

YEAR 11	Autumn 2021
DATES	UNIT / LESSON
	17 Perimeter, area and volume 2
06 September 2021	<b>REVISION</b>
13 September 2021	17.1 Circumference of a circle 1
	17.2 Circumference of a circle 2
	17.3 Area of a circle
	17.4 Semicircles and sectors
20 September 2021	<b>REVISION</b>
27 September 2021	17.5 Composite 2D shapes and cylinders
04 October 2021	<b>REVISION</b>
11 October 2021	17.6 Pyramids and cones
	17.7 Spheres and composite solids

18 October 2021

**END OF TERM 6 TEST**

HALF TERM

**18 Fractions, indices and standard form**

1-Nov

18.1 Multiplying and dividing fractions

8-Nov

18.2 The laws of indices

15-Nov

**REVISION**

22-Nov

18.3 Writing large numbers in standard form

29-Nov

18.4 Writing small numbers in standard form

18.5 Calculating with standard form

6-Dec

**REVISION**

13-Dec



## Foundation

PRIOR KNOWLEDGE	GRADE FROM ...	GRADE TO ...
<p>Know the formula for calculating the area of a rectangle. Know how to use the four operations on a calculator.</p> <p>Name common 3D shapes. Define centre, radius and diameter for a circle. Substitute into formulae and solve for the unknown.</p> <p>Work out the volume of cuboids and prisms.</p>	<b>2</b>	<b>5</b>
<p>Squares, cubes and roots BIDMAS and basic number work</p>		
<p>Round accurately to a given number of significant figures or decimal place. Rearrange equations.</p>	<b>3</b>	<b>3</b>
<p>Round to nearest metre.</p> <p>Solve equations. Understand inequality notation. Rearrange equations.</p>	<b>2</b>	<b>3</b>
<p>Evaluate squares and square roots. Substitute into formulae and solve for the unknown.</p>	<b>3</b>	<b>4</b>
<p>Know number of degrees in a full turn, half turn or quarter turn. Simplify fractions.</p> <p>Find the area and circumference of a circle.</p>	<b>3</b>	<b>5</b>
<p>Volume of cuboids Volume of basic prisms Simple surface area</p>		
<p>Know and use the formula for the volume of a prism.</p> <p>Sketch the net of a cylinder. Work out the area and perimeter of rectangles, semicircles and quarter circles. Give answers in terms of <math>\pi</math>.</p>	<b>4</b>	<b>5</b>
<p>substitution and formulae</p>		
<p>Understand and use maths language for 3-D shapes.</p> <p>Work out the area of 2D shapes. Give answers in terms of <math>\pi</math>.</p>	<b>4</b>	<b>5</b>
<p>Know volume and surface area formulae.</p>	<b>5</b>	<b>5</b>

Work out the length of the hypotenuse using Pythagoras' theorem.		
Know how to do the four operations with fractions.  Convert between improper fractions and mixed numbers. Write powers of 10 in index form and recognise and recall powers of 10, i.e. $10^2 = 100$ . Recall the index laws for multiplying and dividing <u>positive integer powers</u> .	<b>3</b>	<b>5</b>
Convert between fractions, mixed numbers and improper fractions.  Work out reciprocals of whole numbers, fractions, and decimals. Four operations with fractions.	<b>3</b>	<b>5</b>
Evaluate simple powers. Recall the index laws for multiplying and dividing positive integer powers. Mode, median and mean Pictograms, bar charts etc...	<b>4</b>	<b>5</b>
Evaluate powers of 10.  Write 1 million and 1 billion in figures.	<b>5</b>	<b>5</b>
Divide integers and decimals by powers of ten.	<b>5</b>	<b>5</b>
Use correct priority of operations.  Write numbers in standard form. translation reflection rotation enlargement	<b>5</b>	<b>5</b>



OBJECTIVES	Corbett
	212 211
Calculate the circumference of a circle.	60
Solve problems involving the circumference of a circle.	
Calculate the circumference and radius of a circle.	
Work out percentage error intervals.	
Work out the area of a circle. Work out the radius or diameter of a circle. Solve problems involving the area of a circle. Give answers in terms of $\pi$ .	59
Understand and use maths language for circles and perimeters. Work out areas of semicircles and quarter circle and perimeters. Solve problems involving sectors of circles.	46
	355 356 310
Solve problems involving areas and perimeters of 2D shapes.	41
Work out the volume and surface area of cylinders.	315
	20
Work out the volume of a pyramid.	360
Work out the surface area of a pyramid.	
Work out the volume of a cone.	
Work out the surface area of a cone.	
Work out the volume of a sphere.	361

Work out the surface area of a sphere.	
Work out the volume and surface area of composite solids.	
Multiply and divide mixed numbers and fractions.	142
To know and use the laws of indices.	174
	50 to 55 160-165
Write large numbers in standard form.	300
Convert large numbers from standard form into ordinary numbers.	
Write small numbers in standard form.	300
Convert numbers from standard form with negative powers of ordinary numbers	
To multiply and divide numbers in standard form.	302, 303
To add and subtract numbers in standard form.	301 325 272 317 104