DISCOVERING 3D SHAPES

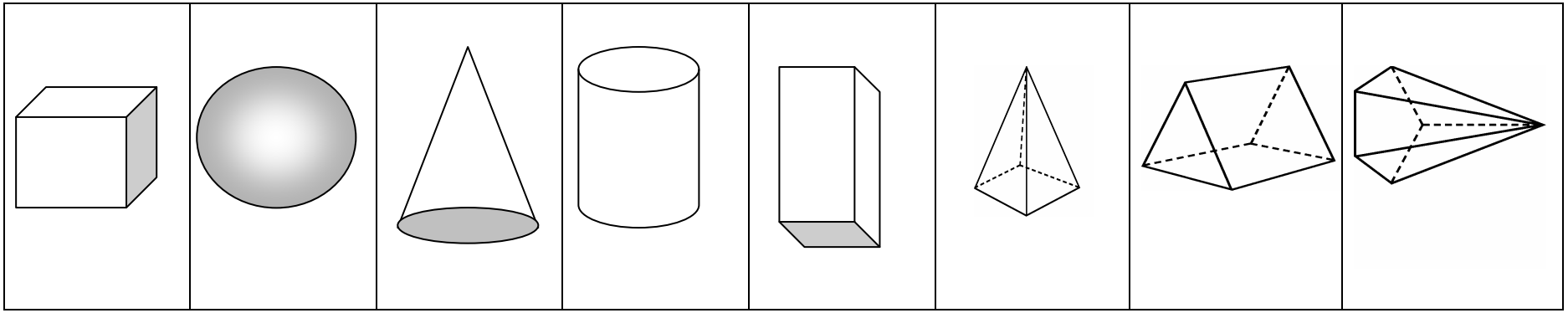
WORKSHEETS

Mª ROSA GARCIA BLAZQUEZ

OCTOBER-DECEMBER 2009

Mª ROSA GARCIA BLAZQUEZ
CEIP RAMON LLULL (RUBI)

Worksheet 1. Cut out and stick the shapes.



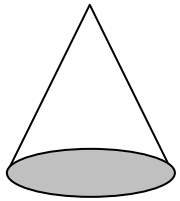
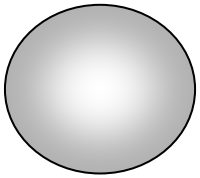
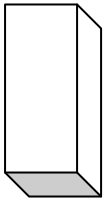
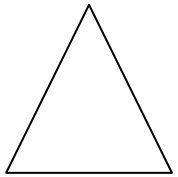
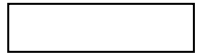
SHAPES WHICH ROLL

SHAPES WHICH SLIDE

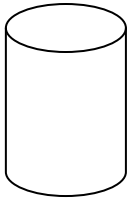
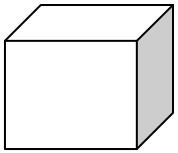
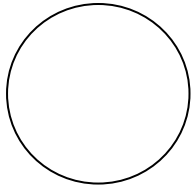
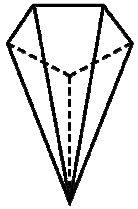
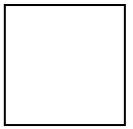
Mª ROSA GARCIA BLAZQUEZ
CEIP RAMON LLULL (RUBI)

Worksheet 2: COMPLETE THE CHARTS

Sphere, triangle, prism, cone, rectangle.

					
2D or 3D					
Shape name					

Circle, pyramid, square, cube, cylinder

					
2D or 3D					
Shape name					

Mª ROSA GARCIA BLAZQUEZ
CEIP RAMON LLULL (RUBI)

Worksheet 3: Match the name of the shapes with the pictures and objects. Draw lines.

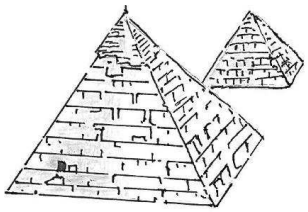
1.cone

2.cylinder

3.cube

4.pyramid

5.sphere



hat

ball

drink can

Egyptian pyramids

dice

Write sentences like: An Egyptian pyramid is a square pyramid.

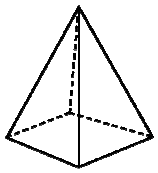
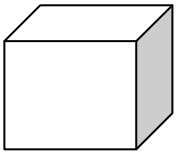
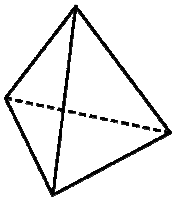
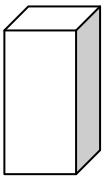
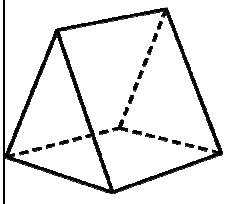
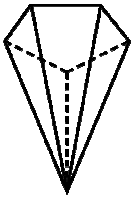
_____

_____

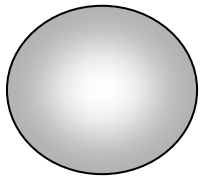
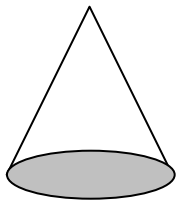
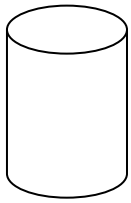
_____

_____

Worksheet 4a. Complete the chart and answer the questions.

	NUMBER OF EDGES	NUMBER OF VERTICES	NUMBER OF FACES	NAMES OF FACES
				
				
				
				
				
				

Worksheet 4b: Complete the chart and answer the questions

	NUMBER OF EDGES	NUMBER OF VERTICES	NUMBER OF FACES	NAME OF FACES
				
				
				

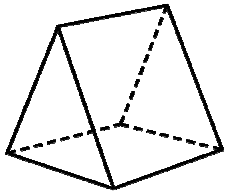
Which shape has only one surface?

Which shape has five vertices and five faces?

