Chapter 10: Three-Dimensional Shapes

Prepare for the Chapter

Chapter at a Glance

# **Pacing Guide**

**Suggested Pacing** 

Total*	10 days
Review/Assessment	2 days
Instruction	8 days

<sup>\*</sup>Includes additional time for remediation and differentiation.

Lesson	Objective	Material & Manipulatives	Vocabulary	Standard
Lesson 1 pp. 711-716 Cubes and Prisms	Look at attributes to identify cubes and rectangular prisms.	• geometric solids • classroom objects	three-dimensional shape cube rectangular prism face	1.G.1 Major Cluster MP 2, 3, 4, 6, 8
Lesson 2 pp. 717-722 Cones and Cylinders	Look at attributes to identify cones and cyliners.	<ul><li>geometric solids</li><li>crayons</li><li>classroom</li><li>objects</li></ul>	cone cylinder	1.G.1 Major Cluster MP 2, 3, 6, 7, 8
<b>Check My Progres</b>	s			
Lesson 3 pp. 725-730  Problem-Solving  Strategy: Look for a  Pattern	Look for a pattern to solve problems.	• cube and rectangular prism pages • scissors • write-on/wipe-off boards • dry erase markers		1.G.1 Major Cluster MP 2, 3, 4, 7
Lesson 4 pp. 731-736 Combine Three- Dimensional Shapes	Combine three-dimensional shapes to make a composite shape.	• geometric solids • write-on/wipe-off boards • dry erase markers		1.G.2 <b>Major</b> <b>Cluster</b> <b>MP</b> 1, 2, 3, 4, 6,

#### My Review and Reflect

Resources

Chapter 10 Targeted Strategic Intervention

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#### Differentiated Instruction

Use these differentiated instruction activity suggestions, along with the ongoing support provided in each lesson of this chapter, to meet individual learning needs.

# AL APPROACHING LEVEL

Hands-On Activities (Lessons 1-4)

Reteach Masters (Lessons 1-4)

#### **Additional Activity for Lesson 2**

Materials: real-world three-dimensional objects, geometric solids

- Place four different real-world three-dimensional objects on a table.
- Have a student come to the front and give them one geometric solid. (cube, rectangular prism, cone, or cylinder).
- Ask that student to find the object with the matching shape from the table.
- Have that student show the geometric solid along with the matching real-world three-dimensional object.
- Repeat the process until every real-world three-dimensional object on the table has been matched with a
  geometric solid.

## OL ON LEVEL

Hands-On Activities (Lessons 1-4)

## Additional Activity for Lesson 2

Materials: real-world three-dimensional objects (cubes, rectangular prisms, cones, or cylinders)

- Have students place chairs in a circle.
- Give four volunteers a three-dimensional object.
- Have the rest of the class close their eyes.
- Tell the volunteers to place their real-world three-dimensional object under a student's chair.
- After each of the objects has been handed out, have students open their eyes and look under their chair for an
  object.
- Ask each student that has an object under their chair to name the object and tell which solid shape it is shaped like. Have students try to guess which child placed the object under their chair. Repeat the activity several times.

# BL BEYOND LEVEL

Hands-On Activities (Lessons 1-4)

Enrich Masters (Lessons 1-4)

#### Additional Activity for Lesson 2

Materials: real-world three-dimensional objects

- Place a variety of real-world three-dimensional objects on a table.
- Have students get into groups of three.
- Tell students to sort the real-world three-dimensional objects by these following attributes:
  - 1. A shape that has one vertex.
  - 2. A shape that every face is a rectangle.
  - 3. A shape that every face is a square.
  - 4. A shape that has two faces.
- Have students act out these three attributes of solid shapes: roll, stack, and slide to further sort the shapes.

## ELL ENGLISH LANGUAGE LEARNERS

## **ELL Instructional Strategies**

Modeled Talk (Lesson 1)

Math Word Wall (Lesson 2) Hands-On Activity (Lesson 3)

Modeled Talk (Lesson 4)

## **Differentiated English Language Learner Support**

**Emerging Level** (Lessons 1-4)

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## **Expanding Level** (Lessons 1-4)

**Bridging Level** (Lessons 1-4)

Support for English Language Learners is found throughout the chapter and includes:

- ELL strategies at point-of-use in each Teacher Edition lesson
- ELL tiered instruction suggestions for each lesson
- Comprehensive ELL lessons and worksheets for additional instruction
- · Non-linguistic representations of concepts on My Math Words, My Vocabulary Cards, and My Foldables
- Spanish versions of My Vocabulary cards: See the Spanish Resources under the Resources tab.

