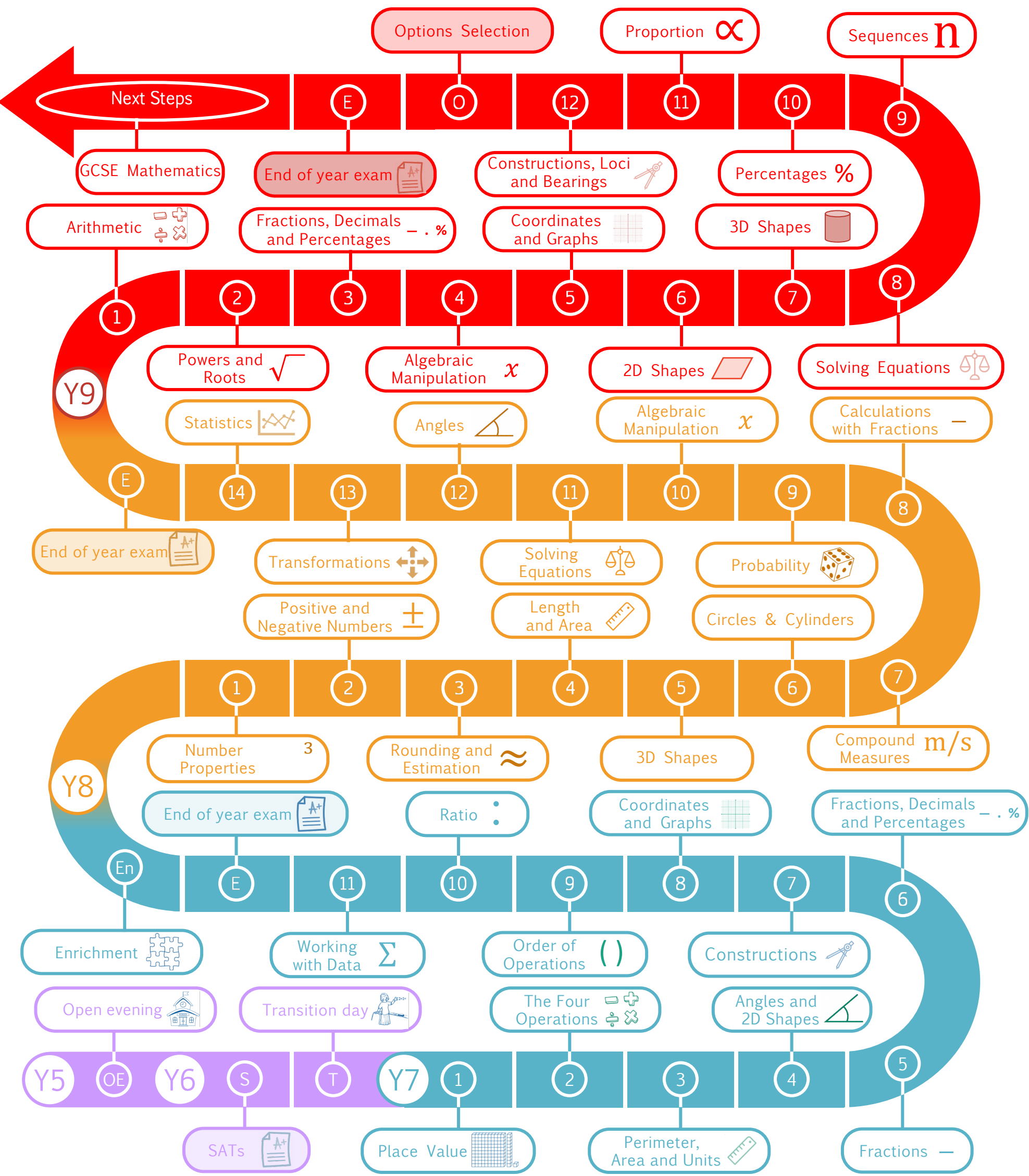


KS3 Mathematics Intent Overview



KS3 Mathematics Intent Overview

Y7	Unit	Students will learn to:
Autumn 1	Place Value	<ul style="list-style-type: none"> Understand place value Round numbers to nearest 10,100,1000, decimal places and significant figures Multiply and divide numbers by powers of 10 Write large or small numbers in standard form
	The Four Operations	<ul style="list-style-type: none"> Add, subtract, multiply and divide integers, negative numbers and decimals Identify factors and multiples of numbers Express numbers as a product of their prime factors Find the highest common factor and lowest common multiple of two numbers
Autumn 2	Perimeter, Area and Units	<ul style="list-style-type: none"> Convert between units of length Calculate the perimeter of shapes including compound shapes Calculate the area of a rectangle, triangle, parallelogram and trapezium Calculate the area and circumference of a circle
	Angles & 2D Shapes	<ul style="list-style-type: none"> Measure and draw angles Calculate missing angles on a straight line and around a point Calculate missing angles in triangles and quadrilaterals Calculate the angle sum of regular polygons and calculate interior angles
Spring 1	Fractions	<ul style="list-style-type: none"> Compare and order fractions Add and subtract fractions with different denominators Convert improper fractions to mixed numbers and vice versa Add and subtract mixed numbers
	Fractions, Decimals & Percentages	<ul style="list-style-type: none"> Identify equivalent fractions, decimals and percentages and order a mix Find a fraction of an amount including increase and decrease questions Find a percentage of an amount including increase and decrease questions Find a percentage change and calculate simple interest
Spring 2	Introduction to Algebra	<ul style="list-style-type: none"> Use a function machine to find an input, output or identify a function Form simple expressions and substitute into expressions Simplify expressions with and without powers Expand and simplify single brackets Factorise into single brackets Find the next term of a sequence, identify the term-to-term rule and the nth term rule.
	Coordinates & Graphs	<ul style="list-style-type: none"> Plot and read coordinates from all four quadrants Plot coordinates from a rule or table of values to generate a straight line Identify horizontal and vertical straight lines Interpret $y=mx + c$ and identify the equation of a straight line given a point and a gradient Identify parallel lines
Summer 1	Order Of Operations	<ul style="list-style-type: none"> Apply equal priority laws to calculations including $+$, $-$, \times, \div and brackets Calculate integer powers and roots Apply equal priority laws to calculations including $+$, $-$, \times, \div, powers, roots and brackets Put brackets into a calculation to make it true
	Ratio	<ul style="list-style-type: none"> Form and simplify ratios Share an amount into given ratios Calculate the best value of items Use proportion to scale up or down a recipe Solve direct and indirect proportion problems
Summer 2	Working With Data	<ul style="list-style-type: none"> Read from and draw charts to represent data including frequency tables, two-way tables, bar charts, pictograms, stem and leaf diagrams and scatter graphs Comment on correlation and draw a line of best fit on a scatter graph to make predictions Calculate the mean, mode, median and range