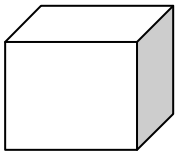
Is there any pattern in the number of vertices, edges, and faces?

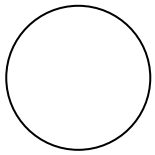
Worksheet 5a: Revisiting

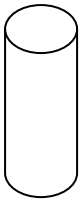
Label the shapes and write down if they are 2D or 3D.

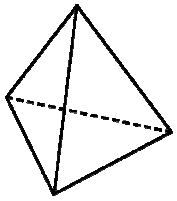


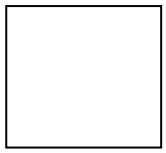
Triangular prysm
3D

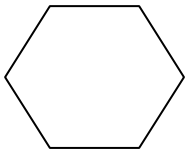


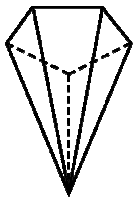


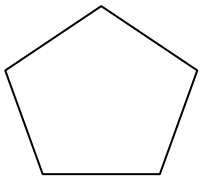






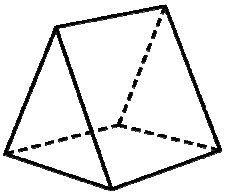




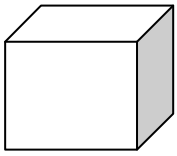


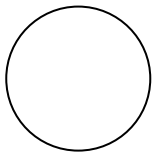
Worksheet 5a": Revisiting

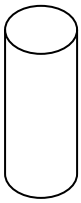
Label the shapes and write down if they are 2D or 3D.
Word bank: cube, circle, cylinder, square, pentagonal pyramid, pentagon, hexagon, triangular pyramid.

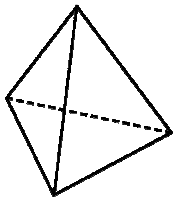


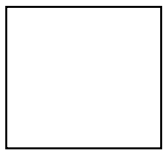
Triangular prysm
3D

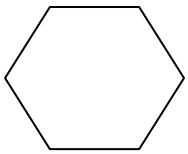


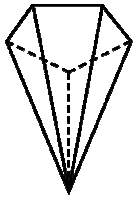


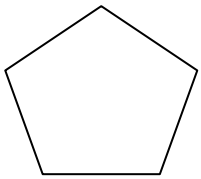






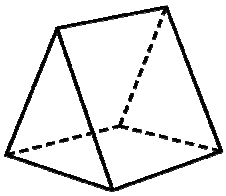




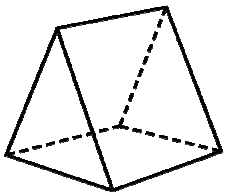


Worksheet 5b: Revisiting

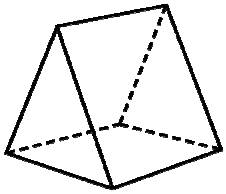
Colour in red 2 edges of the triangular prism.



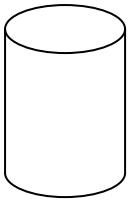
Colour in blue 3 vertices.

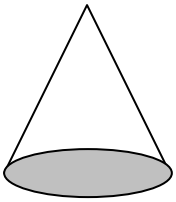


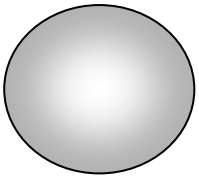
Colour in green 1 face.



What have these shapes in common?



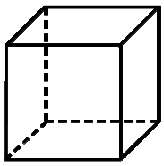


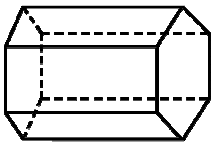
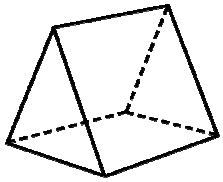


They have_____

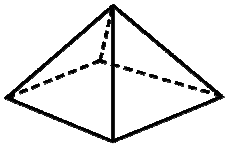
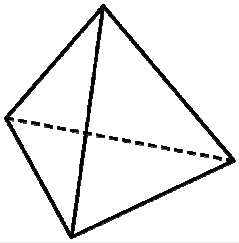
They_____

Worksheet 6. Write the names of the shapes under their nets. There is one extra.

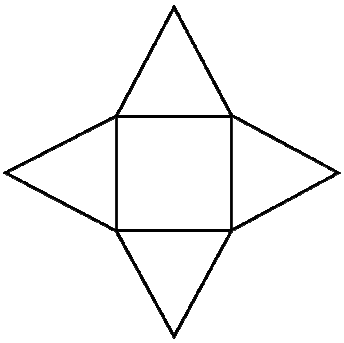
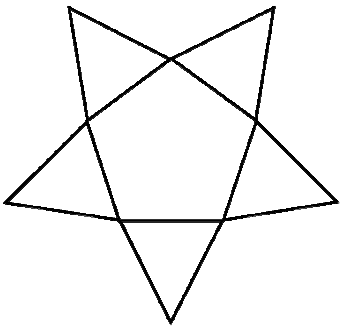
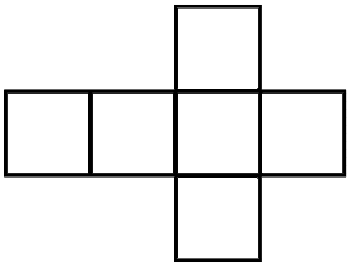


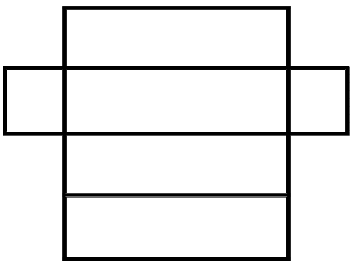
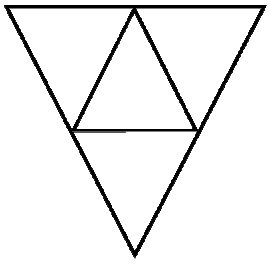
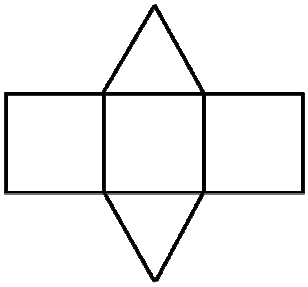
Cube	pentagonal pyramid	hexagonal prism	triangular prism


Square pyramid	triangular pyramid	rectangular prism

_____

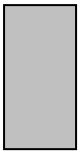




_____

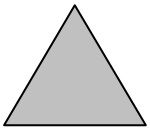
Worksheet 7

Look carefully at the 3D shapes (realia) from above, below, and in front. What can you see? Complete the chart.

