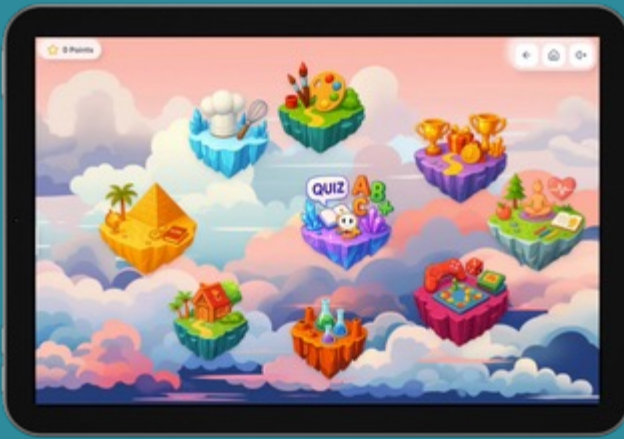


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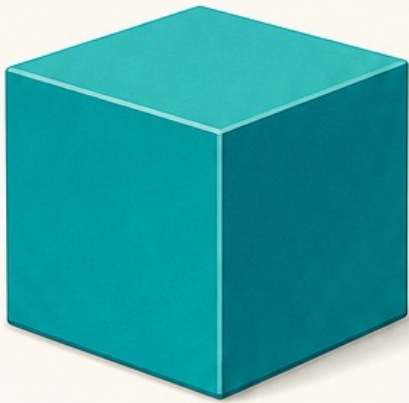
Features of 3D Objects - Year 1

Table of Contents	
Presentation: Features of 3D Objects	
3D Object Feature Posters	
3D Object Detective Reference Charts	
Roll, Build and Describe! Game	
Object Name Dominoes	
Feature Match Cards	
3D Object Feature Puzzles	
Flat Shape or 3D Object? Worksheet	
3D Object Detective Worksheet	
Count the Features Worksheet	
Sort by Surface Worksheet	
3D Objects in Our World Worksheet	
Compare and Describe Worksheet	
Build, Sketch and Explain	
Quiz: Features of 3D Objects	
Assessment: Mystery Object Challenge	
Rubric: Features of 3D Objects Rubric	



3D OBJECT FEATURE POSTERS

Look closely. What do you notice



CUBE

6 flat square faces
12 edges
8 corners



SPHERE

1 curved surface
0 flat faces
0 edges
0 corners



CYLINDER

2 flat circular faces
1 curved surface
2 circular edges
0 corners

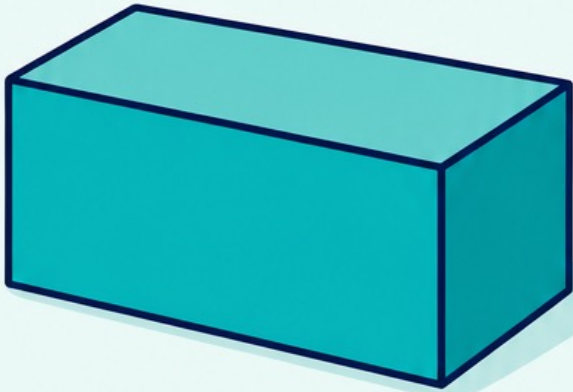


CONE

1 flat circular face
1 curved surface
1 circular edge
1 point (apex)

3D OBJECT FEATURE POSTERS

More objects to investigate



RECTANGULAR PRISM

6 flat faces

12 edges

8 corners



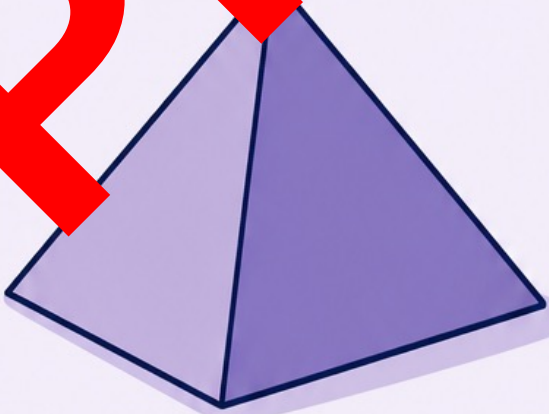
TRIANGULAR PRISM

5 flat faces

2 triangles + 3 rectangles

9 edges

6 corners



SQUARE-BASED PYRAMID

5 flat faces

1 square + 4 triangles

8 edges

5 corners



3D OBJECT DETECTIVE

Use observation features to name and compare objects.

1



CUBE

- Only flat faces
- 8 corners
- Stacks and slides

3



CYLINDER

- 2 flat faces + 1 curved surface
- 0 corners and stacks

4



CONE

- 1 flat face + 1 curved surface
- 1 point
- Rolls in a circle

5



RECTANGULAR PRISM

- Only flat faces
- 8 corners
- Stacks and slides

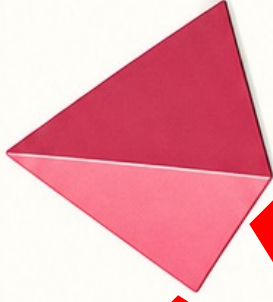
6



TRIANGULAR PRISM

- Only flat faces
- 6 corners
- Stacks and slides

7



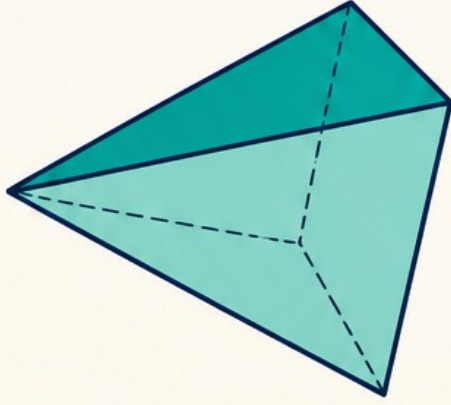
SQUARE-BASED PYRAMID

- Only flat faces
- 5 corners
- Stacks on its base

EXTENSION OBJECTS

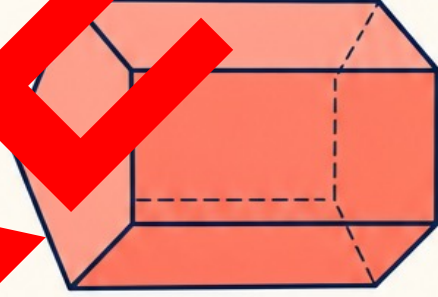
Notice how the base changes the prism.

