

Chapter 12 Three-Dimensional Shapes

ESSENTIAL QUESTION

How do I identify and compare three-dimensional shapes?

My Dreams Take Me Places!

Watch a video!



My Common Core State Standards



Geometry

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

K.G.2 Correctly name shapes regardless of their orientations or overall size.

K.G.3 Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

K.G.4 Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

K.G.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

Standards for Mathematical PRACTICE



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

 = focused on in this chapter



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Name _____

Am I Ready?



Go online
to take the
Readiness Quiz

1



2



3



4



Directions: 1–4. Circle the shapes in the row that are the same.

Name _____

My Math Words



Review Vocabulary



Directions: Trace each word and tell its meaning. Look at the shapes that make the objects in the clouds. Color the squares red. Draw an X on each circle. Tell how you know.

My Vocabulary Cards



Mathematical
PRACTICE



cone



cube



cylinder



roll



slide



sphere



**Teacher Directions:****Ideas for Use**

- Direct students to create riddles for each word. Ask them to work with a classmate to guess the words for each riddle.
- Guide students to read each shape word. Have students describe each shape and tell how each is alike and different.

cube

cone

roll

cylinder

sphere

slide

My Vocabulary Cards



Mathematical
PRACTICE



stack

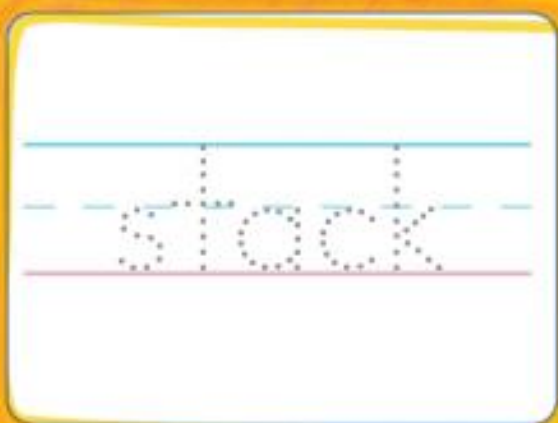




Teacher Directions:
More ideas for Use

- Direct a student to act out *roll*, *stack*, or *slide* with a partner. Have another student find the vocabulary word that indicates the action acted out.

- Instruct students to use the blank cards to create alphabet cards. Suggest that students write a letter on the front of a card and then write a math word that begins with that letter on the back.



My Foldable

FOLDABLES Follow the steps on the back to make your Foldable.



slide



roll



stack



slide



roll



stack



slide



roll



stack



slide



roll



stack

FOLDABLES® Study Organizer

1



2



3



+

cone

cylinder

cone

cylinder

Name _____

Geometry

K.G.2, K.G.3, K.G.4, K.G.5

+

CCSS

Spheres and Cubes

Lesson 1

ESSENTIAL QUESTION

How do I identify and compare three-dimensional shapes?



Explore and Explain



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Teacher Directions: Go on a three-dimensional shape walk around the classroom. Identify objects that are shaped like spheres and cubes. Draw a picture of one of the objects beside the matching shape. Tell whether the objects are solid or flat.

Name _____



On My Own

5



6



7



8



Directions: 5–8. Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape.



Problem Solving



Mathematical
PRACTICE



Directions: 9. Name the shape of the planet. Find those shapes on the page. Draw lines from those shapes to the planet. Identify the part of the rocket that is shaped like a cube. Find those shapes on the page. Draw lines from those shapes to the rocket.

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Name _____

Geometry

K.G.2, K.G.3, K.G.4

+

CCSS

My Homework

Lesson 1

Spheres and Cubes

Homework Helper

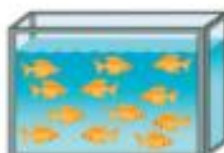


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1



2



3



4



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Directions: 1–4, Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape.

5



6



Vocabulary Check



7

sphere


8

cube


Directions: 5–6. Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape. 7. Draw an X on the objects that are not shaped like a sphere. 8. Draw an X on the objects that are not shaped like a cube.

Math at Home Discuss the spheres and cubes shown on the My Homework pages. Help your child create a list of objects shaped like spheres and cubes and draw the objects.

