



<Mathematics>: SPECIFIC LEARNING INTENTIONS

YEAR GROUP:	Year 7 Advanced+ 2024-2025					
	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
	Topic/Unit: Calculations Checking & Rounding	Topic/Unit: Factors, Multiples and Primes	Topic/Unit: Percentages	Topic/Unit: Sequences	Topic/Unit: Linear Graphs and Co-ordinate Geometry	Topic/Unit: Decimals, Place Value and Product Rule
Granular learning intentions/success criteria (What will pupils know, be able to do and understand)	Learning Intentions Pupils will know how to: Add, subtract, multiply and divide whole numbers (positive and negative). Add and subtract decimals. Multiply and divide decimals by integers. Multiply or divide by any number between 0 and 1. Round numbers to the nearest 10, 100, 1000. Round to the nearest integer, to a given number of decimal places and to a given number of significant figures. Estimate answers to one- or two-step calculations, including use of rounding numbers and formal estimation to 1 significant figure: mainly whole numbers and then decimals. Success Criteria Pupils will be able to: Given 5 digits, what is the largest or smallest even or odd number. What is the largest or smallest answers when subtracting a two-digit number from a three-digit number? Round numbers in the 10,000's to the nearest 1000. Round numbers in the thousands to 1 significant figure Work out a 4-digit ÷ 2-digit number e.g. $4108 \div 26$ Learning Check - End-of-topic Quiz	Learning Intentions Pupils will know how to: Identify factors, multiples and prime numbers. Find the prime factor decomposition of positive integers – write as a product using index notation. Apply prime factor decomposition strategies to breakdown algebraic expressions and surds. Simplify surd expressions involving squares (e.g. $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$). Find common factors and common multiples, leading to the finding of the LCM and HCF of numbers, by listing, Venn diagrams and using prime factors – include finding LCM and HCF given the prime factorisation of two numbers. Solve problems using HCF and LCM, and prime numbers. Solve problems when given index notation (e.g. What is the biggest square number that is a factor etc.). Success Criteria Pupils will be able to: Know how to test if a number up to 120 is prime. Understand that every number can be written as a unique product of its prime factors. Recall prime numbers up to 100. Understand the meaning of a prime factor. Write a number as a product of its prime factors. Use a Venn diagram to sort information for HCF and LCM	Learning Intentions Pupils will know how to: Convert between fractions, decimals and percentages. Express a given number as a percentage of another number. Express one quantity as a percentage of another where the percentage is greater than 100%. Find a percentage of a quantity. Find the new amount after a percentage increase or decrease. Compare two quantities using percentages, including a range of calculations and contexts such as those involving time or money. Use percentages in real-life situations, including percentages greater than 100%. Success Criteria Pupils will be able to: Change between fractions, decimals and percentages. Convince me that 0.125 is $\frac{1}{8}$. Write a number as a percentage of another. Be able to work out the price of a deposit, e.g. given the price of a sofa is £480 and the deposit is 15% of the price, without a calculator. Find fractional percentages of amounts, with and without using a calculator Learning Check - End-of-topic Quiz	Learning Intentions Pupils will know how to: Recognise simple sequences including at the most basic level odd, even, triangular, square and cube numbers and Fibonacci-type sequences (including those involving numbers in standard form or index form). Generate sequences of numbers, squared integers and sequences derived from diagrams. Describe in words a term-to-term sequences and identify which terms cannot be in a sequence Generate specific terms in a sequence using the position-to-term rule and term-to-term rule Find and use (to generate terms) the nth term of an arithmetic sequence Use the nth term of an arithmetic sequence to decide if a given number is a term in the sequence, or find the first term above or below a given number Success Criteria Pupils will be able to: Solve problems such as given a sequence, 'which is the 1st term greater than 50?' Be able to solve problems involving sequences from real-life situations, such as: What is the amount of money after x months saving the same amount, or the height of tree that grows 6 m per year or Compare two pocket money options, e.g. same number of £ per week as your age from 5 until 21, or starting with £5 a week aged 5 and increasing by 