TRIANGULAR-BASED PYRAMID



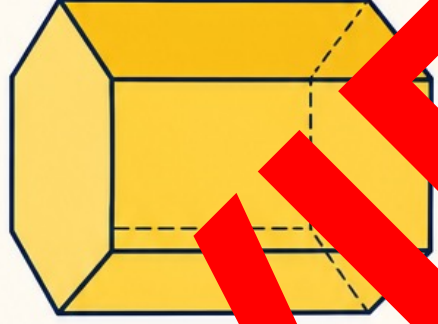
4 flat triangular faces
6 edges
4 corners

PENTAGONAL PRISM



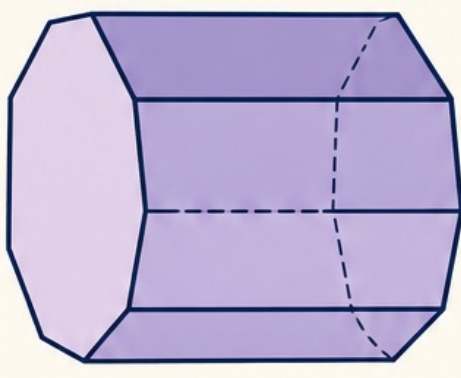
7 flat faces
2 pentagons + 5 rectangles
15 edges
10 corners

HEXAGONAL PRISM



8 flat faces
2 hexagons + 6 rectangles
18 edges
12 corners

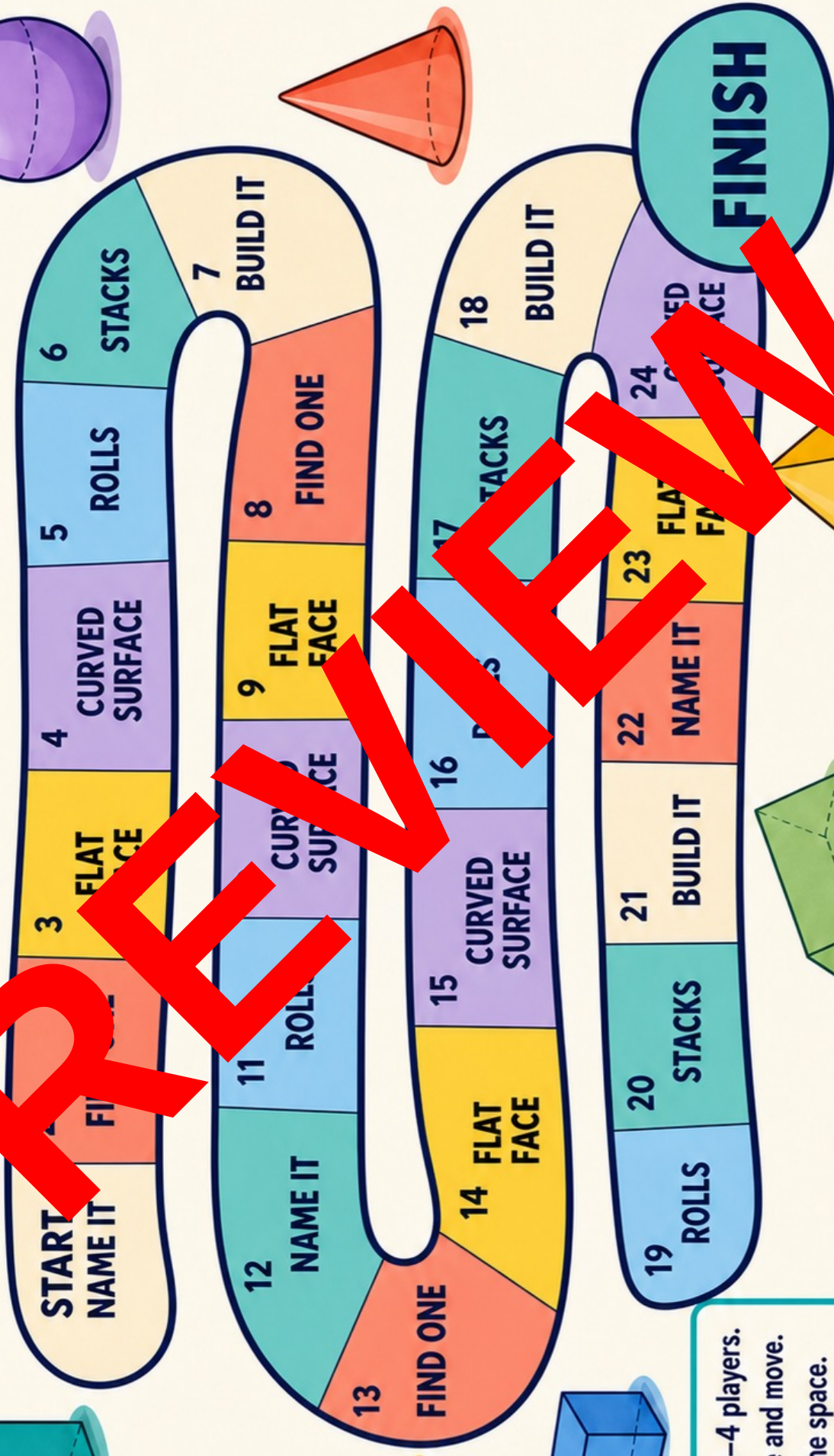
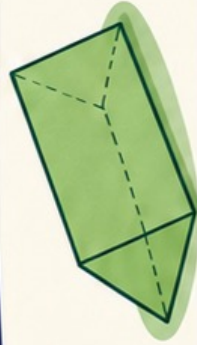
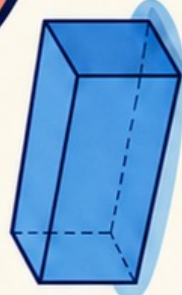
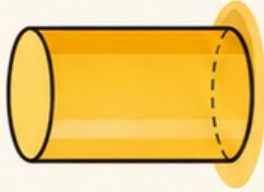
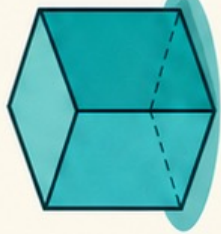
OCTAGONAL PRISM