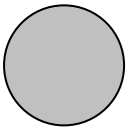
Word bank: square prism, cylinder, triangular pyramid, sphere, cone, cube, square pyramid, triangular prism.
From: above, below, in front.



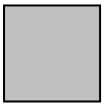
A rectangle could be a _____ _____ _____ from _____ _____ _____



A triangle could be a _____ _____ _____ from _____ _____ _____



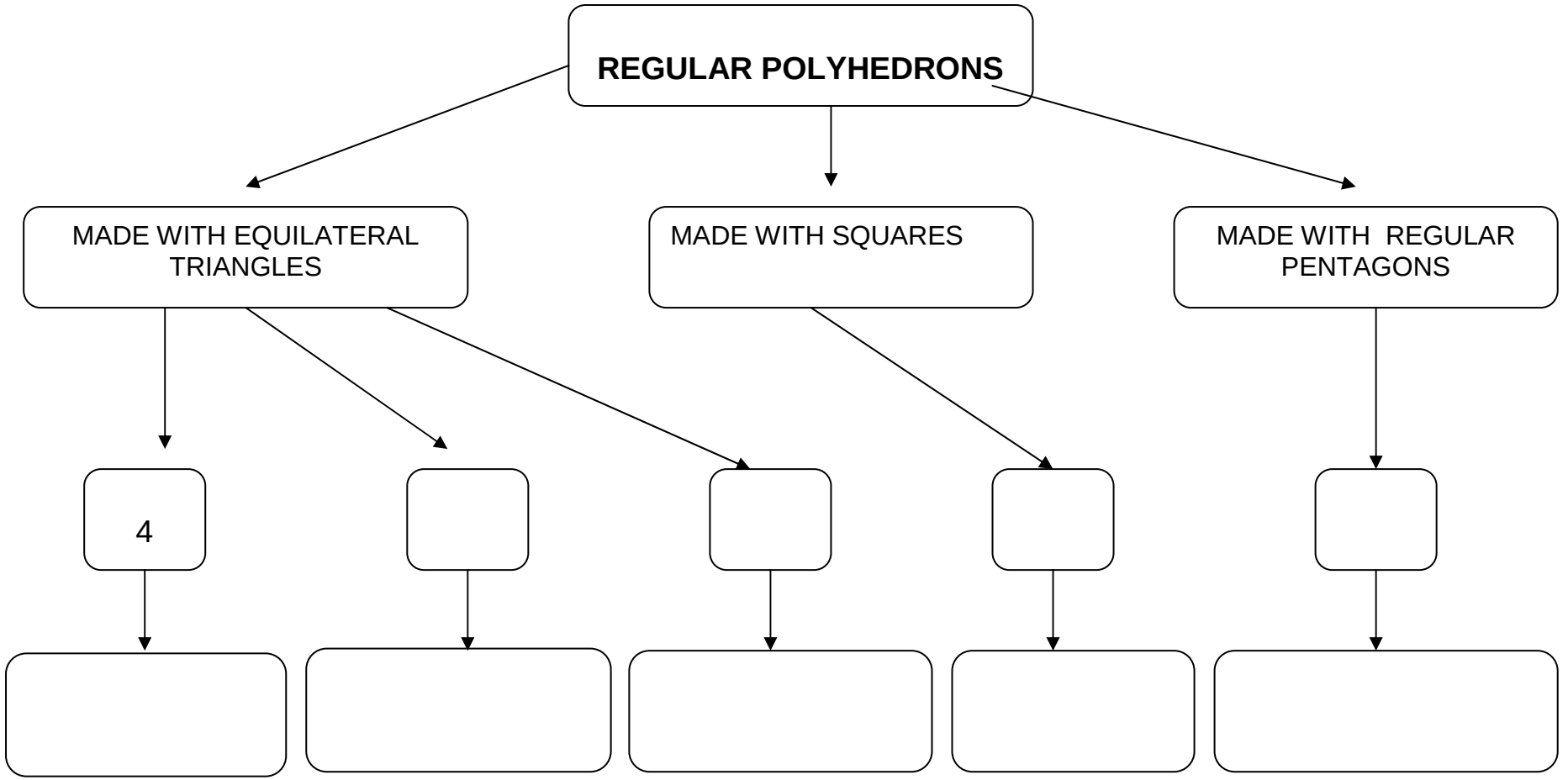
A circle could be a _____ _____ _____ from _____ _____ _____



A square could be _____ _____ _____ from _____ _____ _____

Worksheet 8 Complete the tree diagram

Word bank: 4, 6, 8,12, 20. Tetrahedron, octahedron, cube, icosahedron, dodecahedron.



Worksheet 9

How many straws do you need to construct the shapes? (edges)
How many balls of plasticine do you need? (vertices).
Make yours predictions.

	Numbers of straws EDGES		Numbers of plasticine balls VERTICES		The straws (can)have equal length	
	My prediction		**My prediction**		Yes	No
Triangular Prism						
Square pyramid						
Triangular Pyramid						
Rectangular Prism						
Cube						

Construct the 3D shapes with straws and plasticine. Check your predictions and complete the chart.

There are two of the shapes that have the same number of edges and the same number of vertices. Why?

Worksheet 9 (Solution)

How many straws do you need to construct the shapes? (edges)
How many balls of plasticine do you need?. (vertices).
Make yours predictions.

