YEAR 7	HFCS Mathematics			
TERM	**UNIT / LESSON**	**SUPPORT LEARNING INTENTIONS**	**CORE LEARNING INTENTIONS**	**DEPTH LEARNING INTENTIONS**
AUTUMN	**3 Expressions, functions and formulae**			
Wk 1 04/09/2024	3.1 Functions	Find outputs of simple functions written in words and using symbols.	Find outputs of simple functions written in words and using symbols. Describe simple functions in words.	Understand that a function is a relationship that maps one set of numbers on to another, with each input mapping to exactly one output, and with the maths they know so far, it can use any of the four operations, and the order of the operations is important. (eg x 3 + 1 is not usually the same as + 1 x 3).
	3.2 Simplifying expressions 1	Simplify linear algebraic expressions by collecting like terms.	Simplify linear algebraic expressions by collecting like terms. Use letters to represent unknowns in algebraic expressions.	Know what an unknown is, how you can use any letter to represent an unknown number or quantity, and that as they represent numbers, you can add, subtract them in the same way as you do numbers.
Wk 2 09/09/2024	3.3 Simplifying expressions 2	Multiply and divide algebraic terms. Use brackets with numbers and letters.	Use brackets with numbers and letters. Multiply and divide algebraic terms.	Extend the understanding from 3.2 to include multiplying and dividing. Understand that algebra uses the same arithmetic rules as number.
	3.4 Writing expressions	Write expressions from word descriptions using addition, subtraction and multiplication. Write expressions to represent function machines.	Write expressions from word descriptions using addition, subtraction, multiplication and division. Write expressions to represent function machines.	Begin to understand that an algebraic expression can represent a rule, and that writing an algebraic expression may be easier than explaining a rule in words, and easier for the reader to understand.
Wk 3 16/09/2024	3.5 Substituting into formulae	Substitute positive integers into simple formulae written in words. Substitute positive integers into formulae written with letters.	Substitute positive integers into simple formulae written in words. Substitute positive integers into formulae written with letters.	Understand that the letters are called variables because they can change or vary, but the relationship between them given by the formula will always remain the same.
	3.6 Writing formulae	Write simple formulae in words. Write simple formulae using letter symbols.	Write simple formulae in words. Write simple formulae using letter symbols. Identify formulae and functions. Identify the unknowns in a formula and a function.	Understand that a formula can be seen as a rule that tells you how to do a calculation (eg length x width) or how to work out the number of people when you know the number of tables, and writing it in algebra can save time drawing diagrams or writing out in words.
	Unit 3 Check, Stengthen & Extend			
	Unit 3 Test			
AUTUMN	**1 Analysing and displaying data**			
Wk 4 23/09/2024	1.1 Mode, median and range	Find the mode of a set of data, numerical and non-numerical. Find the median of a set of data (odd and even number of values). Find the range of a set of data.	Find the mode of a set of data, numerical and non-numerical. Find the median of a set of data (odd and even number of values). Find the range of a set of data.	Understand what an average is a measure of, and what it does and doesn't represent.
	1.2 Displaying data	Read and draw bar charts. Read and construct tally charts and frequency tables. Find the mode from a chart or table.	Read and draw bar charts and bar-line charts. Read and construct tally charts and frequency tables. Find the mode and range from a chart or table.	Understand how to choose the best representation for different sets of data.
Wk 5 30/09/2024	1.3 Grouping data	Read and construct grouped tally charts and frequency tables. Read and construct grouped bar charts for discrete and continuous data. Find the modal class from a frequency table.	Read and construct grouped tally charts and frequency tables. Read and construct grouped bar charts for discrete and continuous data. Find the modal class from a bar chart or frequency table.	Understand different averages and what they represent.
	1.4 Averages and comparing data	Calculate the mode, median, mean and range of a set of values.	Calculate the mode, median, mean and range of a set of values.	Understand averages and what they represent.

			Compare two sets of data using an average and the range.	Compare two sets of data using an average and the range.	Understand how to use the range to compare data. Understand which average is most appropriate.
Wk 6 **07/10/2024**		1.5 Line graphs and more bar charts	Read and draw a line graph. Read and draw a dual bar chart. Read and draw a compound bar chart.	Read and draw a line graph. Read and draw a dual bar chart. Read and draw a compound bar chart.	Understand how to choose the best representation for different types of data.
		Unit 1 Check, Stengthen & Extend			
		Unit 1 Test			
AUTUMN		**2 Number skills**			
		2.1 Mental maths	Use multiplication facts up to 10 × 10 up to 10 x 10 and the laws of arithmetic to do mental multiplication and division. Multiply and divide by 10, 100 and 1000 Use the priority of operations	Know and use the priority of operations, including brackets. Recall and use multiplication facts up to 10 × 10 and the laws of arithmetic to do mental multiplication and division. Multiply by multiples of 10, 100, 1000.	Understand how multiplying by 10, 100, 1000, etc relates to our place value system and why this means we have a decimal system.
		2.2 Addition and subtraction	Use a written method to add and subtract whole numbers. Round whole numbers to the nearest 10, 100 and 1000.	Round whole numbers to the nearest 10000, 100000, 1000000. Use estimation and inverse operations to check answers. Add and subtract whole numbers using written methods.	Understand inverse operations (addition and subtraction).
Wk 7 **14/10/2024**		2.3 Multiplication	Use a written method to multiply whole numbers.	Multiply whole numbers using a written method. Use estimation to check an answer to a multiplication.	Know what it means to multiply - e.g. by comparing grid method and long multiplication and explaining why they are the same.
		2.4 Division	Use a written method to divide numbers.	Divide whole numbers using a written method. Use inverse operations to check answers.	Know what it means if a division calculation has a remainder. Understand inverse operations (multiplication and division).
		2.5 Money and time	Round money to the nearest whole pound or penny. Use a calculator to solve problems involving money and time.	Round money to the nearest pound or penny. Interpret a calculator display in different contexts. Solve problems involving money and time using a calculator.	Understand how multiplying by 10, 100, 1000 etc relates to our place value system and why this means that we have a decimal system. (NOTE: For this lesson this should be specifically in the context of money.)
Wk 8 **21/10/2024**		2.6 Negative numbers	Order positive and negative numbers. Add and subtract positive and negative numbers.	Order positive and negative numbers. Add and subtract positive and negative numbers. Begin to multiply with negative numbers.	Understand what negative numbers are and how they behave: where they fit into the ordering of the number line and how they multiply.
		2.7 Factors, multiples and primes	Work out multiples and find the lowest common multiple. Find all factor pairs of a number and highest common factor of two numbers. Recognise prime numbers.	Find all the factor pairs for any whole number. Identify common factors, the highest common factor and the lowest common multiple. Recognise prime numbers.	Connect remainders to factors and multiples
		2.8 Square numbers	Recognise square numbers. Use a calculator to find squares and square roots. Use the priority of operations including powers.	Recognise square numbers. Use a calculator to find squares and square roots. Use the priority of operations including powers. Use index form for powers. Do mental calculations with squares and square roots.	Most square roots give decimal answers.
		Unit 2 Check, Stengthen & Extend			
		Unit 2 Test			
HALF TERM					