KS3 Mathematics Intent Overview

Y8F	Unit	Students will learn to:
Autumn 1	Number Properties	<ul style="list-style-type: none"> • Find the HCF and LCM of a set of numbers • Evaluate integer powers and roots • Use the index laws for the multiplication and division of integer powers • Convert between ordinary numbers and standard form • Rewrite a number in correct standard form notation • Recognise, list and define prime numbers • Perform prime factor decompositions
	Positive and Negative Numbers	<ul style="list-style-type: none"> • Compare and order positive and negative integers using inequality notation • Interpret negative values in context • Add and subtract positive and negative integers • Multiply and divide positive and negative integers • Substitute negative integers into expressions and formulae • Apply the order of operations to the four operations with negative integers • Add and subtract decimals using column method • Multiply decimals using formal written methods
Autumn 2	Rounding and Estimation	<ul style="list-style-type: none"> • Understand the concept of bounds when rounding to the nearest 10, 100 and 1000 • Round to the nearest whole number • Round to a given number of decimal places • Round to a given number of significant figures • Rounding to significant figures to estimate in calculations including worded problems • Estimate roots
	Length & Area	<ul style="list-style-type: none"> • Solve functional problems by finding the area or perimeter of compound shapes made from rectangles • Find the area of parallelograms • Find the area of triangles • Find the missing length of a shape when given the area • Find the area of compound shapes (rectangles, triangles and parallelograms) • Solve complex problems regarding the perimeter and area of given shapes • Find the area of trapeziums
	3D Shapes	<ul style="list-style-type: none"> • Name 3D shapes • Identify the properties of 3D shapes • Recognise and complete the nets of 3D shapes • Construct and interpret plans and elevations of 3D shapes • Calculate the volume of shapes by counting cubes • Calculate the volume of a cuboid • Calculate the volume of prisms • Calculate the surface area of cubes and cuboids • Solve problems involving volume and surface area of cuboids
Spring 1	Circles	<ul style="list-style-type: none"> • Recognise and name the parts of a circle • Calculate the circumference of a circle • Calculate the area of a circle
	Compound Measures	<ul style="list-style-type: none"> • Read speed-time graphs • Read distance-time graphs • Find the speed from a distance-time graph • Calculate speed, distance and time • Calculate speed, distance and time where units of distance and time need converting • Calculate density, mass and volume
	Calculations with Fractions	<ul style="list-style-type: none"> • Compare and order fractions with different denominators • Add and subtract fractions with different denominators • Solve problems including the addition and subtraction of fractions • Convert between a mixed number and an improper fraction • Add and subtract mixed numbers and improper fractions • Multiply fractions and integers • Divide fractions and integers • Recognise and find reciprocals and understand a reciprocal as a multiplicative inverse • Solve problems including the multiplication and division of fractions