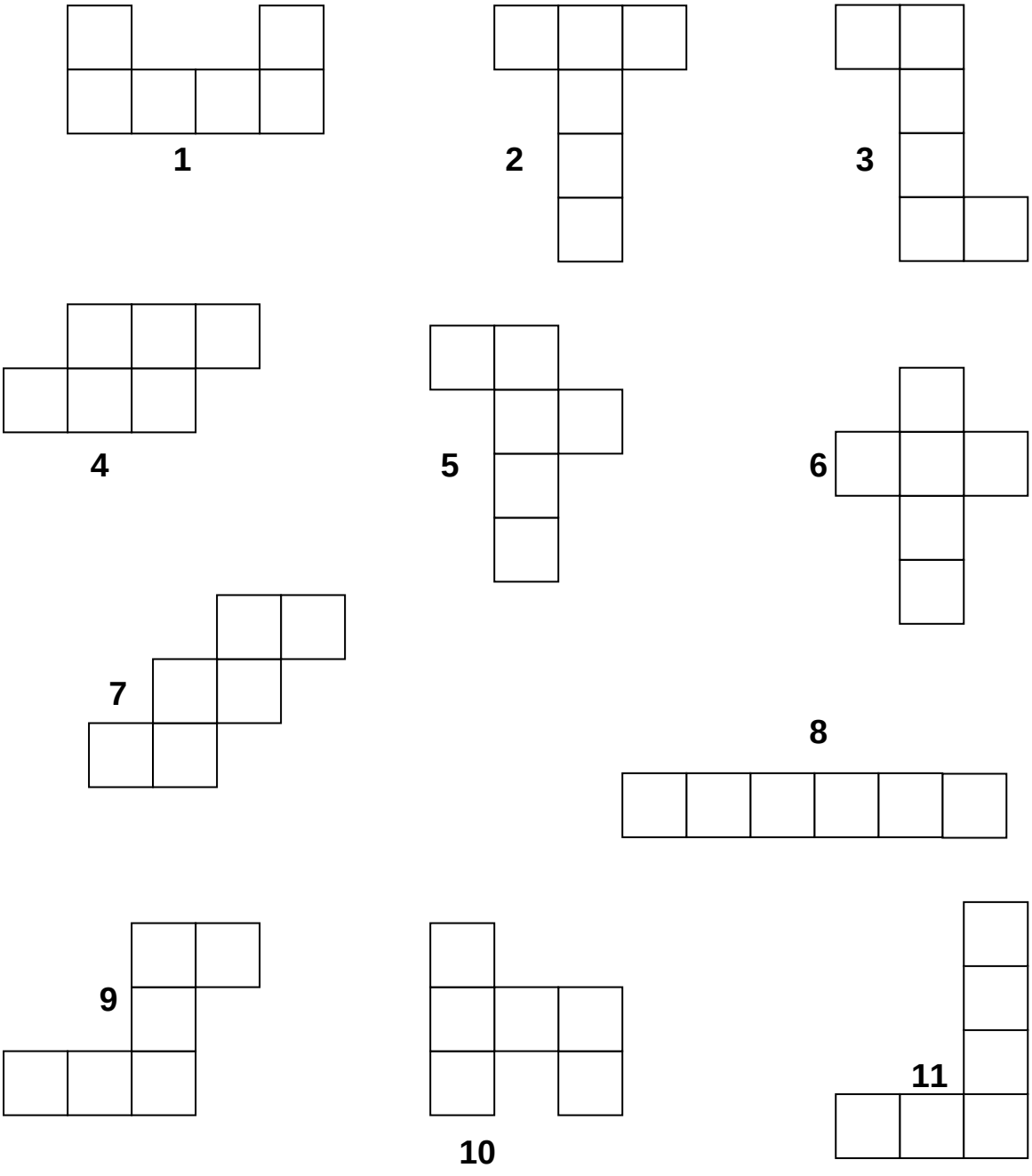
	Numbers of straws EDGES		Numbers of plasticine balls VERTICES		The straws (can)have equal length	
	My prediction		**My prediction**		Yes	No
Triangular Prism		**9**		**6**	**V**	**V**
Square pyramid		**8**		**5**	**V**	**V**
Triangular Pyramid		**6**		**4**	**V**	**V**
Rectangular Prism		**12**		**8**		**V**
Cube		**12**		**8**	**V**	

Construct the 3D shapes with straws and plasticine. Check your predictions and complete the chart.

There are two of the shapes that have the same number of edges and the same number of vertices. Why?
The rectangular prism and the cube have the same number of edges and vertices because the rectangular prism is like a stretched cube.

Worksheet 10

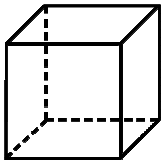
Discover which nets can construct a cube.
Make your prediction.

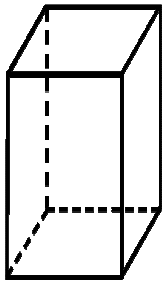


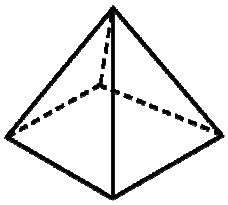
I think that I can construct a cube with_____

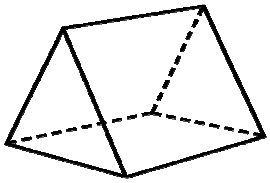
Check your prediction by drawing some of the nets on a sheet of paper.
Cut out and construct the cubes. Or make the nets with the game Conexion
After making them I know that I can only construct a cube with_____
_____

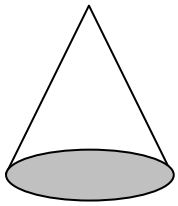
Worksheet 11: Drawing 3D shapes. Start the drawings for the base.