15% a year until 21 Learning Check - End-of-topic Quiz	Learning Intentions Pupils will know how to: Identify and plot points in all four quadrants. Find the coordinates of the midpoint of a line segment with a diagram given and/or with coordinates Find the coordinates of points identified by geometrical information Plot and draw graphs of $y = a$, $x = a$, $y = x$ and $y = -x$, drawing and recognising lines parallel to axes, plus $y = x$ and $y = -x$ Plot and draw graphs of straight lines of the form $y = mx + c$ with and without a table of values and Identify and interpret the gradient of a line segment Identify and interpret the gradient and y-intercept of a linear graph given by equations of the form $y = mx + c$ Find the equation of a straight line from a graph in the form $y = mx + c$ Sketch a graph of a linear function, using the gradient and y-intercept Find approximate solutions to a linear equation from a graph Recognise and use the fact that parallel graphs have the same gradient. Success Criteria Pupils will be able to: Calculate an end point of a line segment given one coordinate and its midpoint Understand that the form $y = mx + c$ or $ax + by = c$ represents a straight line.	Learning Intentions Pupils will know how to: Multiply and divide decimals by decimals. Put digits in the correct place in a decimal calculation and use one calculation to find the answer to another Use the product rule for counting (i.e. if there are m ways of doing one task and for each of these, there are n ways of doing another task, then the total number of ways the two tasks can be done is $m \times n$ ways) Success Criteria Pupils will be able to: Work out 2.6×4.5 or $9.3 \div 3.1$, Given $2.6 \times 15.8 = 41.08$ what is 26×0.158? Work out how many meal combinations there are if you can choose from 3 starters and 4 main courses. Learning Check - End-of-topic Quiz



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		Learning Check - End-of-topic Quiz			Learning Check - End-of-topic Quiz	
	Topic/Unit: Expressions, Formulae and Substitution	Topic/Unit: Brackets and Factorising	Topic/Unit: Setting up and Solving Equations.	Topic/Unit:	Topic/Unit: Fractions	Topic/Unit: Statistics – Averages and the Range
	Learning Intentions Pupils will know how to: Know the difference between a term, expression, equation, formula and an identity Write an expression or a formula. Manipulate an expression by collecting like terms with addition and subtraction Simplify expressions by multiplying and dividing. Substitute positive and negative numbers into expressions and then into expressions involving brackets and powers. Solve 'Show that' questions using consecutive integers ($n, n + 1$), squares, even numbers and odd numbers. Substitute numbers into formulae from mathematics and other subjects using simple formulae, e.g. $l \times w, v = u + at$. Substitute positive and negative numbers into more complex formulae from mathematics and other subjects. Success Criteria Pupils will be able to: Be able to - Simplify e.g. $4p - 2q^2 + 1 - 3p + 5q^2$. Evaluate e.g.	Learning Intentions Pupils will know how to: Multiply a single term over a bracket. E.g. $2(x+3)$. Multiply several single brackets and collect like terms. Recognise factors of algebraic terms involving single brackets and simplify expressions by factorising, including subsequently collecting like terms. Expand the product of two linear expressions, i.e. double brackets working up to negatives in both brackets and also similar to $(2x + 3y)(3x - y)$. Factorise quadratic expressions of the form $x^2 + bx + c$. Solve 'Show that' questions involving sets of single and/or double brackets. Success Criteria Pupils will be able to: Expand and simplify $3(t - 1) + 57$ Factorise $15x^2y - 35x^2y^2$ Expand and simplify $(3x + 2)(4x - 1)$ Learning Check - End-of-topic Quiz	Learning Intentions Pupils will know how to: Set up simple equations from word problems and derive simple formulae. Understand the $\neq$ symbol (not equal), e.g. $6x + 4 \neq 3(x + 2)$, and introduce identity $\equiv$ sign. Solve linear equations, with integer coefficients, in which the unknown appears on either side or on both sides of the equation. Solve linear equations which contain brackets, including those that have negative anywhere in the equation. Solve linear equations in one unknown, with integer or fractional coefficients. Set up and solve linear equations to solve a problem. Form equations involving shapes and solve these equations. Derive a formula and set up simple equations from word problems, then solve these equations, interpreting the solution in the context of the problem. Solve 'Show that' questions using a variety of equations and/or solutions. Success Criteria Pupils will