KS3 Mathematics Intent Overview

Y8F	Unit	Students will learn to:
Spring 2	Probability	<ul style="list-style-type: none"> • Use the terms likely, equally likely, fair, unfair, certain when describing chance or likelihood • Understand and use the probability scale from 0 to 1 • Place theoretical probabilities accurately on the probability scale • Find probabilities based on equally likely outcomes in simple contexts • Apply the property that the probabilities of mutually exclusive outcomes sum to 1 • Systematically list outcomes • Complete sample spaces for combined events with equally likely outcomes and use to calculate probabilities • Calculate probabilities from a two-way table • Read basic Venn diagrams • Complete Venn diagrams • Find probabilities from a Venn diagram • Interpret the frequency of outcomes of probability experiments from tables and use to find relative frequency • Calculate expected outcomes of future experiments by applying relative frequency
	Algebraic Manipulation	<ul style="list-style-type: none"> • Identify a term, expression, equation, formula and identity • Substitute positive and negative integers into expressions and formulae, including with powers • Form expressions • I can manipulate expressions (add, subtract, multiply) • Simplify expressions by collecting like terms, including powers • Simplify algebraic terms involving multiplication and division • Multiply a single term over a single bracket • Expand and simplify multiple single brackets • Take out common factors to factorise
Summer 1	Solving Equations	<ul style="list-style-type: none"> • Manipulate equations (multiply or add/subtract two equations) • Solve one-step linear equations • Solve two-step linear equations • Solve linear equations with one unknown on one side including brackets and fractions • Check the solution to an equation by using substitution • Write and solve simple equations from a problem of area and perimeter of shapes
	Angles	<ul style="list-style-type: none"> • Accurately measure angles in geometrical diagrams • Solve an angle problem using the standard angle facts • Find missing angles in special types of triangles • Identify parallel and perpendicular lines • Use alternate, corresponding and co-interior angles to find a missing angle on a parallel line • Solve angle problems using alternate, corresponding and co-interior angles properties • Know the properties of polygons (and know their names) • Use the sum of angles in a triangle to deduce the angle sum of a polygon • Find unknown interior angles in any regular or irregular polygon • Find the exterior angle of any regular polygon
Summer 2	Transformations	<ul style="list-style-type: none"> • Transform 2D shapes by reflecting in vertical and horizontal mirror lines on a grid • Transform 2D shapes by reflecting in diagonal mirror lines on a grid • Transform 2D shapes by reflecting in $x=a$ or $y=b$ lines on a coordinate grid • Transform 2D shapes by translating using column vector notation on a coordinate grid • Construct similar shapes by enlargement of a positive integer scale factor on a grid • Transform 2D shapes by rotating them about a given point on a grid • Identify which basic transformation has occurred
	Statistics	<ul style="list-style-type: none"> • Find the mode, median, mean and range from a list of data • Interpret the mode, median, mean and range of two sets of data and make comparisons • Find the mode, range, median and mean from a stem and leaf diagram, including back-to-back • Find the mode, range, median and mean from a discrete frequency table • Construct pie charts • Read and interpret pie charts • Complete and interpret scatter graphs, including correlation, line of best fit and make predictions from this