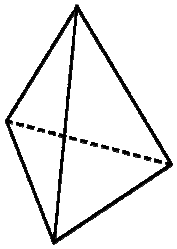


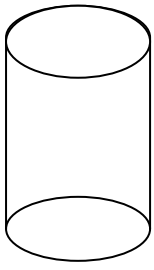


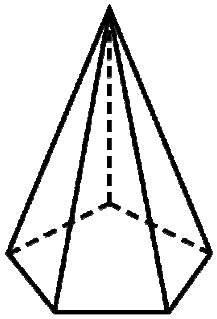












Worksheet 12: Shapes detectives
Draw your building or piece of street furniture on the other side of this sheet of paper.

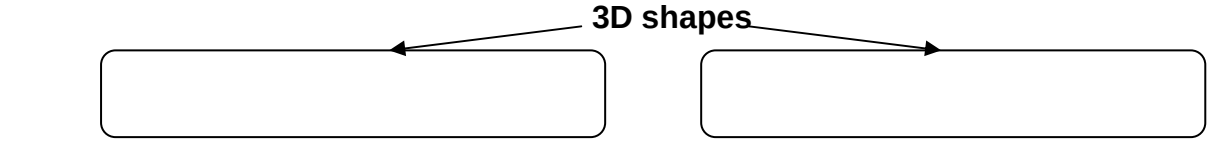
Look at the roofs, what shape are they?_____

What shape are the chimneys?_____

What shape are the lamps in the street?_____

Group 1 and 2 are in charge of looking for prisms and pyramids.
Group 3 is in charge of looking for cylinders and cones.
Group 4 is in charge of looking for spheres and cubes.

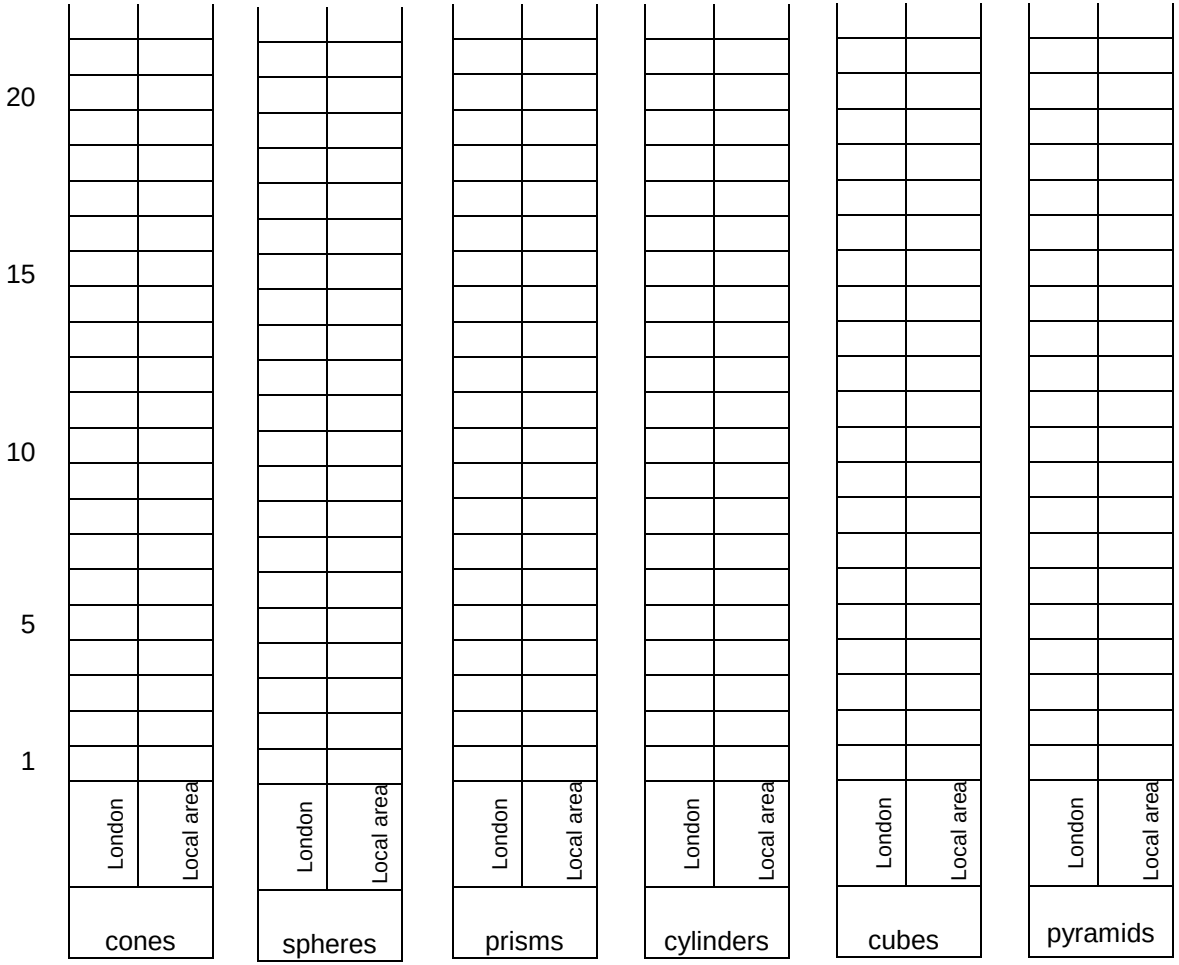
Make a list, writing down where you saw it.



WHERE I SAW IT

Have you found buildings with more than one 3D shape? Where? Which ones?_____

Worksheet 13 . Complete the bar chart. Colour one rectangle for each shape you saw.



