common Core

Domain

Geometry

Cluster

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

Standard

K.G.1 Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

Mathematical Practices

- Make sense of problems and persevere in solving them.
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Topic 15: Position & Location of Shapes

Lesson 15-3

MDIS: D47

In Front Of and Behind

Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will describe an object as <i>in front of</i> or <i>behind</i> , <i>next to</i> or <i>beside</i> a given object.	The position of objects can be determined in relation to surrounding objects and described using words.	in front of behind next to beside	Crayons, Solid Figures (or Teaching Tool 24), Attribute Blocks (or Teaching Tool 36)



Math Background

Introduce the opposite position words in this lesson, *in front of* and *behind* first. After children have placed or identified objects in these positions, introduce the words *next to* and *beside*.

2

Guided Practice

Remind children to look at the boy and the toys at the top of the page to help them.

Error Intervention

If children have difficulty determining which object is in front of, behind, or next to,

then place one child in front of another child and discuss who is in front and who is behind. Repeat for *next to* and *not next to*.

Do you understand? *Who is sitting near you? Who is sitting beside you? Who is sitting far away from you?* [Answers will vary.]

Reteaching Have volunteers stand in front of, behind, and beside objects in the classroom. Ask children to describe their locations using the words *in front of*, *behind*, *next to*, or *beside*, in their own sentences.



Common Core

Domain

Geometry

Cluster

Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

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Mathematical Practices

- Make sense of problems and persevere in solving them.
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Topic 15: Position & Location of Shapes

Lesson 15-4

MDIS: D47

Left and Right

Quick and Easy

Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will describe an object as <i>left</i> or <i>right</i> of a given object.	The position of objects can be determined in relation to surrounding objects and described using words.	left right	Solid Figures (or Teaching Tool 24), Attribute Blocks (or Teaching Tool 36), crayons



Math Background

Help children distinguish left and right by cutting out two large arrows, one pointing right; the other pointing left. Use them to indicate left and right during discussions.

When using the arrows, you might stand with your back to the children as a mirror image may confuse children.

2

Guided Practice

Remind children to look at the plate and napkin at the top of the page to help them. Ask what plane shapes these objects look like. [Circle, triangle]

Error Intervention

If children have difficulty determining which is the left and right side, **then** put a stamp or a sticker on each child's right hand. Tell children that the sticker is the right and the other hand is the left.

Do you understand? *Who is sitting to the left of you? To the right of you?* [Answers will vary.]

Reteaching Have children look at an open book. Ask them to describe what is on the left-hand page. Repeat for a right-hand page.

Then help children identify items 1–4 as the following real-life shapes: cube, triangle, sphere, circle. Remind children that a cube and a sphere are solid figures, while a circle and a triangle are plane figures.



Common Core

Domain

Geometry

Cluster

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Mathematical Practices

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Topic 15: Position & Location of Shapes

Lesson 15-5

MDIS: D47

Problem Solving: Act It Out

Quick and Easy Lesson Overview

Objective	Essential Understanding	Vocabulary	Materials
Children will solve a problem by acting it out.	Some problems can be solved by using objects to act out the actions in the problem.		Solid Figures (or Teaching Tool 24), Attribute Blocks (or Teaching Tool 36), crayons



Math Background

Doing mathematics involves a variety of processes including problem solving, reasoning, communicating, connecting,

and representing. Children need numerous experiences with all of these math strategies.

2

Guided Practice

Remind children that they can act out the problem using shapes before they draw pictures.

Error Intervention

If children have difficulty determining locations in relation to the bed,

then ask children to pretend a table is a bed and have them place a pair of shoes below it.

Do you understand? *How can acting out a problem help you solve it?* [It lets you put objects in the right place to solve the problem.]

Reteaching Have children form a line and then give them directions to act out. For example, *Sara, stand in front of John. Becky, stand behind Sam.*



Common Core

Domain

Geometry

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