be able to:		Learning Intentions Pupils will know how to: Express a given number as a fraction of another Find equivalent fractions and compare the size of fractions Write a fraction in its simplest form, including using it to simplify a calculation, e.g. $50 \div 20 = \frac{\quad}{\quad} = 2.5$ Find a fraction of a quantity or measurement, including within a context Convert a fraction to a decimal to make a calculation easier Convert between mixed numbers and improper fractions Add, subtract, multiply and divide fractions Add and subtract fractions, including mixed numbers Multiply and divide fractions, including mixed numbers and whole numbers and vice versa Find the reciprocal of an integer and understand and use unit fractions as multiplicative inverses. Success Criteria Express a given number as a fraction of another, including where the fraction is, for example, greater than 1.	Calculate mean and range, find median and mode from small data set. Find missing values in data sets given averages, including reverse means Recognise the advantages and disadvantages between measures of average Construct and interpret stem and leaf diagrams (including back-to-back diagrams): find the mode, median, range, as well as the greatest and least values from stem and leaf diagrams, and compare two distributions from stem and leaf diagrams (mode, median, range) Calculate the mean, mode, median and range from a frequency table (discrete data) Construct and interpret grouped frequency tables for continuous data: For grouped data, find the interval which contains the median and the modal class Estimate the mean with grouped data and understand that the expression 'estimate' will be used when finding the mean of grouped data due to using mid-interval values. Success Criteria Pupils will be able to:



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	$4x^2 - 2x$ when $x = -5$. Substitute positive and negative numbers into formulae Be aware of common formulae e.g Areas of 2D shapes. Use unit fractions when substituting into formulae Learning Check - End-of-topic Quiz		Change information into expressions and equations. Solve equations to find the value of unknown numbers. Solve problems such as - a room is 2 m longer than it is wide. If its area is 30m^2 , what is its perimeter? Know the meaning of the 'subject' of a formula. Learning Check - End-of-topic Quiz		Answer questions like: James delivers 56 newspapers. $\frac{5}{7}$ of the newspapers have a magazine. How many of the newspapers have a magazine? Convert a fraction to a decimal including where the fraction is greater than 1. Learning Check - End-of-topic Quiz	Be able to state the median, mode, mean and range from a data set. Construct frequency tables Extract the averages from a stem and leaf diagram. Estimate the mean from a table. Learning Check - End-of-topic Quiz
	Topic/Unit: Perimeter and Area	Topic/Unit:	Topic/Unit:	Topic/Unit:	Topic/Unit: Algebraic Fractions and ratio	Topic/Unit:
	Learning Intentions Pupils will know how to: Recall and use the formulae for the area of a triangle, rectangle, trapezium and parallelogram using a variety of metric measures. Calculate the area of compound shapes made from triangles, rectangles, trapezia and parallelograms using a variety of metric measures. Find the perimeter of a rectangle, trapezium and parallelogram using a variety of metric measures. Calculate the perimeter of compound shapes made from triangles and rectangles. Estimate area and perimeter by rounding measurements to 1 significant figure to check reasonableness of answers. Success Criteria Pupils will be able to: Calculate the area and perimeter of 2D shapes including compound shapes and those with different units of measurement. Learning Check - End-of-topic Quiz				Learning Intentions Pupils will know how to: Algebraic fractions - simplify (using factorising of linear and quadratic expressions) Algebraic fractions - Add, subtract, multiply and divide simple ones with a single term on the denominator Ratio - Write a ratio as a fraction Ratio - Express the division of a quantity into a number parts as a ratio and write ratios in their simplest form, including three-part ratios Ratio - Divide a given quantity into two or more parts in a given part : part or part : whole ratio Success Criteria Pupils will be able to: Simply algebraic fractions. Be able to add, subtract, multiply and divide algebraic fractions. Convert a ratio to a fraction. Simplify any ratio Share an amount into a ratio Learning Check - End-of-topic Quiz	



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YEAR GROUP:	Year 7 Core+ 2025-2026					
	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