There are more _____
in London than in _____

There are fewer_____
in_____than in_____

What is the most common 3D shape in London?_____

What is the most common 3D shape in your local area?_____
_____

Why do you think there are more buildings with a prism shape than a cylindrical or conical shape?_____

_____

Worksheet 14. My design

I designed a _____

It is used for_____

With this object you can_____

I think it can be made of_____

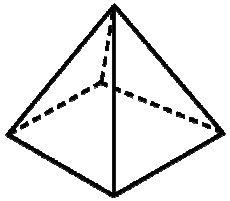
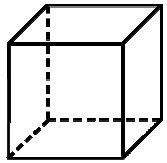
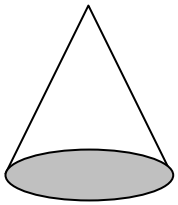
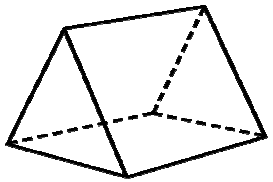
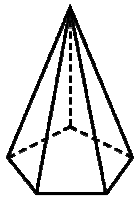
Worksheet 15. The best place for my design

I'd like my object to go _____in a _____

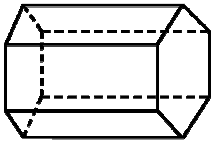
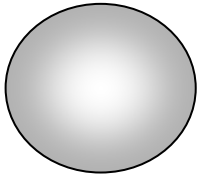
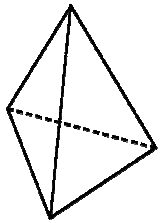
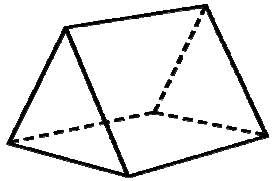
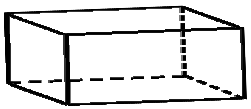
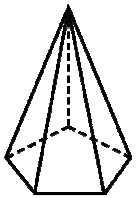
_____

Use a dictionary to help you.

Worksheet 16a

1  How many triangles has a square pyramid? (4)	**2**	**3**  Which shape has 6 square faces? (the cube)	**4**
5  Which 3D shape has 1 curved surface and 1 flat surface? (the cone)	**6**	**7**  How many surfaces has a cylinder? (3)	**8**
9  How many edges has a triangular prism? (9)	**10**	**11**  How many vertices has a pentagonal pyramid? (6)	**12**

Worksheet 16b

1	**2**  How many rectangles has a hexagonal prism? (6)	**3**	**4**  What is the shape with only one curved surface? (The sphere)
5	**6**  How many edges has a tetrahedron? (6)	**7**	**8**  How many rectangles has a triangular prism? (3)
9	**10**  How many vertices has a rectangular prism? (8)	**11**	**12**  Which is the shape with 5 triangles and a pentagon? (a pentagonal pyramid)

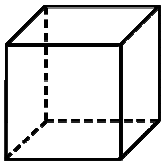
Worksheet 17a: Revisiting

1. Column dictation. Write down the names in the appropriate column

Faces of a 3D shape	Regular polyhedrons	Parts of a shape	Have curved surfaces

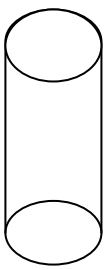
2 Draw a net of a cube.

3. Describe these shapes:



_____

_____

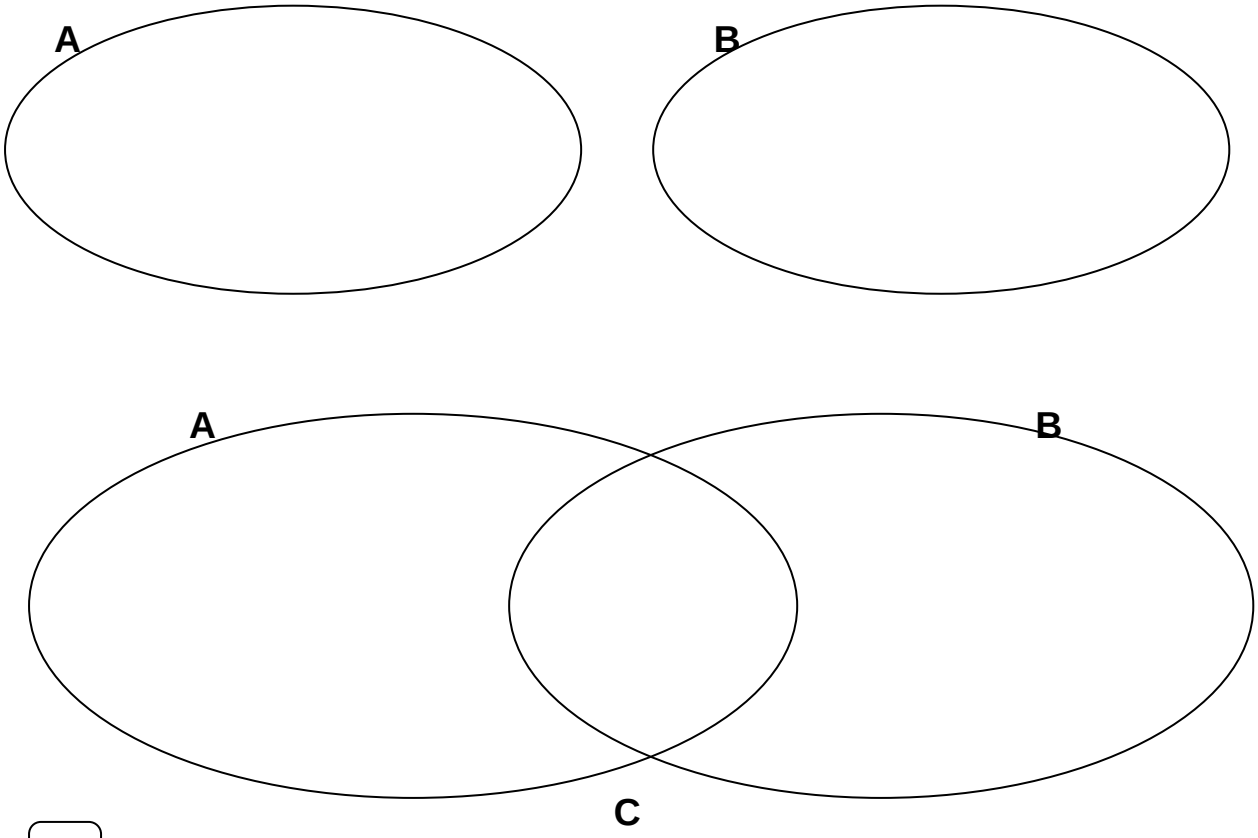


_____

_____

Worksheet 17b: Revisiting

4. Classify the 3D shapes according two different criteria. Give reasons.
3D shapes: cylinder, cube, square pyramid, sphere, triangular prism, cone, tetrahedron,



