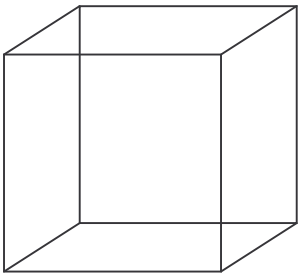
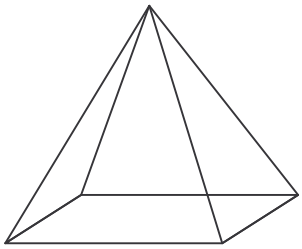
The Polyhedra

1) What are the names of the shapes? (You'll find them on this sheet!)

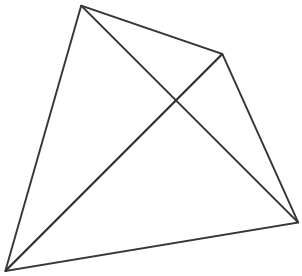


C_____



S_____-B_____

P_____



T_____

2) How many faces are there on all three shapes together? _____

3) How many right angles are there on the cube? _____

4) How many screws are there a) on the cube _____

b) on the tetrahedron? _____

c) on the square based pyramid? _____

5) What is the surface area of the cube? _____

6) What is the surface area of the tetrahedron? _____

7) How many more edges are there on the cube than on the tetrahedron? _____

8) Exactly what name do we give to the faces of the tetrahedron? _____

9) How many faces are there on the square based pyramid? _____

10) How many faces are there on all three polyhedra? _____

11) What is the total length of the edges on the cube? _____

12) The "vertices" are the corners of the shapes. How many vertices does the square based pyramid have? _____

Behind Gurney Dixon

1) What is the circumference of the canopy of the oak tree? _____

2) How wide is the trunk of the cedar tree at a height of 1 m from the ground? _____

3) What is the circumference of the trunk of the cedar tree measured at a height of 1 m from the ground? _____

4) How high is the cedar tree? _____

5) How many windows are there on the back of the building? _____

6) How tall is “Post 6” a) in centimetres? _____

b) in metres? _____

7) Find the felled oak tree by “Post 6”.
How old was it when it was cut down? _____

In Front of Gurney Dixon

1) How tall is the totem pole? _____

2) a) Estimate the number of **cylindrical** fence posts around the grass between the Gurney Dixon and Robert Hole buildings. _____

b) Count the posts. _____

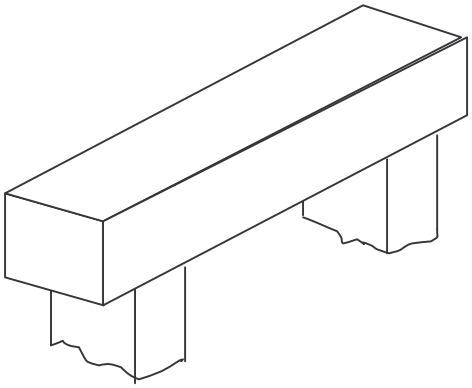
c) How accurate were you? _____

3) a) Estimate the girth of the biggest oak tree at a height of 1 metre from the ground? _____

b) Check your answer by measuring. _____

4) How many panes of glass in the end of the Robert Hole building? _____

5) How many right angles are there on a bench? _____



In the Cage

1) How many different straight lines are there? _____

2) What different shapes can you see? _____

_____

3) How many circles are there and what are their diameters?

_____

4) What are the circumferences of the circles? _____

5) How long and how wide is the cage? _____

What is its area? _____

What is its perimeter? _____

6) Estimate how many people carriers could park in the cage.
Explain your answer on paper. _____

7) What are the measurements of the football goals?

a) in metres b) in centimetres

	Height	Width
metres		
centimetres		

8) How high is the rear gate to the cage? _____

9) How many different sports pitches and courts are marked out? _____

10) Multiply the number of bins by the number of circles. _____

Round Gurney Dixon

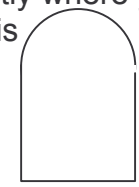
1) How many panes of glass are there in the spiral staircase window? _____

2) How many planes of symmetry are there on the spiral staircase window? _____

3) Which two shapes form the door in the wall to your right? _____

4) Do this question on squared paper.

   a) Draw all the different mathematical shapes you can see on and round the Gurney Dixon building and say where they are.

   b) Look for tessellating patterns on the walls and on the ground. Draw them and say exactly where you found them. (e. g. “on the wall with this  door in it”)

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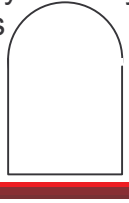
   b) Look for tessellating patterns on the walls and on the ground. Draw them and say exactly where you found them. (e. g. “on the wall with this  door in it”)

Robert Hole & Technology Block

1) How many more window panes does the top floor of Robert Hole have than the bottom? _____

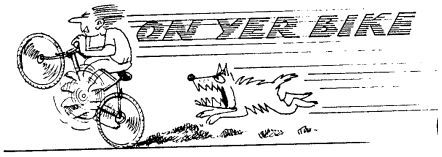
2) What shape is the top of the brown & cream dustbins? _____

3) How many triangles are there on a bin? _____

4) How high is the technology block? _____
(Try measuring the height of a brick and some mortar, then count the rows)

5) How many cycles are in the cycle racks? _____

6) Make a tally chart of the colours of the bikes on paper. _____
Use your tally chart to draw a bar chart and a pictogram.



Car Parks

Visit the car parks at the front of the Cage, behind the cage and beside the walled garden.

Make tally charts of the colours of the cars and the makes.

Use your tally charts to make bar charts and write a few sentences about what you find out.

Warden's Piece

1) Add up all the bus numbers. _____

2) How many odd bus numbers are there? _____

3) How many even bus numbers are there? _____

4) How many numbers are multiples of 6? _____

5) How many bus queue lines are there? _____

6) If each bus can hold 50 students, what is the greatest number of students that could get on all the buses? _____

7) What is the highest bus number? _____

8) Add all the first digits of the bus numbers, then multiply by the number of benches around Warden's Piece _____.

9) What different shapes can you see and where? _____

_____

10) Calculate the circumference of the largest circle. _____

A bit of grass for you to work on