	Topic/Unit: Integers and Place Value	Topic/Unit: Factors, Multiples and Primes	Topic/Unit: Simple Percentages and Conversions	Topic/Unit: Algebra - Sequences	Topic/Unit: Fractions and Ratios	Topic/Unit: Decimals and Place Value
Granular learning intentions/success criteria (What will pupils know, be able to do and understand)	Learning Intentions Pupils will know how to: Order positive and negative integers, decimals, use the symbols <, > and understand the $\neq$ symbol Add and subtract positive and negative integers Recall all multiplication facts to 10×10, and use them to derive quickly the corresponding division facts Multiply or divide any number by powers of 10 Multiply and divide positive and negative integers Use brackets and the hierarchy of operations (not including powers) Round numbers to a given power of 10 Check answers by rounding and using inverse operations	Learning Intentions Pupils will know how to: List all three-digit numbers that can be made from three given integers Identify factors, multiples and prime numbers Recognise two-digit prime numbers List all factors of a number and list multiples systematically Find the prime factor decomposition of positive integers and write as a product using index notation Find common factors and common multiples of two numbers Find the LCM and HCF of two numbers, by listing, Venn diagrams and using prime factors: include finding LCM and HCF given the prime factorisation of two numbers	Learning Intentions Pupils will know how to: Understand that a percentage is a fraction in hundredths Convert between fractions, decimals and percentages Recognise recurring decimals and convert fractions such as $\frac{1}{3}$, and into recurring decimals Compare and order fractions, decimals and integers, including using inequality signs Express a given number as a percentage of another number Find a percentage of a quantity without a calculator: 50%, 25% and multiples of 10% and 5% Find a percentage of a quantity or measurement Calculate amount of increase/decrease	Learning Intentions Pupils will know how to: Recognise and generate sequences of odd and even numbers, and other sequences including Fibonacci sequences, and write the term-to-term definition in words Use function machines to find terms of a sequence. Find a specific term in the sequence using position-to-term or term-to-term rules Generate arithmetic sequences of numbers, triangular number, square and cube integers and sequences derived from diagrams Recognise such sequences from diagrams and draw the next term in a pattern sequence Find the next term in a sequence, including negative values Find the nth term for a pattern sequence	Learning Intentions Pupils will know how to: Write fractions to describe shaded parts of diagrams. Use diagrams to find equivalent fractions or compare fractions Write a fraction in its simplest form and find equivalent fractions Compare fractions, use inequality signs, compare unit fractions Order fractions, by using a common denominator Express a given number as a fraction of another. Convert between mixed numbers and improper fractions Add and subtract fractions, including writing the answer as an improper fraction or a mixed number Add and subtract mixed number fractions Multiply and divide an integer by a fraction Multiply and divide a fraction by an integer, including finding fractions of quantities or measurements Multiply fractions: simplify calculations by cancelling first	Learning Intentions Pupils will know how to: Identify the value of digits in a decimal or whole number Compare and order decimal numbers using the symbols <, > Use decimal notation and place value Indicate given values on a scale, including decimal values Write decimal numbers of millions, e.g. 2 300 000 = 2.3 million Add, subtract, multiply and divide decimals, including calculations involving money Multiply or divide by any number between 0 and 1 Round to the nearest integer Round to a given number of decimal places



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	Success Criteria Pupils will be able to: Given 5 digits, what is the largest or smallest answers when subtracting a two-digit number from a three-digit number? Use inverse operations to justify answers, e.g. $9 \times 23 = 207$ so $207 \div 9 = 23$ Check answers by rounding to nearest 10, 100 or 1000 as appropriate, e.g. 29×31 becomes 30×30. Learning Check - End-of-topic Quiz	Solve simple problems using HCF, LCM and prime numbers. Success Criteria Pupils will be able to: Given the digits 1, 2 and 3, find how many numbers can be made using all the digits. Convince me that 8 is not prime. Understand that every number can be written as a unique product of its prime factors. Recall prime numbers up to 100. Understand the meaning of prime factor. Write a number as a product of its