10 flat faces
2 octagons + 8 rectangles
24 edges
16 corners

ROLL, BUILD AND DESCRIBE!

Roll a die. Move. Follow the space.

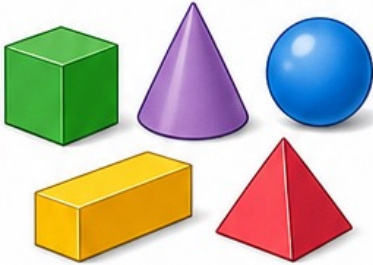


- Play with 2-4 players.
1. Roll a die and move.
 2. Follow the space.
 3. First to FINISH wins.

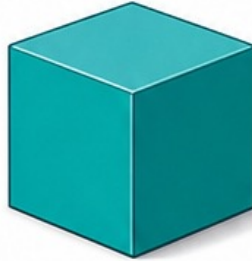
CLUE AND ACTION CARDS

Cut apart. Draw a card when the game says BUILD IT.

**NAME A
3D OBJECT**



FIND A CUBE



FIND A SPHERE



**SHOW A
CURVED SURFACE**



**SHOW A
FLAT FACE**



**NAME AN
OBJECT
THAT ROLLS**



**NAME AN
OBJECT
THAT STACKS**



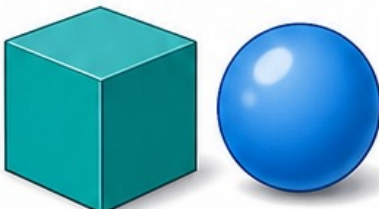
BUILD A CUBE



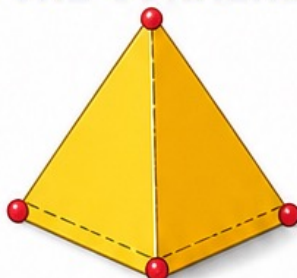
**BUILD A
CYLINDER**



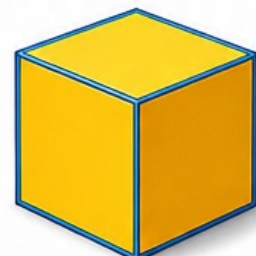
**COMPARE A
CUBE AND SPHERE**



**COUNT
THE CORNERS**

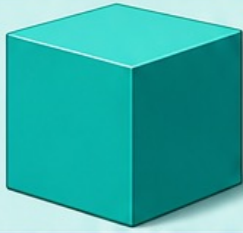


**COUNT
THE EDGES**



OBJECT NAME DOMINOES

Cut apart. Join each picture to its matching name.



SPHERE



CONE



CYLINDER



RECTANGULAR PRISM



TRIANGULAR PRISM



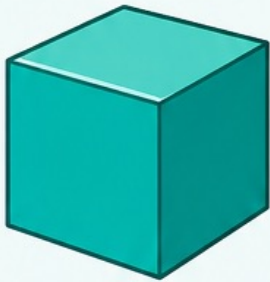
SQUARE-BASED PYRAMID



CUBE

FEATURE MATCH CARDS

Cut apart. Match each 3D object to its feature clue.



CUBE

6 FLAT FACES



SPHERE

1 CURVED SURFACE



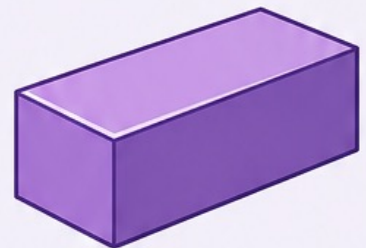
CYLINDER

2 FLAT FACES AND 1 CURVED SURFACE



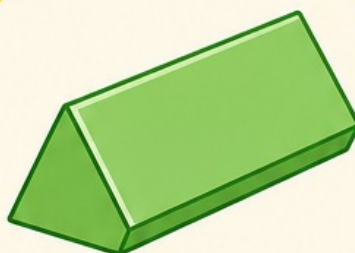
CONE

1 FLAT FACE AND 1 CURVED SURFACE



RECTANGULAR PRISM

BOX-SHAPED WITH FLAT FACES



TRIANGULAR PRISM

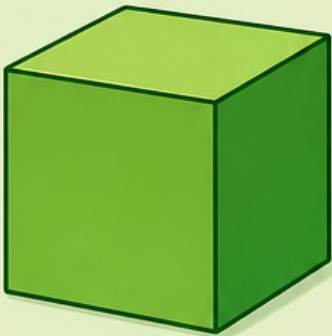
2 TRIANGULAR FACES AND 3 RECTANGULAR FACES

3D OBJECT FEATURE PUZZLES

Cube • **Sphere** • **Cylinder**

Cut apart the pieces. Build each four-piece puzzle.