Name _____

Geometry

K.G.2, K.G.3, K.G.4, K.G.5

+

CCSS

Cylinders and Cones

Lesson 2

ESSENTIAL QUESTION

How do I identify and compare three-dimensional shapes?



Explore and Explain



I like cones!









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Teacher Directions: Go on a three-dimensional shape walk around the classroom. Identify objects that are shaped like cylinders and cones. Draw a picture of one of the objects beside the matching shape. Tell whether the objects are solid or flat.

See and Show

<p>1 cylinder</p>   	<p>2 cone</p>   
---	---

3






4







Directions: 1–2. Name the shape above the objects. Describe it. Compare it to the shapes of the objects below it. Trace the circle around the matching shape. 3–4. Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape.

Name _____

On My Own

5



6



7



8



Directions: 5–8. Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape.



Problem Solving


**Mathematical
PRACTICE**



Directions: 9. Point to the broken pieces of crayons. Name the shape of each piece. Identify each shape by coloring the cones blue and the cylinders red.

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Name _____

Geometry

K.G.2, K.G.3, K.G.4, K.G.5

+

CCSS

My Homework

Lesson 2

Cylinders and Cones

Homework Helper



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1



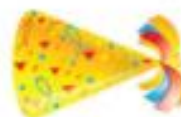
2



3



4



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Directions: 1–4. Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape.



5



6



Vocabulary Check



7

cylinder

8

cone



Directions: 5–6. Name the first shape in the row. Describe it. Compare it to the shapes of the objects in the row. Circle the matching shape. 7. Draw an object that is shaped like a cylinder. Tell what you drew. 8. Draw an object that is shaped like a cone. Tell what you drew.

Math at Home Have your child find objects in your home shaped like cylinders and cones.

Name _____

Geometry
K.G.4, K.G.5

CCSS

Compare Solid Shapes

Lesson 3

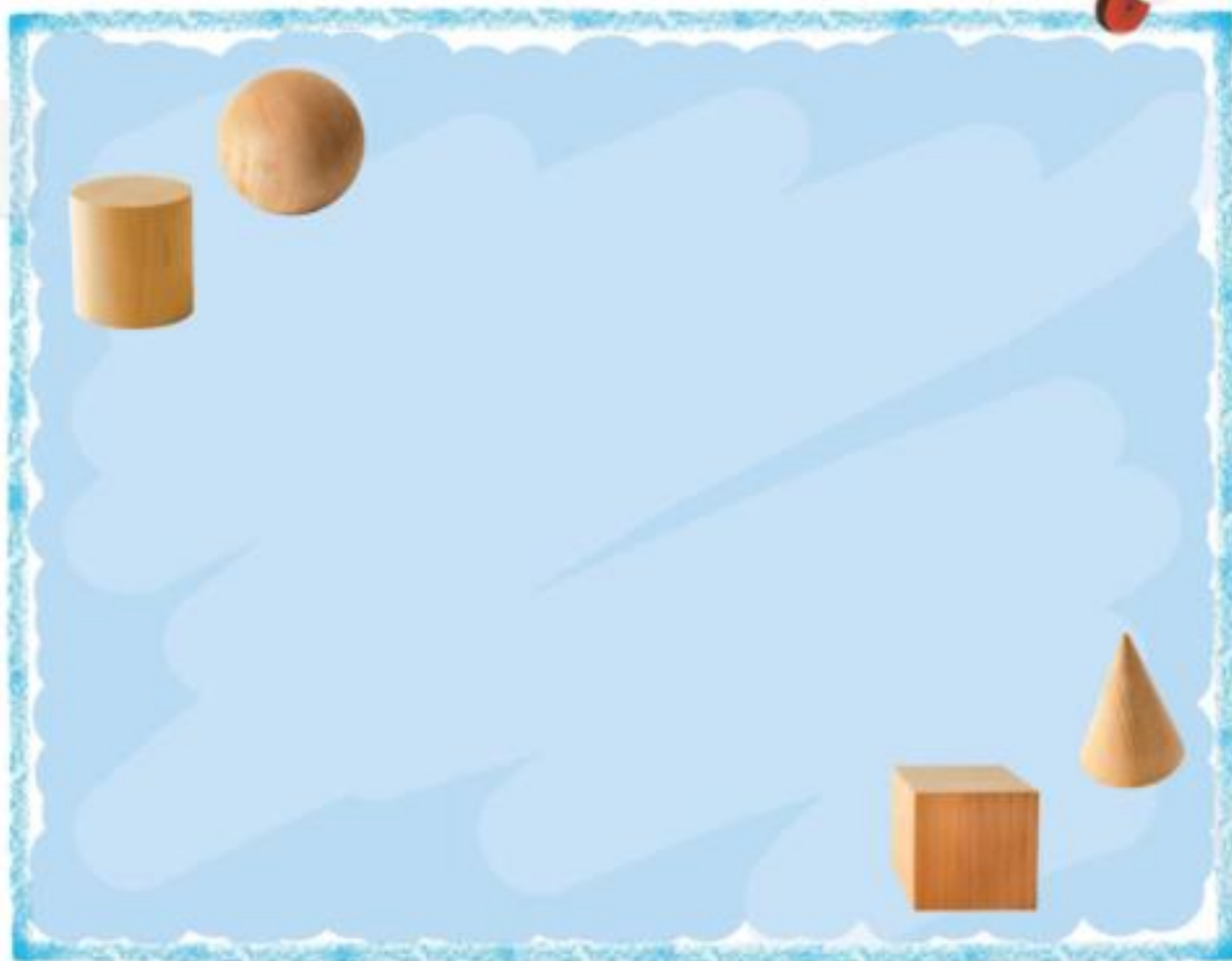
ESSENTIAL QUESTION
How do I identify and compare three-dimensional shapes?