KS3 Mathematics Intent Overview

Y8H	Unit	Students will learn to:
Autumn 1	Number Properties	<ul style="list-style-type: none"> • Use the index laws for the multiplication and division of integer powers • Evaluate integer powers and roots • Convert between ordinary numbers and standard form • Rewrite a number in correct standard form notation • Multiply with numbers written in standard form • Recognise, list and define prime numbers • Find the HCF and LCM of a set of numbers • Use the HCF and LCM to find possible pairs of numbers • Solve worded problems involving the lowest common multiple • Perform prime factor decompositions • Use the prime factor decomposition to find the HCF or LCM of two numbers
	Positive and Negative Numbers	<ul style="list-style-type: none"> • Add and subtract positive and negative integers • Multiply and divide positive and negative integers • Substitute negative integers into expressions and formulae, including with powers • Apply the order of operations with four operations including negative integers • Solve problems including negative numbers • Add and subtract decimals using column method • Multiply decimals using formal written methods
Autumn 2	Rounding and Estimation	<ul style="list-style-type: none"> • Round to a given degree of accuracy (whole number, 1 dp, 2 dp etc) • Round to a given number of significant figures • Use rounding to significant figures to estimate in calculations including worded problems • Estimate roots • Use rounding to significant figures and estimating roots to estimate in complex calculations • Identify upper and lower bounds when rounded to 10,100,1000, whole number, 1dp etc.
	Length & Area	<ul style="list-style-type: none"> • Find the area of compound shapes (including rectangles, triangles and parallelograms) • Find the area of trapeziums • Solve complex problems regarding the perimeter and area of given shapes • Use Pythagoras's theorem to find a missing length in right-angled triangles • Apply Pythagoras' theorem to prove whether a triangle is right-angled or not
	3D Shapes	<ul style="list-style-type: none"> • Name 3D shapes and identify their properties • Recognise and complete the nets of 3D shapes • Construct and interpret plans and elevations of 3D shapes • Calculate the volume of shapes by counting cubes • Calculate the volume of a cuboid • Solve problems involving volume and surface area of cuboids • Calculate the volume of prisms • Solve problems involving the volume of prisms • Calculate the surface area of prisms • Convert between units of area and volume
Spring 1	Circles and Cylinders	<ul style="list-style-type: none"> • Recognise and name the parts of a circle • Calculate the circumference of a circle • Calculate the area of a circle • Calculate exactly with pi to find the area and circumference of circles • Find the radius or diameter of a circle when given the circumference or area • Calculate the area and perimeter of semi circles and quarter circles • Find the area of compound shapes including parts of circles • Solve functional problems by finding the area or perimeter of compound shapes including parts of circles • Calculate the volume of cylinders
	Compound Measures	<ul style="list-style-type: none"> • Read speed-time graphs • Read distance-time graphs • Find the speed from a distance-time graph • Convert compound units (e.g. m/s to km/h) • Calculate speed, distance and time • Calculate speed, distance and time where units need converting • Calculate density, mass and volume • Calculate density, mass and volume where units need converting • Calculate pressure, force and area
	Calculations with Fractions	<ul style="list-style-type: none"> • Compare and order fractions with different denominators • Solve problems including the addition and subtraction of fractions • Convert between a mixed number and an improper fraction • Add and subtract mixed numbers and improper fractions • Multiply fractions and integers • Divide fractions and integers • Recognise and find reciprocals and understand a reciprocal as a multiplicative inverse • Calculate exactly with fractions, including solving problems