CUBE



SPHERE



CYLINDER



**6 FLAT
FACES**

**1 CURVED
SURFACE**

**2 FLAT FACES
AND 1 CURVED
SURFACE**



GIFT BOX



BALL



CAN

3D OBJECT FEATURE PUZZLES

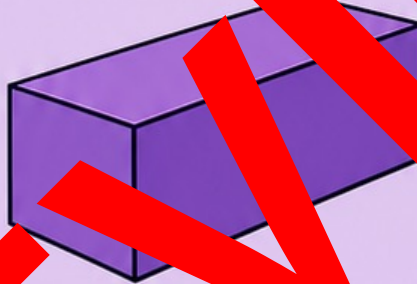
Cone • **Rectangular Prism** • **Triangular Prism**

Cut apart the pieces. Build each four-piece puzzle.

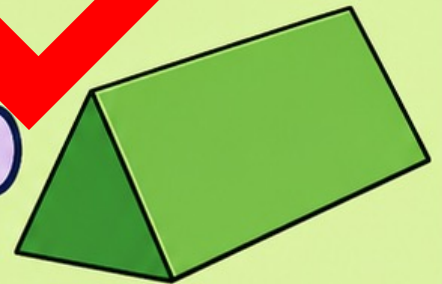
CONE



RECTANGULAR PRISM



TRIANGULAR PRISM



**1 FLAT FACE
AND 1 CURVED
SURFACE**



ICE-CREAM CONE

6 FLAT FACES



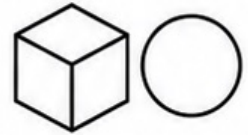
CEREAL BOX

**2 TRIANGULAR
FACES AND
3 RECTANGULAR
FACES**



TENT

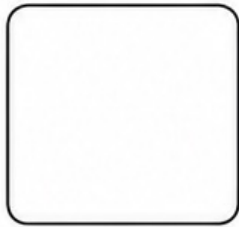
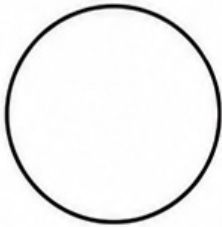
Name: _____



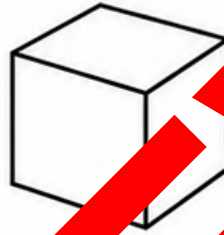
FLAT SHAPE OR 3D OBJECT?

Write F for a flat shape or 3D for a 3D object.

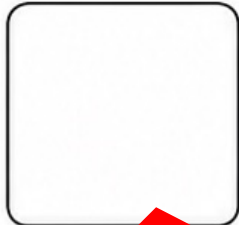
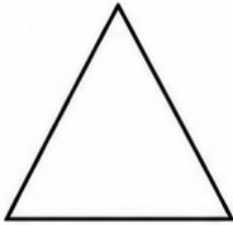
1.



2.



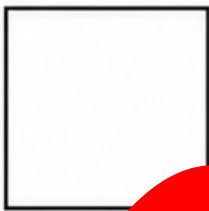
3.



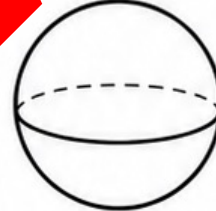
4.



5.



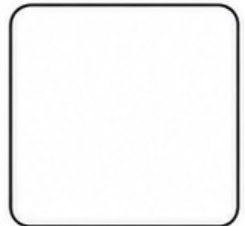
6.



7.



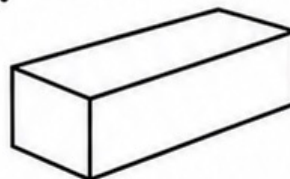
8.



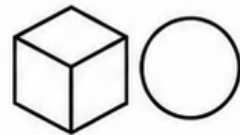
9.



10.



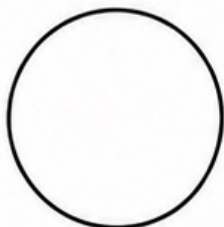
Name: **ANSWERS**



FLAT SHAPE OR 3D OBJECT?

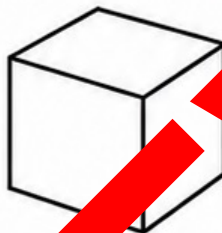
Write F for a flat shape or 3D for a 3D object.

1.



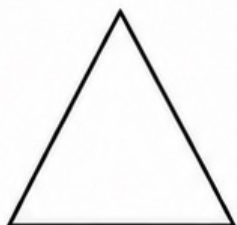
F

2.



3D

3.



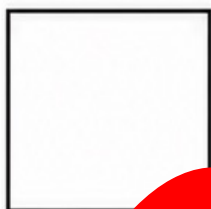
F

4.



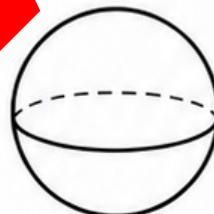
3D

5.



F

6.



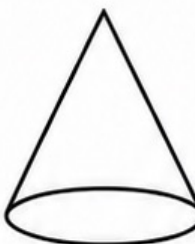
3D

7.



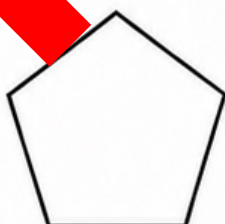
F

8.



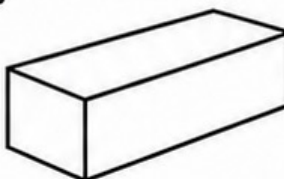
3D

9.



F

10.



