



Number of lessons (between 8&10)	Content of the unit	Assumed prior learning (tested at the beginning of the unit)
	<ul style="list-style-type: none"> • Use standard units of measure and related concepts (length, area, volume/capacity) • Calculate perimeters of 2D shapes • Know and apply formulae to calculate area of triangles, parallelograms, trapezia • Calculate surface area of cuboids • Know and apply formulae to calculate volume of cuboids • Understand and use standard mathematical formulae 	<ul style="list-style-type: none"> • Understand the meaning of area, perimeter, volume and capacity • Know how to calculate areas of rectangles, parallelograms and triangles using the standard formulae • Know that the area of a triangle is given by the formula $\text{area} = \frac{1}{2} \times \text{base} \times \text{height} = \text{base} \times \text{height} \div 2 = \frac{bh}{2}$ • Know appropriate metric units for measuring area and volume
Assessment points and tasks	Written feedback points	Learning Outcomes (tested at the end and related to subject competences)
Pre- test Post-test (Half term exams/ mock exams)	Diagnostic marking (TF)-(green sticker)-(PF)/(SF) yellow and orange stickers Traffic lighting of exam papers	<ul style="list-style-type: none"> • Recognise that the value of the perimeter can equal the value of area • Use standard formulae for area and volume • Find missing lengths in 2D shapes when the area is known • Know that the area of a trapezium is given by the formula $\text{area} = \frac{1}{2} \times (a + b) \times h = \left(\frac{a+b}{2}\right) h = \frac{(a+b)h}{2}$ • Calculate the area of a trapezium • Understand the meaning of surface area • Find the surface area of cuboids (including cubes) when lengths are known



Lesson	Clear learning intentions	Clear success criteria	Hook	Presentation of content	Guided practice	Independent practice (homework)	Closure
1 and 2 Area and Perimeter (Two lessons)	Perimeter and area of rectangles, parallelograms and triangles	Calculate the perimeter and area of rectangles, parallelograms and triangles. Estimate lengths, areas and costs. Calculate a missing length, given the area.	Warm up New GCSE Foundation text book page 211 Q1,2 AND 3	Area of every shape active inspire Show power point AREA POWER POINT Discuss Key point 1 with examples Foundation text book page 211 Discuss key point 2 and example 1 Page 212 OR Clip 53,54 and 55 New Mathswatch	Q4,5 and 6 Q7 to 11 New GCSE Foundation text book page 212	Clip 53,54 and 55 New Mathswatch OR Active learn Homework, practice and support: Foundation 8.1 OR EXAM QUES	Exam question 12 page 213 and problem solving Q13 Page 213
3 Area and Perimeter	Area and perimeter of trapezia.	Calculate the area and perimeter of trapezia. Find the height of a trapezium given its area.	Warm up New GCSE Foundation text book page 214 Q1,2 AND 3	Area of every shape active inspire Show power point AREA POWER POINT Display the Key point 3 and derive the formula for the area of a trapezium. Using cut-out trapezia to demonstrate may help students visualise how two trapezia always make a parallelogram when put together in this way. Display Example 2 P214. Emphasise the priority of operations in the calculation, brackets first, then either halve or multiply, whichever is easier. New GCSE Foundation text book page 214 OR Clip 56 New Mathswatch REMEMBER THAT The formula for the area of a trapezium will not be provided on exam papers from 2015.	Q4 to 7 P215 Q11 P233 New GCSE Foundation text book	Clip 56 New Mathswatch OR Active learn Homework, practice and support: Foundation 8.2	In groups make up your own questions about this topic. OR AREA OF TRAPEZIUM EXAM QUESTIONS
4 AND 5 Compound Shapes	Perimeter and area of shapes made from triangles and	Calculate the perimeter and area of shapes made from triangles and	Deep learning activity Lesson 8.3 Page 217 New GCSE	area of every shape active inspire Display Example 3 . Make sure students see how the missing lengths are worked out using the fact that opposite sides are equal lengths. <i>Which two lengths do</i>	New GCSE Foundation text book Page 218	AREA OF COMPOUND SHAPE EXAM QUESTIONS	Exam question 14 New GCSE Foundation text



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Schemes of Work

(Two lessons)	rectangles.	rectangles	Foundation text book	<i>you need to calculate the area of A?</i> Students can divide a shape into smaller shapes in any way the area is still the same. Students should look back at their working for each method. <i>Which took the least steps?</i>	Q7 to 11		book Page 220 (in groups)
6 Surface area	Surface area of a cuboid and a prism.	Calculate the surface area of a cuboid. Calculate the surface area of a prism.	Warm up New GCSE Foundation text book page 220 Q1,2	SA of Prism WHITEBOARD Display Key point 7 . Refer back to the solids from the starter. <i>Which are prisms? What shape is the cross-section?</i> Point out that if you cut a slice anywhere along the length, at right angles to the length, the slices will all be the same shape and size. Display Key point 8 . Display a cuboid. <i>How many faces do we need to find the area of? What shapes are they? Are any the same size and shape?</i> Display Example 4 . Make sure students see how the lengths on the net are taken from the cuboid. <i>Which face has the same length, width or area as the top face in the net?</i> Encourage students to look for identical faces as a shortcut when finding surface areas. OR Clip114 New Mathswatch	New GCSE Foundation text book page 221 Q3 to 10	Active learn Homework, practice and support: Foundation 8.4 OR Clip114 New Mathswatch	Discuss in groups Exam question 11 New GCSE Foundation text book Page 222
7	Homework Lesson	To be able to go through the HW and clarify any misconceptions. To give constructive feedback/ peer /self or TF/ both written and verbal	Homework corrections/ragging if needed, it can be peer, self-FEEDBACK	Do few questions on the HW corrections. Can use active teach text book for reference.			Use the text book on extend strength and check Page-229-238
8 Volume	Volume of a cube and a cuboid.	Calculate the volume of a cube and a cuboid. Solve problems involving volume of a cube and a cuboid.	Connected cubes 8.5 starter activity P222 New GCSE Foundation text book	VOLUME OF CUBE,CUBOID ACTIVE INSPIRE Show power point Volume of a Cuboid Whiteboard Display Key point 9 . Show students a 1 cm ³ cube, and how to write its volume. Make a solid from cm ³ cubes. <i>What is its volume?</i> Display Q5 . <i>How many cubes are there in the top layer? How many layers are there? How many cubes are there altogether?</i>	New GCSE Foundation text book Page 223 Q6 and 7	Active learn Homework, practice and support: Foundation 8.5 OR New Mathswatch clip115 OR EXAM QUESTIONS	Group work Problem solving Q11 and 12 Page 224. OR Ask students to estimate the length, width and height of the classroom



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Schemes of Work

				<p>Display the cuboid from Key point 11. Ask students to copy and complete these formula using l, w and h, to derive the formula for the volume of a cuboid.</p> <p>Area of top = $\square \times \square$ Volume = area of top $\times \square$ = $\square \times \square \times \square$</p> <p>Display Q7. <i>How many cubes are there in the cross-section of this prism? How many slices are there?</i> <i>OR New Mathswatch clip115</i></p>		<p>ON VOL OF CUBE AND CUBOID</p> <p>OR</p> <p>EDEXCEL EXAM QUESTIONS</p>	<p>in metres and use these to calculate an estimate of the volume.</p>
9	Revision	Revision	Revision	Revision	Revision	Revision	