Explore and Explain







Let's roll!






















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Teacher Directions: Use , , , and  to identify and compare solid shapes. Show which shapes roll, slide, and can have another shape stacked on it. Name an object in the classroom that rolls, slides, or stacks the same as one of the solid shapes. Draw the object. Tell how you know.

See and Show

<p>1 roll</p>    	<p>2 stack</p>   	<p>3 slide</p>    
--	---	---

<p>4</p> 	  
<p>5</p> 	  



Directions: 1–3. Trace the arrows to show roll, stack, and slide. Name the shapes shown that roll, stack, and slide. 4. Identify the shape of the first objects in the row. Describe it. Circle the other shape(s) in the row that stack in the same way. 5. Identify the shape of the first object in the row. Describe it. Circle the other shape(s) in the row that roll.

Name _____

*I slide,
too!*



On My Own

6



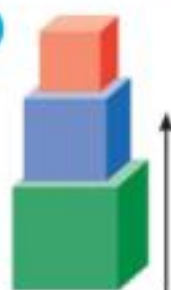
7



8



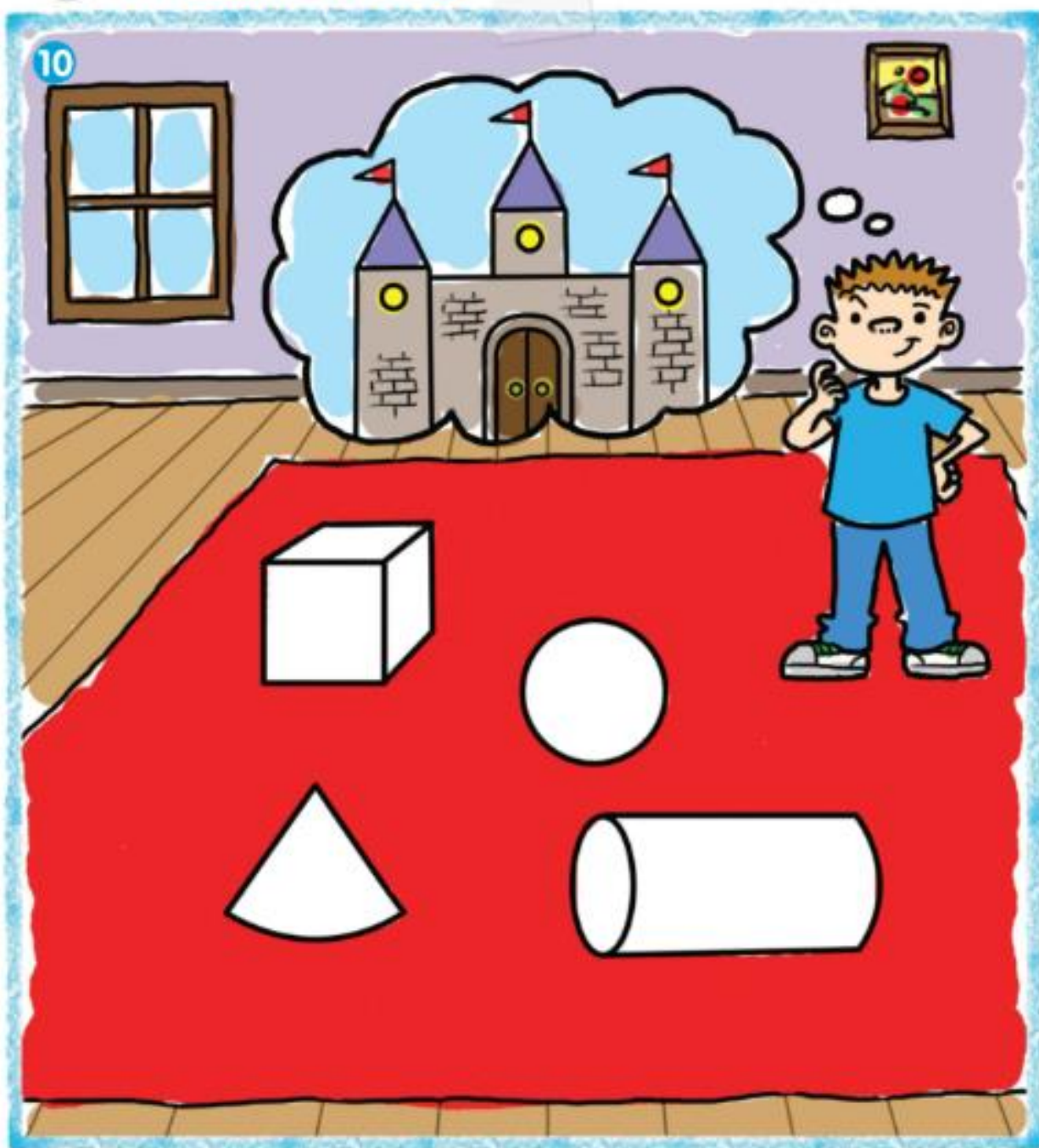
9



Directions: 6. Identify the shape of the first object in the row. Describe it. Circle the other shape(s) in the row that slide. 7. Identify the shape of the first object in the row. Describe it. Circle the other shape(s) in the row that roll. 8. Draw an object that would roll as a cylinder. 9. Draw an object that would stack as the cubes are stacked.