prime factors. Use a Venn diagram to sort information. Learning Check - End-of-topic Quiz	Use percentages to solve problems, including comparisons of two quantities using percentages. Success Criteria Pupils will be able to: Convert between fractions, decimals and percentages, common ones such as $\frac{1}{2}$, 0.5 and 50%. Order integers, decimals and fractions. What is 10%, 15%, 17.5% of £30? Which is bigger 10% of 40 or 40% of 20? Learning Check - End-of-topic Quiz	Find the nth term of a linear sequence Find the nth term of an arithmetic sequence Use the nth term of an arithmetic sequence to generate terms Use the nth term of an arithmetic sequence to decide if a given number is a term in the sequence or find the first term over a certain number. Success Criteria Pupils will be able to: Given a sequence, 'Which is the 1st term greater than 50?' What is the amount of money after x months saving the same amount or the height of tree that grows 6 m per year? What are the next terms in the following sequences? 1, 3, 9, ... 100, 50, 25, ... Write down an expression for the nth term of the arithmetic sequence 2, 5, 8, 11, ... Is 67 a term in the sequence 4, 7, 10, 13, ...? Learning Check - End-of-topic Quiz	Multiply mixed number fractions Divide a fraction by a whole number Divide fractions by fractions Divide mixed numbers by whole numbers and vice versa Understand and use unit fractions as multiplicative inverses Find the reciprocal of an integer or fraction Understand 'reciprocal' as multiplicative inverse, knowing that any non-zero number multiplied by its reciprocal is 1 Convert a fraction to a decimal to make a calculation easier, e.g. $0.25 \times 8 = \frac{1}{4} \times 8$, Ratio – Write ratio as fraction and vice versa Ratio - Write ratios in their simplest form. Ratio - Share a quantity in a given ratio including three-part ratios Success Criteria Pupils will be able to: Express a given number as a fraction of another. Add, subtract, multiply and divide fractions Is $\frac{1}{3} > \frac{1}{2}$? What is $\frac{3}{5} \times 15$, $\frac{5}{12}$ of 36 m, $\frac{3}{5}$ of £20. Write 2:5 as fractions. Simplify 3:9 Share 30cm in the ratio 2 Learning Check - End-of-topic Quiz	Round to any given number of significant figures Estimate answers to calculations by rounding numbers to 1 significant figure Use one calculation to find the answer to another. Success Criteria Pupils will be able to: Use mental methods for $\times$ and $\div$, e.g. 5×0.6, $1.8 \div 3$. Solve a problem involving division by a decimal (up to 2 decimal places). Given $2.6 \times 15.8 = 41.08$, What is 26×0.158? What is $4108 \div 26$? Calculate, e.g. 5.2 million $\div$ 4.3 million. Learning Check - End-of-topic Quiz
	Topic/Unit: Expressions, Formulae and Substitution	Topic/Unit: Brackets and Factorising	Topic/Unit: Algebra – Setting up and solving equations	Topic/Unit: Linear Graphs and Co-ordinate Geometry	Topic/Unit:	Topic/Unit: Averages and the Range
	Learning Intentions Pupils will know how to: Select an expression / equation / formula / identity from a list Manipulate and simplify algebraic expressions by collecting 'like' terms Multiply together two simple algebraic expressions, e.g. $2a \times 3b$ Simplify division/fraction expressions by cancelling, e.g. $\frac{2x}{2x} = 1$ Use index notation in algebraic simplification (adding, subtracting, multiplication and division)	Learning Intentions Pupils will know how to: Multiply a single number term over a bracket. Write and simplify expressions using squares and cubes Simplify expressions involving brackets, i.e. expand the brackets, then add/subtract Recognise factors of algebraic terms involving single brackets Factorise algebraic expressions by taking out common factors	Learning Criteria Pupils will know how to: Select an expression / equation / formula / identity from a list Write expressions and set up and solve simple equations, including fractional answers Use function machines Solve linear equations, with integer coefficients, in which the unknown appears on either side of the equation Solve linear equations which contain simple brackets	Learning Intentions Pupils will know how to: Use axes and coordinates to specify points in all four quadrants in 2D Find the coordinates of the midpoint of a line segment, given a diagram Use function machines to find coordinates (i.e. given the input x, find the output y) Plot and draw graphs of $y = a$, $x = a$, $y = x$ and $y = -x$ and recognise any given straight-line graphs parallel to the axes		Learning Intentions Pupils will know how to: Calculate the mean, mode, median and range for discrete data Identify the mode and range from a bar chart Calculate the total frequency from a frequency table Read off frequency values from a table Read off frequency values from a frequency table Find greatest and least values from a frequency table Identify the mode from a frequency table



