

Grade 4 Math Worksheet: Understanding Shapes (Difficulty Level: Intermediate)

Name: _____

Date: _____

Section 1: Identifying and Classifying Shapes

1. Classify the following shapes as either "2D" or "3D":

Shape	Classification
Octagon	
Rectangular Prism	
Cylinder	
Pentagon	
Hexagonal Prism	
Pyramid	
Trapezoid	
Sphere	
Circle	

2. For each 3D shape above, write down whether it has any curved surfaces, flat faces, or both.

Section 2: Properties of 2D and 3D Shapes

1. Complete the table by counting the number of edges, faces, and vertices for each solid shape:

Shape	Faces	Edges	Vertices
Cube			
Square Pyramid			
Rectangular Prism			
Cylinder			
Cone			
Sphere			

2. Answer the following questions:

- Which shape has the most edges? _____
 - Which shape has no edges or vertices? _____
 - What do all shapes with vertices have in common? _____
-

Section 3: Comparing Shapes

1. Fill in the blanks with the correct words:

- A **cube** and a **rectangular prism** are similar because they both have _____ faces and _____ vertices.
- A **sphere** and a **circle** are related because a sphere looks like a circle from every _____.
- A **cone** has a _____ base and one _____, while a **pyramid** has a _____ base and several _____.

2. True or False? Write T for True and F for False:

- All pyramids have a triangular base. _____
 - A cylinder has two circular faces and one curved surface. _____
 - A rectangle and a rectangular prism have the same number of sides. _____
 - A cone can roll, but a cube cannot. _____
-

Section 4: Shapes in Real Life

- List real-world objects that match each shape:**
 - Cube: _____
 - Sphere: _____
 - Cylinder: _____
 - Pyramid: _____
 - Cone: _____
 - Describe the 3D shape that would best represent each of the following objects:**
 - A dice: _____
 - A basketball: _____
 - An ice cream cone: _____
 - A book: _____
 - A tent with a square base: _____
-

Section 5: Drawing and Visualizing Shapes

- Draw and Label:**
 - Draw a **cube** and label its faces, edges, and vertices.
 - Draw a **pyramid** with a square base and label its faces and vertices.
 - Draw a **cylinder** and show its curved surface and circular faces.
 - Perspective Practice:**

Imagine you are looking at a **rectangular prism** from different angles. Answer the following:

 - If you look at it from the top, what shape would you see? _____
 - If you look at it from the side, what shape would you see? _____
-

Section 6: Challenge Questions

- Exploring Differences:**

Explain the difference between a **pyramid** and a **cone**. Describe both their similarities and differences.
- Understanding Rolls and Slides:**
 - Which of the following shapes can roll: cube, sphere, cone, cylinder?
 - Which of the following shapes can slide: cube, sphere, rectangular prism?
 - Write down one reason why some shapes roll and others do not.
- Applying Concepts:**

A designer wants to create a box that holds a cylindrical can without any extra

space. Describe the shape of the box and explain why it would work well for holding a cylindrical object.

--BE THE CHAMPION!--