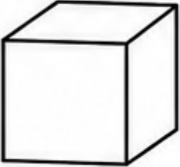
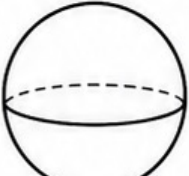
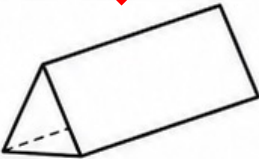
3D

Name: _____



3D OBJECT DETECTIVE

Look at each object. Tick every feature that is true.

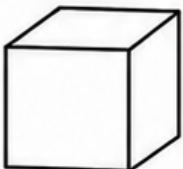
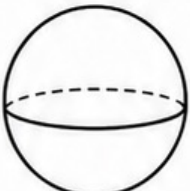
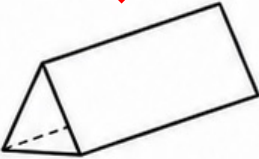
OBJECT	ROLLS	STACKS	FLAT FACE	CURVED SURFACE
 CUBE	☐	☐	☐	☐
 SPHERE	☐	☐	☐	☐
 CYLINDER	☐	☐	☐	☐
 CONE	☐	☐	☐	☐
 RECTANGULAR PRISM	☐	☐	☐	☐
 TRIANGULAR PRISM	☐	☐	☐	☐

Name: **ANSWERS**



3D OBJECT DETECTIVE

Look at each object. Tick every feature that is true.

OBJECT	ROLLS	STACKS	FLAT FACE	CURVED SURFACE
 CUBE	☐	☒	☒	☐
 SPHERE	☒	☐	☐	☒
 CYLINDER	☐	☒	☒	☒
 CONE	☒	☐	☒	☒
 RECTANGULAR PRISM	☐	☒	☒	☐
 TRIANGULAR PRISM	☐	☒	☒	☐

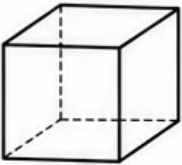
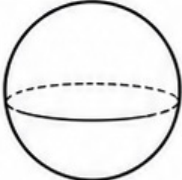
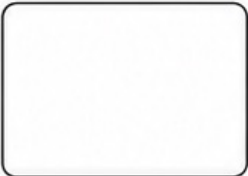
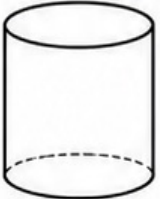
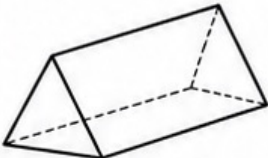
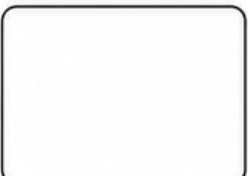
Name: _____



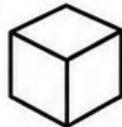
...

COUNT THE FEATURES

Count each object's features. Write the numbers.

OBJECT	FLAT FACES	CURVED SURFACES	CORNERS
 CUBE			
 SPHERE			
 CYLINDER			
 CONE			
 RECTANGULAR PRISM			
 TRIANGULAR PRISM			

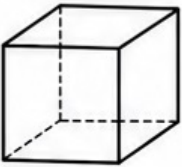
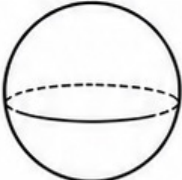
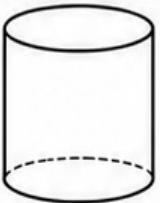
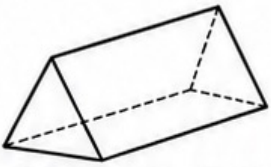
Name: ANSWERS



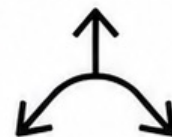
...

COUNT THE FEATURES

Count each object's features. Write the numbers.

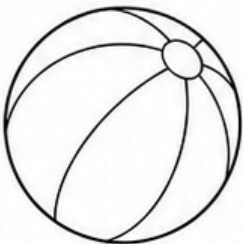
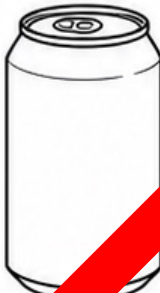
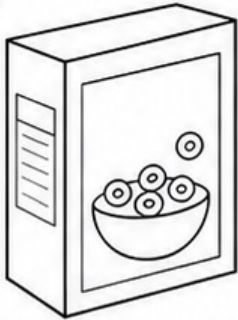
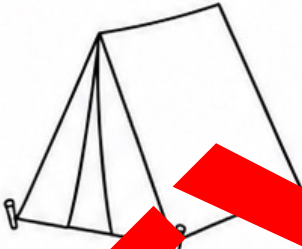
OBJECT	FLAT FACES	CURVED SURFACES	CORNERS
 CUBE	6	0	8
 SPHERE	0	1	0
 CYLINDER	2	1	0
 CONE	1	1	1
 RECTANGULAR PRISM	6	0	8
 TRIANGULAR PRISM	5	0	6

Name: _____



SORT BY SURFACE

Write each object's number in every box that fits.

1 	2 	3 	4 
5 	6 	7 	8 

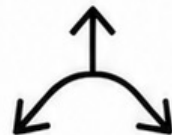
HAS A FLAT SURFACE

HAS A CURVED SURFACE

HAS A FLAT FACE

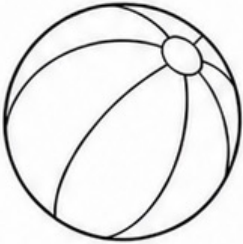
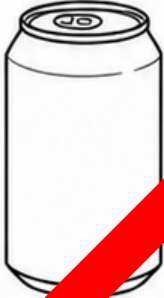
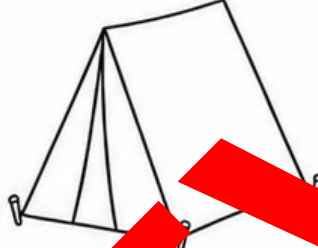
Name: _____

ANSWERS



SORT BY SURFACE

Write each object's number in every box that fits.