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	Use basic index laws in algebra Write an expression or a formula, including to solve problems Substitute positive and negative numbers into simple algebraic expressions and into expressions involving brackets and powers Substitute numbers into a given formula including worded formulas Write a simple formula, including those with squares, cubes and roots. Success Criteria Pupils will be able to: Simplify $4p - 2q + 3p + 5q$. Simplify $z^4 \times z^3$, $y^3 \div y^2$, $(a^7)^2$. Simplify $x^{-4} \times x^2$, $w^2 \div w^{-1}$. Evaluate the expressions for different values of x: $3x^2 + 4$ or $2x^3$. Identify expressions, equations, formulae and identities from a list Learning Check - End-of-topic Quiz	Show that mathematically, algebraic expressions are equivalent to each other. Success Criteria Pupils will be able to: Expand $3(t - 1)$. Simplify $3x + 12$ or $p \times p \times p$ Understand $6x + 4 \neq 3(x + 2)$. Show mathematically that $2(x + 5) = 2x + 10$. Learning Check - End-of-topic Quiz	Solve linear equations in one unknown, with integer or fractional coefficients Solve an equation resulting from substituting into a formula Solve simple angle or perimeter problems using algebra Write a simple equation to solve a basic word problem. Success Criteria Pupils will be able to: Solve: $x + 5 = 12$ Solve: $3x = 15$ Solve: $2x - 5 = 19$ Given expressions for the angles on a line or in a triangle in terms of a, find the value of a. Given expressions for the sides of a rectangle and the perimeter, form and solve an equation to find missing values. Learning Check - End-of-topic Quiz	Recognise that equations of the form $y = mx + c$ correspond to straight-line graphs in the coordinate plane Plot and draw graphs of straight lines of the form $y = mx + c$ using a table of values (with and without given axes) Draw, label and scale axes. Success Criteria Pupils will be able to: Find the midpoint between (1,5) and (5, 8) Plot and draw the graph for $y = 2x - 4$, $y = 5$, $x = -4$ etc. Learning Check - End-of-topic Quiz		Identify the modal class from a grouped frequency table. Success Criteria Pupils will be able to: Work out the median, mode, mean and range from a small data set. Find the biggest and smallest values in a frequency table. Find the modal value from a frequency table Learning Check - End-of-topic Quiz
	Topic/Unit: Perimeter and Area Learning Intentions Pupils will know how to: Choose an appropriate unit of measurement for a range of situations. Make sensible estimates of a range of measures in everyday settings Convert between metric units of measurement within one system, including time Measure shapes to find perimeters and areas using a range of scales Find the perimeter of rectangles and triangles. Find the perimeter of parallelograms and trapezia Find the perimeter of compound shapes made up from rectangles, triangles, parallelograms and trapezia Recall and use the formulae for the area of a triangle and rectangle Calculate areas and perimeters of compound shapes made from triangles and rectangles.	Topic/Unit:	Topic/Unit:	Topic/Unit:	Topic/Unit:	Topic/Unit:



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	Success Criteria Pupils will be able to: Choose correct units for measuring. Change between metric units Find the area/perimeter of a given shapes, stating the correct units. Learning Check - End-of-topic Quiz					
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YEAR GROUP:	Year 7 Core 2025-2026					
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	Topic/Unit: Integers and Place Value	Topic/Unit: Factors, Multiples and Primes	Topic/Unit: Percentages & Conversions	Topic/Unit: Algebra - Sequences	Topic/Unit: Fractions and Ratios	Topic/Unit: Decimals and Place Value
Granular learning intentions/success criteria (What will pupils know, be able to do and understand)	Learning Intentions Pupils will know how to: Mental methods for four operations to be done as starters Add and subtract integers using column method Multiply 2 digit by 1 digit and 2 digit by 2 digit integers using column and grid method Divide integers using bus stop method Order positive and negative integers, decimals, use the symbols <, > and understand the ≠ symbol Add and subtract positive and negative integers Recall all multiplication facts to 10 × 10, and use them to derive quickly the corresponding division facts – done as starters Multiply or divide any number by powers of 10 Multiply and divide positive and negative integers	Learning Intentions Pupils will know how to: List all three-digit numbers that can be made from three given integers Identify factors, multiples and prime numbers Recognise two-digit prime numbers List all factors of a number and list multiples systematically Find common factors and common multiples of two numbers Find the LCM and HCF of two numbers, by listing Success Criteria Pupils will be able to: Given the digits 1, 2 and 3, find how many numbers can be made using all the digits. Convince me that 8 is not prime.	