KS3 Mathematics Intent Overview

Y8H	Unit	Students will learn to:
Spring 2	Probability	<ul style="list-style-type: none"> • Use the terms likely, equally likely, fair, unfair, certain when describing chance or likelihood • Understand and use the probability scale from 0 to 1 • Place theoretical probabilities accurately on the probability scale • Find probabilities based on equally likely outcomes in simple contexts • Apply the property that the probabilities of mutually exclusive outcomes sum to 1 • Find the probability of A and B occurring and the probability of A or B occurring • Systematically list outcomes • Complete sample spaces for combined events with equally likely outcomes and use to calculate probabilities • Calculate probabilities from a two way table • Complete Venn diagrams, including when the intersection needs to be calculated • Find probabilities from a Venn diagram • Interpret the frequency of outcomes of probability experiments from tables and use to find relative frequency • Calculate expected outcomes of future experiments by applying relative frequency
	Algebraic Manipulation	<ul style="list-style-type: none"> • Identify a term, expression, equation, formula and identity • Substitute positive and negative integers into expressions and formulae, including with powers • Form expressions • I can manipulate expressions (add, subtract, multiply) • Simplify expressions by collecting like terms, including powers • Simplify expressions involving sums, products and powers, including using index laws • Expand and simplify multiple single brackets • Take out common factors to factorise • Expand the product of two binomials • Factorise a quadratic expression of the form $x^2 + bx + c$, including using the difference of two squares
Summer 1	Solving Equations	<ul style="list-style-type: none"> • Manipulate equations (multiply or add/subtract two equations) • Solve one-step linear equations • Solve two-step linear equations • Solve linear equations with one unknown on one side including brackets and fractions • Solve linear equations with one unknown on both sides • Solve linear equations with one unknown on both sides and those involving brackets or fractions • Check the solution to an equation by using substitution • Write and solve equations from a problem or area and perimeter of shapes • Change the subject of a formula • Represent an inequality on a number line • List the integers that satisfy an inequality • Solve two step linear inequalities in one variable, and represent the solution on a number line • Use inequality notation to specify simple error intervals due to rounding
	Angles	<ul style="list-style-type: none"> • Accurately measure angles in geometrical diagrams • Solve an angle problem using the standard angle facts • Find missing angles in special types of triangles • Use alternate, corresponding and co-interior angles to find a missing angle on a parallel line • Solve complex angle problems using alternate, corresponding and co-interior angles properties • Find unknown interior angles in any regular or irregular polygon • Find the exterior angle of any regular polygon • Solve problems using the interior angles of regular polygons • Find the number of sides of a regular polygon using its interior or exterior angle size • Solve problems by finding the number of sides of a regular polygon using its interior or exterior angle size
Summer 2	Transformations	<ul style="list-style-type: none"> • Transform 2D shapes by reflecting in vertical and horizontal mirror lines on a grid • Transform 2D shapes by reflecting in diagonal mirror lines on a grid • Transform 2D shapes by reflecting in $x=a$ or $y=b$ lines on a coordinate grid • Transform 2D shapes by translating using column vector notation on a coordinate grid • Construct similar shapes by enlargement of a positive integer scale factor on a grid • Construct similar shapes by enlargement of a fractional scale factor on a grid • Transform 2D shapes by rotating them about a point on a coordinate grid • Identify which basic transformation has occurred • Find a missing side length in two shapes that are similar
	Statistics	<ul style="list-style-type: none"> • Interpret the mode, median, mean and range of two sets of data and make comparisons • Find the data based on information given on the averages and range • Adjust the mean when data is added or taken away from the set • Find the mode, range, median and mean from a stem and leaf diagram, including back-to-back • Find the mode, range, median and mean from a discrete frequency table • Find the modal class, class in which the median lies and estimated mean from a grouped frequency table • Compare distributions of grouped, discrete or continuous data using mean, mode, median and range • Construct pie charts • Read and interpret pie charts • Complete and interpret scatter graphs, including correlation, line of best fit and make predictions from this