In [A / B / C] I put the _____

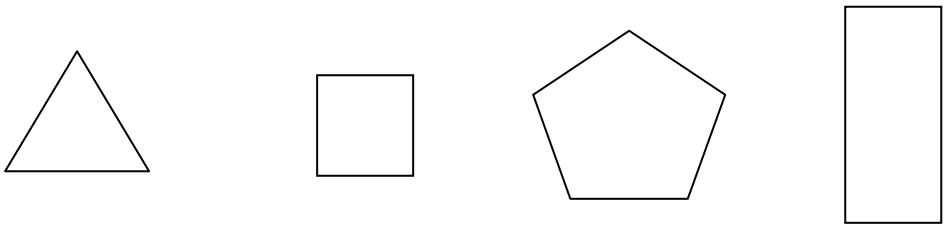
because there [is / are] _____

In [A / B / C] I put the _____

because it/they [can / has/have] _____

Worksheet 17c

5. You have these pieces from the game connexion. What do you need to construct a square pyramid? Put the number of pieces you need inside the shape.



6. Draw and label some different 3D shapes

7. Look at the drawing (17 d) and make sentences about where you see some 3D shapes.

At the bottom of the building on the right there is a cylinder.

1_____

2_____

3_____

4_____

5_____

Word box

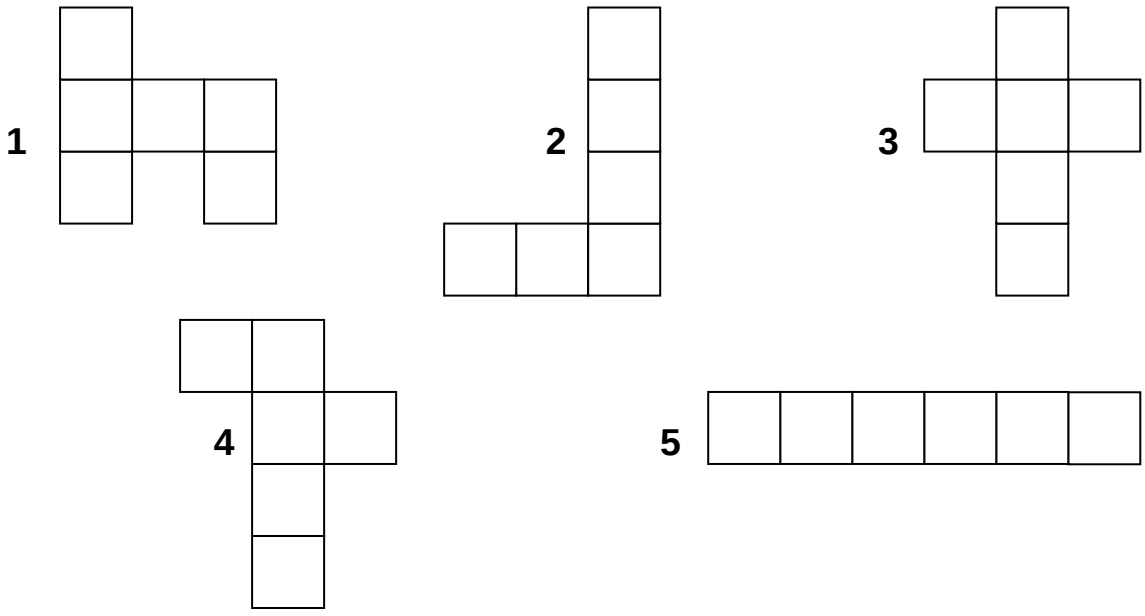
left, , right bottom middle, top,

Worksheet 17a" Revisiting

1. Column dictation. Write down the names in the appropriate column

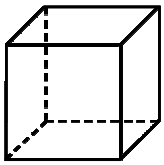
Faces of a 3D shape	Regular polyhedrons	Parts of a shape	Have curved surfaces

2. Which nets can construct a cube?_____



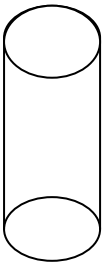
Worksheet 17b" Revisiting

3. Describe these shapes:



This is a _____

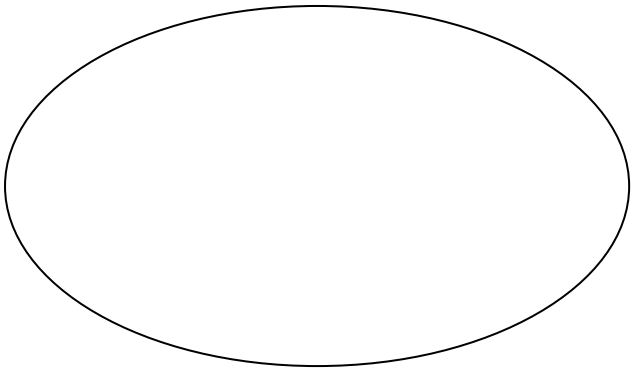
It has _____

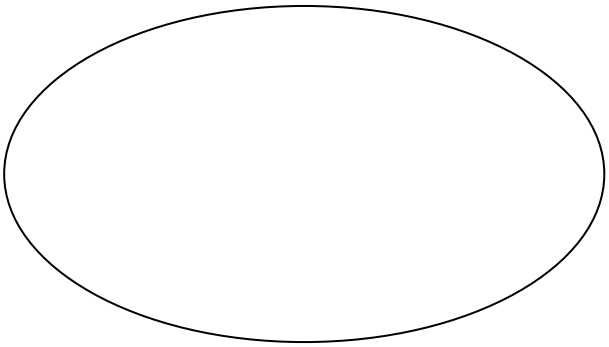


_____

_____

4 Classify the 3D shapes Give reasons.
3D shapes: cylinder, cube, square pyramid, sphere, triangular prism, cone, tetrahedron,