Learning Intentions Pupils will know how to: Understand that a percentage is a fraction in hundredths Convert between fractions, decimals and percentages Compare and order fractions, decimals and integers, including using inequality signs Express a given number as a percentage of another number Find a percentage of a quantity without a calculator: 50%, 25% and multiples of 10% and 5% Find a percentage of a quantity or measurement Calculate amount of increase/decrease Use percentages to solve problems, including comparisons of two quantities using percentages and VAT	Recognise and generate sequences of odd and even numbers, and other sequences including Fibonacci sequences, and write the term-to-term definition in words Use function machines to find terms of a sequence Find a specific term in the sequence using position-to-term or term-to-term rules Generate arithmetic sequences of numbers, triangular number, square and cube integers and sequences derived from diagrams Recognise such sequences from diagrams and draw the next term in a pattern sequence Find the next term in a sequence, including negative values Success Criteria Pupils will be able to:	Learning Intentions Pupils will know how to: Write fractions to describe shaded parts of diagrams Use diagrams to find equivalent fractions or compare fractions Write a fraction in its simplest form and find equivalent fractions Compare fractions, use inequality signs, compare unit fractions Order fractions, by using a common denominator Express a given number as a fraction of another, using very simple numbers and some cancelling. Convert between mixed numbers and improper fractions Add and subtract fractions Ratio – Write ratio as fraction and vice versa	Learning Intentions Pupils will know how to: Identify the value of digits in a decimal or whole number Compare and order decimal numbers using the symbols <, > Use decimal notation and place value Write decimal numbers of millions, e.g. 2 300 000 = 2.3 million Indicate given values on a scale, including decimal values Add, subtract, multiply and divide decimals, including calculations involving money Round to the nearest integer Round to a given number of decimal places Round to any given number of significant figures; simple examples



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	Use brackets and the hierarchy of operations (not including powers) Round numbers to a given power of 10 Check answers by rounding and using inverse operations Success Criteria Pupils will be able to: Given 5 digits, what is the largest or smallest answers when subtracting a two-digit number from a three-digit number? Use inverse operations to justify answers, e.g. $9 \times 23 = 207$ so $207 \div 9 = 23$ Check answers by rounding to nearest 10, 100 or 1000 as appropriate, e.g. 29×31 or 30×30 Learning Check - End-of-topic Quiz	Understand that every number can be written as a unique product of its prime factors. Recall prime numbers up to 100. Learning Check - End-of-topic Quiz	Success Criteria Pupils will be able to: Convert between fractions, decimals and percentages, common ones such as $\frac{1}{2}$, 0.5 and 50% Order integers, decimals and fractions. What is 10%, 15%, 17.5% of £30? Learning Check - End-of-topic Quiz	Given a sequence, 'Which is the 1st term greater than 50?' What is the amount of money after x months saving the same amount or the height of tree that grows 6 m per year? What are the next terms in the following sequences? 1, 3, 9, ... 100, 50, 25, ... 2, 4, 8, ... Is 67 a term in the sequence 4, 7, 10, 13, ...? Learning Check - End-of-topic Quiz	Ratio - Write ratios in their simplest form. Ratio - Share a quantity in a given ratio including three-part ratios Success Criteria Pupils will be able to: Express a given number as a fraction of another. Add, subtract fractions Is $\frac{1}{3} > \frac{1}{2}$? What is $\frac{3}{5} \times 15$, $\frac{5}{12}$ of 36 m, $\frac{3}{5}$ of £20. Write 2:5 as fractions. Simplify 3:9 Share 30cm in the ratio 2:3 Learning Check - End-of-topic Quiz	Estimate answers to calculations by rounding numbers to 1 significant figure Success Criteria Pupils will be able to: Use mental methods for $\times$ and $\div$, e.g. 5×0.6, $1.8 \div 3$. Solve a problem involving division by a decimal (up to 2 decimal places). Given $2.6 \times 15.8 = 41.08$, what is 26×0.158? What is $4108 \div 26$? Calculate, e.g. 5.2 million $\div$ 4.3 million. Learning Check - End-of-topic Quiz
