YEAR 8	HFCS Mathematics			
TERM	**UNIT / LESSON**	**SUPPORT LEARNING INTENTIONS**	**CORE LEARNING INTENTIONS**	**DEPTH LEARNING INTENTIONS**
AUTUMN	**2 Area and volume**			
Wk 1 04/09/2024	2.1 Area of a triangle	Derive and use the formula for the area of a triangle. Calculate the area of compound shapes made from rectangles and triangles.	Derive and use the formula for the area of a triangle. Calculate the area of compound shapes made from rectangles and triangles.	When calculating area of triangle it doesn't matter which measurements you choose for the base and height, as long as they are perpendicular to each other. Every triangle's area is half of the area of a rectangle of the same base and height. Understand that there are many triangles with the same area (but only one square with a given area).
	2.2 Area of a parallelogram and trapezium	Derive and use the formula for the area of a parallelogram. Use the formula for the area of a trapezium.	Derive and use the formula for the area of a parallelogram. Use the formula for the area of a trapezium.	When calculating area of parallelogram or trapezium it doesn't matter which measurements you choose for the base (or top and base in trapezium) and height, as long as they are perpendicular to each other. Generalise understanding that all areas are product of perpendicular lengths. Understand that composite areas can be calculated by 'subtracting' a shape, as well as by splitting into two different shapes.
Wk 2 09/09/2024	2.3 Volume of cubes and cuboids	Calculate the volume of cubes and cuboids.	Calculate the volume of cubes and cuboids. Calculate the volume of 3D solids made from cuboids. Solve volume problems.	Understand why volume is measured in cube units. Understand that composite volumes can be calculated by 'subtracting' a shape, as well as by splitting into two different shapes.
Wk 3 16/09/2024	2.4 2D representations of 3D solids	Sketch nets of 3D solids. Draw 3D solids on isometric paper. Draw plans and elevations of 3D solids.	Sketch nets of 3D solids. Draw 3D solids on isometric paper. Draw plans and elevations of 3D solids.	Understand that different representations of a 3D shape convey different information about the faces and edges of the shape, and move between different representations.
	2.5 Surface area of cubes and cuboids	Calculate the surface area of cubes and cuboids.	Calculate the surface area of cubes and cuboids.	Know that two cuboids can have the same volume but different surface area, but all cubes with the same volume have the same surface area.
Wk 4 23/09/2024	2.6 Measures	Solve problems in everyday contexts involving measures. Convert between cm^3 and litres.	Solve problems in everyday contexts involving measures. Convert between different measures for area, volume and capacity.	Know the relationship between km, metres (cm) and mm, litres and ml, kg and g, and understand how all units in the metric system are multiples/divisors of a 'base' unit (metres, grams, litres, etc) - extend to tonnes, hectares etc. 1 cm = 10 mm, so 1 cm^2 = 10^2 mm^2 and 1m = 100 cm, so 1 m^2 = 100^2 cm^2

		Know rough metric equivalents of imperial measures.	Use tonnes and hectares.	
			Know rough metric equivalents of imperial measures.	
	Unit 2 Check, Strengthen & Extend			
	Unit 2 Test			
AUTUMN	**1 Number**			
Wk 5 30/09/2024	1.1 Calculations	Use written methods to add and subtract more than two numbers (including decimals). Use mental calculation for multiplication. Estimate answers to calculations.	Use written methods to add and subtract more than two numbers (including decimals). Use mental calculation for multiplication. Estimate answers to calculations.	Understand, choose and use a range of strategies for mental calculations by developing an understanding of relationships between numbers.
	1.2 Divisibility and division	Know and use divisibility rules. Use a written method to divide decimal numbers by integers.	Know and use divisibility rules. Use a written method to divide decimal numbers by integers.	Understand why divisibility rules work. Understand the relationships between divisibility rules and relate to factors and multiples.
Wk 6 07/10/2024	1.3 Calculating with negative integers	Add, subtract, multiply and divide positive and negative numbers.	Add, subtract, multiply and divide positive and negative numbers, including larger numbers and decimals.	Extend the 'rules' for calculations with negative numbers to very large numbers and decimal numbers. Distinguish between the negative sign and subtract operation.
	1.4 Powers and roots	Calculate using squares, square roots, cubes and cube roots. Give integers that a square root lies between.	Calculate using squares, square roots, cubes and cube roots. Give integers that a square root lies between.	Know when the negative square root is an appropriate solution to a problem.
Wk 7 14/10/2024	1.5 Powers, roots and brackets	Calculate combinations of squares, square roots, cubes, cube roots and brackets.	Calculate combinations of squares, square roots, cubes, cube roots and brackets. Use a calculator to check answers.	Understand how to write complex calculations with a given answer.
Wk 8	1.6 Multiples and factors	Use index notation. Write a number as a product of its prime factors. Use prime factor decomposition to find the HCF and LCM.	Use index notation. Write a number as a product of its prime factors. Use prime factor decomposition to find the HCF and LCM.	Understand that prime numbers are the building blocks for the natural numbers - ie that all numbers can be written as a product of prime factors. Understand when to use HCF and LCM to find the answer to a word problem.
21/10/2024	Unit 1 Check, Strengthen & Extend			
	Unit 1 Test			
HALF TERM				