1 	2 	3 	4 
5 	6 	7 	8 

HAS ONLY FLAT SURFACES

1, 5, 6, 7

HAS A CURVED SURFACE

2, 3, 4, 8

HAS A FLAT FACE

1, 3, 4, 5, 6, 7

Name: _____

3D OBJECTS IN OUR WORLD



Write the 3D object name that matches each real object.

1.



4.



7.



2.



5.



8.



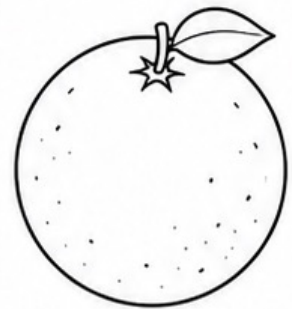
3.



6.



9.



Name: _____

3D OBJECTS IN OUR WORLD



Write the 3D object name that matches each real object.

1.



CUBE

2.



SPHERE

3.



CYLINDER

4.



CONE

5.



RECTANGULAR PRISM

6.



TRIANGULAR PRISM

7.



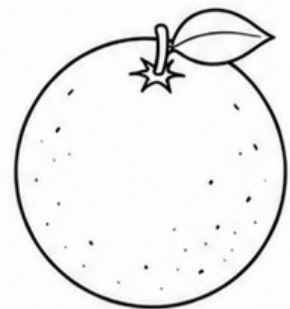
CONE

8.



CUBE

9.



SPHERE

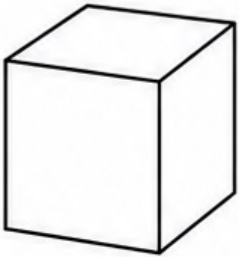
Name: _____



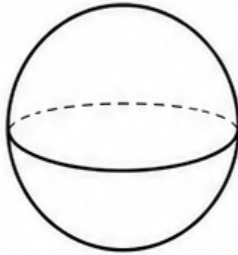
COMPARE AND DESCRIBE

Look at each pair. Write one similarity and one difference.

1



CUBE

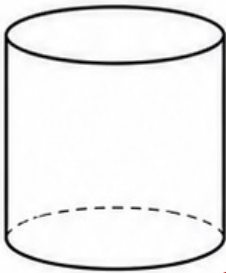


SPHERE

One similarity:

One difference:

2



CYLINDER



CONE

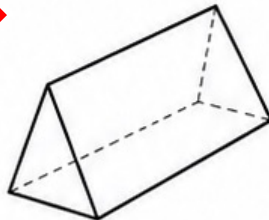
One similarity:

One difference:

3



RECTANGULAR PRISM



TRIANGULAR PRISM

One similarity:

One difference:

Name: _____

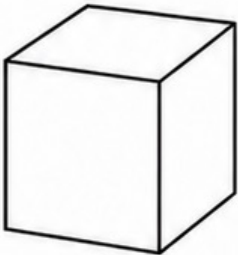
ANSWERS



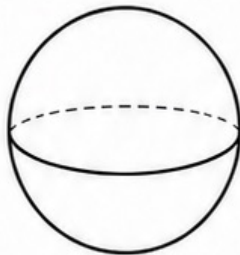
COMPARE AND DESCRIBE

Look at each pair. Write one similarity and one difference.

1



CUBE



SPHERE

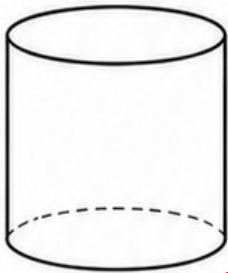
One similarity:

Both are 3D objects.

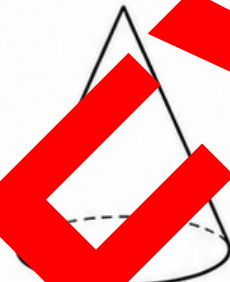
One difference:

A cube has flat faces; a sphere has a curved surface.

2



CYLINDER



CONE

One similarity:

Both have flat and curved surfaces.

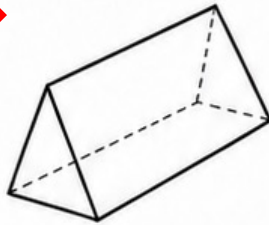
One difference:

A cylinder has 2 flat faces; a cone has 1.

3



RECTANGULAR PRISM



TRIANGULAR PRISM

One similarity:

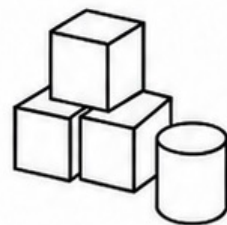
Both have only flat faces.

One difference:

Rectangular ends; triangular ends.

Name: _____

BUILD, SKETCH AND EXPLAIN



Use classroom objects or blocks. Build, draw and describe.

1 MAKE IT ROLL

Build an object that can roll. Sketch it.

It rolls because _____

2 MAKE IT STACK

Build an object that can stack. Sketch it.

It stacks because _____

3 COMPARE TWO BUILDS

Build two different objects. Sketch them.

B.

The same: _____

Different: _____

Name: _____

Score: _____ / 10

MYSTERY OBJECT CHALLENGE



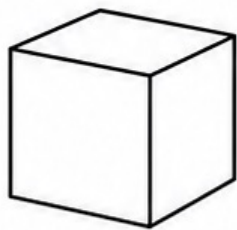
PART A: IDENTIFY AND CLASSIFY

Answer every question.