#### **Additional Online Resources**

- Visual Vocabulary Cards
- Multilingual eGlossary
- Professional Development support

#### Resources

English Language Learners Guide, Grade 1
Fact Dash
Multilingual eGlossary Grades K-5
Chapter 10 Targeted Strategic Intervention
Grade 1 Chapter 10 Interactive Guide
Geometric Shapes
Math Song: Geometric Shapes Lesson Plan
Three-Dimensional Shapes
RTI Resource Guide, Chapter 10

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What's the Math in This Chapter?

## **Geometry**

Mathematical PRACTICES

7. Look for and make use of structure.

This chapter concentrates on the Geometry (G) domain.

As you teach three-dimensional shapes in geometry, make connections to real-world shapes. It is important to show models of solid shapes for students to visually see and physically touch.

## What should my students already know?

In the previous grade, students used Geometry in their study of three-dimensional shapes:

Describe real-world objects using names of three-dimensional shapes.

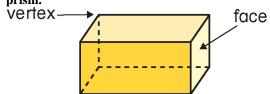
• Three-dimensional shapes are also called "solid shapes".

**K.G.3** 

## What students should be able to do What students should understand Cube 1.G.1 Distinguish between defining attributes and Use defining attributes to identify a cube. vertexnon-defining attributes to identify a cube. face A defining attribute of a cube is it has 6 square faces. A defining attribute of a cube is it has 8 vertices. **Rectangular Prism** 1.G.1 Distinguish between defining attributes and Use defining attributes to identify a rectangular prism.

# non-defining attributes to identify a rectangular prism.

- A defining attribute of a rectangular prism is it has 6 rectangular faces.
- A defining attribute of a rectangular prism is it has 8 vertices.



#### Cylinder

1.G.1

#### Distinguish between defining attributes and non-defining attributes to identify a cylinder.

Defining attributes of a cylinder are 2 faces and no vertices.

Use defining attributes to identify a cylinder.

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#### Cone

1.G.1

Distinguish between defining attributes and non-defining attributes to identify a cone.

• Defining attributes of a cone are it has 1 face and 1 vertex.

Use defining attributes to identify a cone.



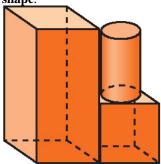
## **Combine Three- Dimensional Shapes**

1.G.2

How to combine three-dimensional shapes to make a composite shape.

- has vertices
- · has faces

Use three-dimensional shapes to make a composite shape.



# What will my students do next with these skills?

In the next grade, students will learn to:

• Recognize and draw shapes having specified attributes.

2.G.1

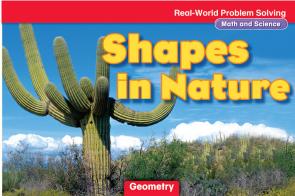
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Reading Connections



## Math and Science: Shapes in Nature



Use these leveled books to reinforce and extend problem-solving skills and strategies. Leveled for:



**Approaching Level** 



On Level Also available in Spanish



**Beyond Level** 

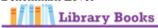
For addition support, see the Real-World Problem Solving Readers Teacher Guide.

#### **Leveled Reader Database**

Available at leveledreaderdatabase.macmillanmh.com

Search by:

- · Content Areas
- · Guided Reading Level
- · Lexile Score
- · Benchmark Level



Check with your school library or your local public library for these titles.

 ${\bf Cubes,\,Cones,\,Cylinders,\,and\,Spheres,\,Tana\,\,Hoban}$ 

Math Counts: Shape, Henry Arthur Pluckrose

Captain Invincible and the Space Shapes, Stuart J. Murphy

Shapes, Jane Simon

# Reading and Language Arts Support

#### **Examining Math**

Divide the class into groups of four and distribute several sets of three-dimensional shapes to each group. Tell students that they will be creating buildings with their shapes. Ask them to pay close attention to which shapes can be used most easily and which ones can only be used in certain places. When groups have finished building, circulate as a class to see what each group built.

Resources

Shapes in Nature

Shapes in Nature

Shapes in Nature

Formas en la naturaleza

Real-World Problem-Solving Reader, Teacher Guide, Grade 1

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