Title

Calculating space ABE

Number of weeks (between 6&8)	**Content of the unit:**	**Assumed prior learning (**tested at the beginning of the unit)
2 FOUNDATION BOOK REFERENCES ARE ALL FROM THE ACTIVE LEARN FOUNDATION BOOK	• Compare lengths, areas and volumes using ratio notation • Calculate perimeters of 2D shapes, including circles • Identify and apply circle definitions and properties, including: centre, radius, chord, diameter, circumference • Know the formulae: circumference of a circle = $2\pi r = \pi d$, area of a circle = πr^2 • Calculate areas of circles and composite shapes • Know and apply formulae to calculate volume of right prisms (including cylinders)	• Know how to use formulae to find the area of rectangles, parallelograms, triangles and trapezia • Know how to find the area of compound shapes
Assessment points and tasks	**Written feedback points**	**Learning Outcomes (tested at the end and related to subject competences)**
• Convince me $C = 2\pi r = \pi d$. • What is wrong with this statement? How can you correct it? • The area of a circle with radius 7 cm is approximately 441 cm^2 because $(3 \times 7)^2 = 441$. • Convince me the area of a semi-circle = $\frac{\pi d^2}{4}$ • Name a right prism. And another. And another … Convince me that a cylinder is not a prism	• Some pupils will work out $(\pi \times \text{radius})^2$ when finding the area of a circle • Some pupils may use the sloping height when finding cross-sectional areas that are parallelograms, triangles or trapezia • Some pupils may think that the area of a triangle = base × height • Some pupils may think that you multiply all the numbers to find the volume of a prism • Some pupils may confuse the concepts of surface area and volume	• Investigate circles • Discover pi • Solve problems involving circles Explore prisms and cylinders

Title

Lesson	Clear learning intentions	Clear success criteria	Hook	Presentation of content	Guided practice	Independent practice (homework)	Closure
1	Calculate the circumference of circles	• Know the formula circumference of a circle = 2πr = πd • Calculate the circumference of a circle when radius (diameter) is given • Calculate the radius (diameter) of a circle when the circumference is known	FOUNDATION :KNOWLEDGE CHECK PG 504 Know the vocabulary of circles Know that the number π (pi) = 3.1415926535… Recall π to two decimal places	Boardworks KS3 S8:5 MATHS WATCH CLIP S28	W/S MATHS WATCH CLIP S28 FURTHER QS AND EXAM STYLE: FOUNDATION:PAGE 505-507		Traffic lights
2	Calculate the perimeter of composite shapes that include sections of a circle	Know that the distance around the shape is being calculated Can use formulae for other 2d shape? Understand that the line between the two composite shape is not included in the perimeter	FOUNDATION WARM UP: PG 505 What shapes make up these composite shapes?	Boardworks S8:1 KS3 MATHS WATCH CLIP S28	W/S MATHS WATCH CLIP S28 FURTHER QS AND EXAM STYLE: FOUNDATION:PAGE 512		Mini whiteboards
3	Calculate the area of a circle when radius (diameter) is given Calculate the radius (diameter) of a circle when the area is known	Recognise the difference between formulae for circumference and area Be able to re-arrange the formulae when needed	FOUNDATION WARM UP: PG 507/9 What is the formula for area of a circle ? = πr²	Boardworks S8:6 KS3 MATHS WATCH CLIP 71	W/S MATHS WATCH CLIP 71 FURTHER QS AND EXAM STYLE: FOUNDATION:PAGE 509		Mini whiteboards
4	Calculate the area of composite shapes that include sections of a circle	Understand that it is the enclosed area being calculated. Checking that individual shapes are correctly matched up to their formulae Check that the total is of the sum parts and correct units for area is used.	FOUNDATION WARM UP: PG 512/515 What formulae are needed to find the area of the non-circular shapes?	Boardworks S8: 2 KS3 MATHS WATCH CLIP 71	W/S MATHS WATCH CLIP 71 FURTHER QS AND EXAM STYLE: FOUNDATION:PAGE 512	Mymaths CIRCLES-AREA,CIRCUMFERENCE,VOLUME OF PRISMS	Who wants to be a millionaire?
5	Know the formula for finding the volume of a right prism (cylinder) Calculate the volume of a right prism (cylinder)	What is the difference between surface area and volume? Convince me that a cylinder is not a prism	FOUNDATION WARM UP: PG 223 • Name a right prism. And another. And another ...	Boardworks S8: 4 KS3 MATHS WATCH CLIP 122	W/S MATHS WATCH CLIP 122 FURTHER QS AND EXAM STYLE: FOUNDATION:PAGE 222		Pupil presentation
6	Homework & Feedback	Mark and go through set homework. Tackle any misconceptions Give yellow and orange stickers for peer and self-feedback,					
7	Feedback response and Revision	Students respond to given teacher feedback green stickers. Students revise FOR END OF HALF TEST according to their needs			CHECK UP -AMBER STRENGTHEN -RED EXTEND - GREEN		

		using GCSE FOUNDATION and/or maths watch questions.					