	Topic/Unit: Expressions, Formulae and Substitution Learning Intentions Pupils will know how to: Manipulate and simplify algebraic expressions by collecting 'like' terms Multiply together two simple algebraic expressions, e.g. $2a \times 3b$ Simplify division/fraction expressions by cancelling, e.g. $6x \div 3 = 2x$ Substitute positive and negative numbers into simple algebraic expressions and also into expressions involving brackets and powers Substitute numbers into a given formula including worded formulas Success Criteria Pupils will be able to: Simplify $4p - 2q + 3p + 5q$. Simplify $z^4 \times z^3$, $y^3 \div y^2$, $(a^7)^2$. Simplify $x^4 \times x^2$, $w^2 \div w^1$. Evaluate the expressions for different values of x: $3x^2 + 4$ or $2x^3$. Identify expressions, equations, formulae and identities from a list. Learning Check - End-of-topic Quiz	Topic/Unit: Algebra – Brackets and Factorising Learning Intentions Pupils will know how to: Multiply a simple single number term over a bracket. Simplify simple expressions involving brackets, i.e. expand the brackets, then add/subtract Recognise factors of simple algebraic terms involving single brackets Factorise algebraic expressions by taking out common factors Success Criteria Pupils will be able to: Expand and simplify $3(t - 1)$. Expand $3(x + 3) + 2(x + 4)$ Factorise $4x + 6$ Understand $6x + 4 \neq 3(x + 2)$. Show mathematically that $2(x + 5) = 2x + 10$. Learning Check - End-of-topic Quiz	Topic/Unit: Algebra – Setting up & Solving Equations Learning Intentions Pupils will know how to: Select an expression / equation / formula / identity from a list Use function machines Solve linear equations, with integer coefficients, in which the unknown appears on either side of the equation, including linking to function machines Solve linear equations which contain simple brackets Solve simple linear equations in one unknown, with integer or fractional coefficients Solve simple angle or perimeter problems using algebra Write a simple equation to solve a basic word problem Success Criteria Pupils will be able to: Which is the expression $3x$ or $4x+6$? Solve: $x + 5 = 12$ Solve: $2x = 10$ Solve: $2x - 5 = 19$	Topic/Unit: Linear Graphs and Co-ordinate Geometry Learning Intentions Pupils will know how to: Use axes and coordinates to specify points in all four quadrants in 2D Find the coordinates of the midpoint of a line segment, given a diagram Use function machines to find coordinates (i.e. given the input x, find the output y) Plot and draw graphs of $y = a$, $x = a$, $y = x$ and $y = -x$ and recognise any given straight-line graphs parallel to the axes Recognise that equations of the form $y = mx + c$ correspond to straight-line graphs in the coordinate plane Plot and draw graphs of straight lines of the form $y = mx + c$ using a table of values (with and without given axes) Draw, label and scale axes Success Criteria Pupils will be able to:	Topic/Unit:	Topic/Unit: Averages and the Range Learning Intentions Pupils will know how to: Calculate the mean, mode, median and range for discrete data. Identify the mode and range from a bar chart Success Criteria Pupils will be able to: Work out the median, mode, mean and range from a small data set. Learning Check - End-of-topic Quiz



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			Given expressions for the angles on a line or in a triangle in terms of a, find the value of a. Given expressions for the sides of a rectangle and the perimeter, form and solve an equation to find missing values. Learning Check - End-of-topic Quiz	Find the midpoint between (1,5) and (5, 8) Plot and draw the graph for $y = 2x - 4$, $y = 5$, $x = -4$ etc. Learning Check - End-of-topic Quiz		
	Topic/Unit: Perimeter and Area	Topic/Unit:	Topic/Unit:	Topic/Unit:	Topic/Unit:	Topic/Unit:
	Learning Intentions Pupils will know how to: Choose an appropriate unit of measurement for a range of situations Make sensible estimates of a range of measures in everyday settings Convert between metric units of measurement within one system, including time Measure shapes to find perimeters and areas using a range of scales Find the perimeter of rectangles and triangles Find the perimeter of parallelograms and trapezia Recall and use the formulae for the area of a triangle and rectangle Success Criteria Pupils will be able to: Choose correct units for measuring. Change between metric units Find the area/perimeter of a given shapes, stating the correct units. Find the area/perimeter of a given shape, stating the correct units. Learning Check - End-of-topic Quiz					