Problem Solving



Directions: 10. Look at the shapes on the carpet. Find a shape that rolls, stacks, and slides. Color it orange. Find a shape that only slides and rolls and cannot have a shape stacked on it. Color it purple. Find a shape that only slides and stacks. Color it yellow. Find a shape that only rolls. Color it blue.

Name _____

Geometry

K.G.4



My Homework

Lesson 3

Compare Solid Shapes

Homework Helper



Need help? connectED.mcgraw-hill.com

1



2



3



Directions: 1. Identify the shape of the first object in the row. Describe it. Circle the other shape(s) in the row that slide. 2. Identify the shape of the first objects in the row. Describe it. Circle the other shape(s) in the row that stack in the same way. 3. Identify the shape of the first object in the row. Describe it. Circle the other shape(s) in the row that roll.



4



Vocabulary Check



5

roll



6

stack



7

slide



Directions: 4. Identify the shape of the first shape in the row. Describe it. Circle the other shape(s) in the row that slide. 5. Identify the shapes. Circle the shapes that roll. 6. Identify the shapes. Circle the shapes that can have another shape stacked on it. 7. Identify the shapes. Circle the shapes that slide.

Math at Home Have your child name the solid shapes on the My Homework pages that roll, stack, and slide. Have your child imitate these movements.