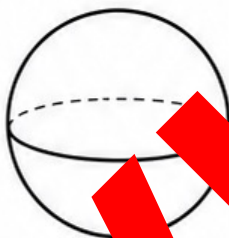
1-6. NAME THE OBJECTS

CUBE • SPHERE • CYLINDER • CONE • RECTANGULAR PRISM • TRIANGULAR PRISM

1.



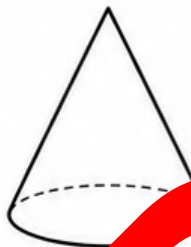
2.



3.



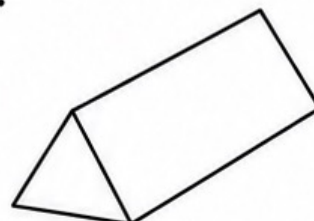
4.



5.



6.



7-10. CHOOSE THE BEST ANSWER

7. Which object has no flat faces?



cube



sphere



cylinder

8. Which object has 2 flat faces?



cone



cylinder



sphere

9. Which object has triangular faces?



triangular prism



rectangular prism



sphere

10. Which object can roll and stack?



sphere



cylinder



cone

Name: ANSWERS

Score: 10 / 10

MYSTERY OBJECT CHALLENGE



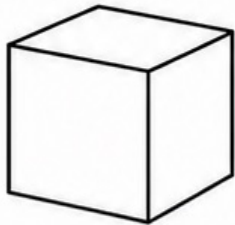
PART A: IDENTIFY AND CLASSIFY

Answer every question.

1-6. NAME THE OBJECTS

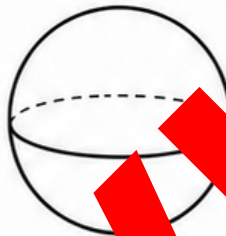
CUBE • SPHERE • CYLINDER • CONE • RECTANGULAR PRISM • TRIANGULAR PRISM

1.



CUBE

2.



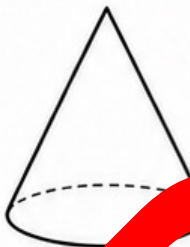
SPHERE

3.



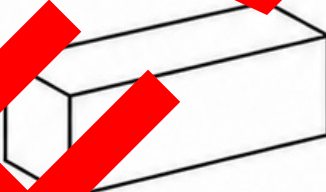
CYLINDER

4.



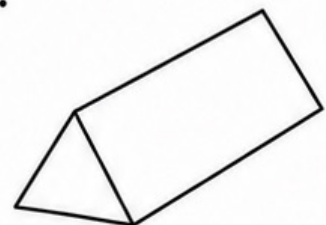
CONE

5.



RECTANGULAR PRISM

6.



TRIANGULAR PRISM

7-10. CHOOSE THE BEST ANSWER

7. Which object has no flat faces?



cube



sphere



cylinder

8. Which object has 2 flat faces?



cone



cylinder



sphere

9. Which object has triangular faces?



triangular prism



rectangular prism



sphere

10. Which object can roll and stack?



sphere



cylinder



cone

Name: _____

Score: _____ / 10

MYSTERY OBJECT CHALLENGE

PART B: USE THE FEATURES



Use the clues. Explain your thinking.

11.

I have 6 flat faces.
All my faces are squares.

Object: _____

12.

I have no flat faces.
I can roll.

Object: _____

13.

I have 2 flat faces and
1 curved surface.

Object: _____

14.



CUBOID



SPHERE

Tell one similarity and one difference.

Same: _____

Different: _____

Draw an object with a flat face and a curved surface. Name it.

A large rectangular area filled with a grid of small dots, intended for drawing an object.

Object: _____

Name: _____

ANSWERS

Score: **10** / 10

MYSTERY OBJECT CHALLENGE

PART B: USE THE FEATURES



Use the clues. Explain your thinking.

11.

I have 6 flat faces.
All my faces are squares.

Object: **CUBE**

12.

I have no flat faces.
I can roll.

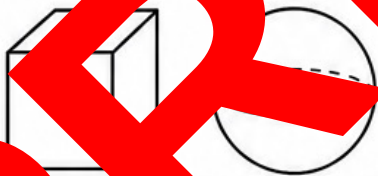
Object: **SPHERE**

13.

I have 2 flat faces and
1 curved surface.

Object: **CYLINDER**

14.



CUBE

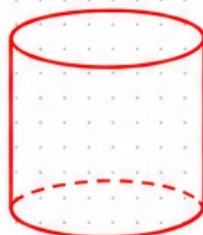
SPHERE

Write one similarity and one difference.

Same: **Both are 3D objects.**

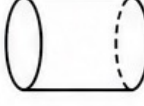
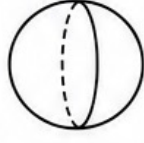
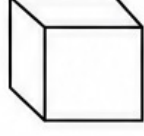
Different: **Cube: flat faces. Sphere: curved surface.**

Draw an object with a flat face and a curved surface. Name it.



Object: **CYLINDER**

FEATURES OF 3D OBJECTS RUBRIC



Student: _____ Class: _____ Date: _____

Level for each criterion and add brief evidence.