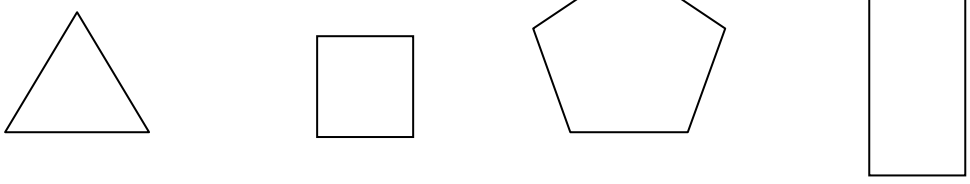




In_____I put the _____and the_____

because it/they [is / are] _____

5.You have these pieces from the game connexion. What do you need to construct a square pyramid? Put the number of pieces you need inside the shape.



Worksheet 17c". Revisiting

6. Draw and label 3 different 3D shapes

7. Look at the drawing (17 d) and make sentences about where you see some 3D shapes.

I sea a cylinder at house number 12

1_____

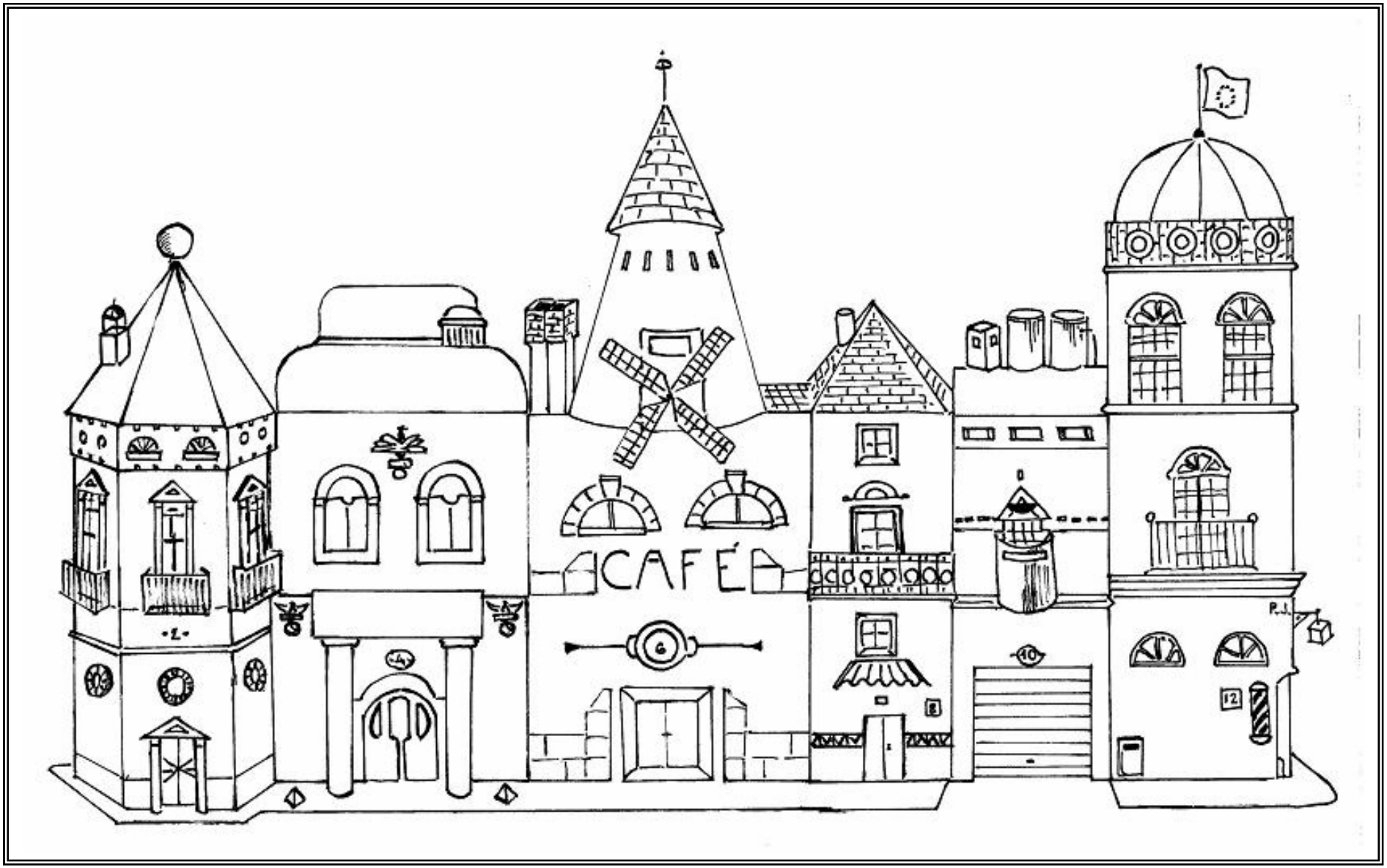
2_____

3_____

4_____

5_____

Worksheet 17d. Revisiting . How many 3D shapes can you find?



Worksheet 18 Self-assessment

Circle the correct answer.

I have learned a few things / some things / a lot of things about 3D shapes.

I can explain what a 3D shape is to another person Yes / almost / No

I can give examples of regular polyhedrons Yes many / yes, almost 1 or 2 / No

I can explain what a net is Yes / almost / No

I can find 3D shapes outside the class Yes many / yes, almost 1 or 2 / No

Which activity did you like the most in this project?

_____

I try to speak in English during the class Always / from time to time / never

I cooperate with my classmates Always / from time to time / never