CRITERION	BEGINNING	DEVELOPING 2	ACHIEVING 3	CONFIDENT 4	EXCEEDING 5
1. Identifies objects	☐ Names 1–2 objects with help.	☐ Names some objects.	☐ Names all common objects accurately.	☐ Identifies objects and finds real examples.	☐ Explains an object choice using its features.
2. Describes surfaces	☐ Needs help to notice surfaces.	☐ Identifies some flat or curved surfaces.	☐ Identifies flat and curved surfaces accurately.	☐ Explains how surfaces affect movement.	☐ Uses surface features to justify a classification.
3. Rolls and stacks	☐ Needs help to make a prediction.	☐ Predicts some rolling or stacking.	☐ Predicts rolling and stacking accurately.	☐ Justifies predictions using features.	☐ Tests and explains results using precise features.
4. Compares and classifies	☐ Needs help to compare objects.	☐ States one similarity or difference.	☐ Compares and classifies using features.	☐ Creates and explains a sorting rule.	☐ Compares classifications and explains exceptions.
5. Uses maths language	☐ Uses few topic words.	☐ Uses some topic words correctly.	☐ Uses all topic words correctly.	☐ Uses precise words in explanations.	☐ Selects and defines precise geometry language.

Total: _____ / 25

Evidence / next step:

Features of 2D Objects



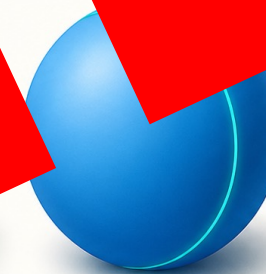
Meet 3D Objects

- 3D means three-dimensional.
- A 3D object is solid — you can hold it, touch it, and view different sides.
- We see 3D objects all around us.



Look for Obvious Features

- Flat faces are smooth, level surfaces.
- Curved surfaces bend around an object.
- Edges are where faces meet.
- Corners are points where faces meet.



Flat Faces and Curved Surfaces

A flat face does not bend.

A curved surface bends around an object.

Some objects have only flat faces. Some have curved surfaces. Some have both.



Cube

- 6 flat square faces
- 12 edges
- 8 corners
- Stacks and slides

Examples: cube and cube-shaped blocks



Sphere

- 1 curved surface
- No flat faces
- No edges or corners
- Rolls in every direction

Examples: balls and oranges.



Cylinder

- 2 flat circular faces
- 1 curved surface
- 2 circular edges
- No corners
- Rolls on its circular faces

Example: can, tin



Cone

- 1 flat circular face
- 1 curved surface
- 1 circular edge
- 1 point, called an apex
- Rolls in a circular path

Example: ice cream cones.



Rectangular Prism

- 6 flat faces
- 12 edges
- 8 corners
- Stacks and slides

Examples: cereal boxes, tissue boxes, books.



Triangular Prism

- 2 triangular faces
- 3 rectangular faces
- 9 edges
- 6 corners
- Stacks on a flat

...ter ... Tobler ... style boxes.



Square-Based Pyramid

- 1 square base
- 4 triangular faces
- 8 edges
- 5 corners
- Slides on its faces

The triangular faces meet at one apex.



Compare a Cube and a Sphere

Both are solid 3D objects.

Cube: flat square faces; stacks of cubes.

Sphere: one curved surface; round.

What are the similarities? What are the differences?



Compare a Cylinder and a cone

Both have a flat circular face and a curved surface

Cylinder: 2 flat faces and no corners.

Cone: 1 flat face and 1 vertex.

How do you identify each object?



Sort by Features

Only flat faces: cube, rectangular prism, triangular prism and pyramid.

A curved surface: sphere, cylinder and cone.

Some objects with curved surfaces also have flat faces.



Objects All Around Us

Ball → sphere

Tin can → cylinder

Tissue box → rectangular prism

Dice → cube

Party hat → cone

Tent → triangular prism

What other examples can you find?



Make and Describe

1. Choose blocks or classroom objects.
2. Build a model.
3. Name the 3D objects you used.
4. Describe flat faces and curved surfaces.
5. Explain why parts roll, stop, or slide.



Quick Check

1. I have no flat faces and I roll.
2. I have 2 flat faces and 1 curved surface.
3. I have 6 square faces.

Name _____

Write down the name of each object.





Well Done!

Features of 3D Objects Quiz



Question 1

TRUE OR FALSE

A 3D object is flat.

PREVIEW



Answer 1

FALSE

A 3D object is solid. You can hold it, turn it and view it from different sides.



Question 2

Which object has no flat face?

- A. cube
- B. sphere
- C. cylinder
- D. cone



Answer 2

B — SPHERE

A sphere has one curved surface and no flat faces.



Question 3

SHORT ANSWER

Name one feature of a cube

PREVIEW



Answer 3

A cube has:

- 6 flat square faces
- 12 edges
- 8 corners

Answer of these features is correct



Question 4

Which object can roll and stack?

- A. sphere
- B. cone
- C. cylinder
- D. triangular prism



Answer 4

C – CYLINDER

It rolls on its curved surface and stacks on flat circular faces.



Question 5

TRUE OR FALSE

A cone has one point.

PREVIEW



Answer 5

TRUE

The point of a cone is called an apex.

PREVIEW



Question 6

Which object has 2 triangular faces and 3 rectangular faces?

- A. cube
- B. triangular prism
- C. sphere
- D. cylinder



Answer 6

B — TRIANGULAR PRISM

It has 5 flat faces altogether.

PREVIEW



Question 7

SHORT ANSWER

How are a cube and a rectangular prism alike?

PREVIEW



Answer 7

Both have:

- 6 flat faces
- 12 edges
- 8 corners

Both a cube and a sphere.



Question 8

A cereal box is most like which object?

- A. cone
- B. sphere
- C. rectangular prism
- D. cylinder



Answer 8

C — RECTANGULAR PRISM

A cereal box has six flat faces.

PREVIEW



Question 9

TRUE OR FALSE

A sphere has corners.

PREVIEW



Answer 9

FALSE

A sphere has no corners.

PREVIEW



Question 10

SHORT ANSWER

Name two 3D objects that have curved surfaces.

PREVIEW



Answer 10

Any two of these are correct:

- sphere
- cylinder
- cone





PREVIEW

Well Done!