KS3 Mathematics Intent Overview

Y9F	Unit	Students will learn to:
Autumn 1	Arithmetic	<ul style="list-style-type: none"> Add and subtract using column method, including decimals Multiply integers using formal written methods Multiply decimals using formal written methods Multiply and divide by powers of 10 Use formal written methods to divide integers and decimals by a single digit integer Use formal written methods to divide integers and decimals by a two digit integer Use formal written methods to divide an integer by a decimal Use formal written methods to divide a decimal by a decimal Add and subtract positive and negative integers Multiply and divide positive and negative integers Identify the operation required to solve a worded problem
	Powers & Roots	<ul style="list-style-type: none"> Recognise and define square numbers, cube numbers and powers of 10 Find integer powers and roots Simplify an expression using repeated multiplication Use the index laws for multiplication and division of integer powers Convert between ordinary numbers and standard form Rewrite a number in correct standard form notation Multiply with numbers written in standard form Use the order of operations to solve simple calculations including brackets Use the order of operations to solve simple calculations including brackets and powers Reason and justify by applying the order of operations Put the brackets into a calculation to make it true
	Fractions, Decimals & Percentages	<ul style="list-style-type: none"> Convert between a mixed number and an improper fraction Add and subtract fractions with different denominators Add and subtract mixed numbers and improper fractions Solve problems including the addition and subtraction of fractions Multiply fractions including improper fractions and mixed numbers and integers Divide fractions and integers Solve problems including the multiplication and division of fractions Find equivalent fractions, decimals and percentages Compare and order fractions, decimals and percentages Complete and construct tree diagrams for independent events Complete and construct tree diagrams for dependent events Find probabilities from a tree diagrams for both independent and dependent events
Autumn 2	Algebraic Manipulation	<ul style="list-style-type: none"> Simplify expressions by collecting like terms Simplify expressions by collecting like terms, including powers Form expressions Substitute positive integers into expressions and formulae Substitute negative integers into expressions and formulae Simplify algebraic terms involving multiplication and division Multiply a single term over a single bracket Expand and simplify multiple single brackets Take out common algebraic factors to fully factorise
	Coordinates & Graphs	<ul style="list-style-type: none"> Plot and read x and y coordinates in all four quadrants. Solve simple problems on a coordinate grid Find the midpoint of two points Find the midpoint of two points and the endpoint when given the midpoint and one endpoint Identify the equations of horizontal and vertical lines Plot coordinates from a rule to generate a straight line Use a table of values to plot graphs of simple linear functions (including using the table function on a calc) Identify the y intercept of a linear graph from the equation and the graph Interpret the gradient of a linear graph from the equation and the graph Use the form $y = mx + c$ to interpret the graph
Spring 1	2D Shapes	<ul style="list-style-type: none"> Identify the symmetries of all 2D shapes and name them Recognise and classify quadrilaterals from their properties Apply the properties of quadrilaterals to find missing angles Classify triangles using angle and side properties Apply the sum of angles at a point, on a straight line and in a triangle Find unknown angles in a triangle and quadrilateral Find missing angles in special types of triangles Find area of parallelograms Find the missing length of a shape when given the perimeter Find the missing length of a shape when given the area Find the area of trapeziums
	3D Shapes	<ul style="list-style-type: none"> Name 3D shapes and identify their properties Recognise and complete the nets of 3D shapes Construct and interpret plans and elevations of 3D shapes Calculate the volume of a cuboid Calculate the volume and surface area of cuboids and solve problems involving these Calculate the surface area of cubes and cuboids Calculate the volume of prisms including cylinders

KS3 Mathematics Intent Overview

Y9F	Unit	Students will learn to:
Spring 2	Solving Equations	<ul style="list-style-type: none"> • Solve one-step linear equations • Solve two-step linear equations • Solve linear equations with one unknown on one side including brackets and fractions • Solve linear equations with one unknown on both sides • Solve linear equations with one unknown on both sides and those involving brackets • Solve linear equations involving two variables (x and y) where one variable is known and subbed in • Check the solution to an equation by using substitution • Write and solve equations from a problem or area and perimeter of shapes • Represent an inequality on a number line • List the integers that satisfy an inequality • Solve two step linear inequalities in one variable, and represent the solution on a number line
	Sequences	<ul style="list-style-type: none"> • Continue a sequence and find missing terms within a sequence • Find the term to term rule of a sequence • Find the next term of a diagrammatic sequence • Generate linear sequence from the nth term rule • Find the nth term of a linear sequence • Find the nth term of a linear diagrammatic sequence • Check to see if a number is in a sequence using the nth term rule • Recognise and continue recursive (Fibonacci-type) sequences
Summer 1	Percentages	<ul style="list-style-type: none"> • Find a simple percentage of a quantity • Find an integer percentage of a quantity • Find a percentage of a quantity • Perform a percentage increase or decrease • Calculate simple interest • Calculate repeated percentage change (compound interest) • Solve a percentage change problem given in context • Find the percentage change
	Proportion	<ul style="list-style-type: none"> • Divide into a ratio when given one share • Divide into a ratio when given the total • Divide into a ratio when given the difference • Find the cost of items by using the unitary method • Solve best value problems • Use proportion to adapt a recipe and use this to solve problems • Solve direct proportion problems • Solve simple inverse proportion problems
Summer 2	Constructions Loci & Bearings	<ul style="list-style-type: none"> • Correctly use geometrical terms and notation • Accurately draw diagrams from written descriptions • Accurately construct triangles from ASA and SAS information • Accurately construct triangles from SSS information • Identify parallel and perpendicular lines • Use a ruler and compass to construct a perpendicular bisector of a line • Use scale factors, diagrams and maps

KS3 Mathematics Intent Overview

Y9H	Unit	Students will learn to:
Autumn 1	Arithmetic	<ul style="list-style-type: none"> • Multiply decimals using formal written methods • Use formal written methods to divide integers and decimals by an integer • Use formal written methods to divide an integer by a decimal • Use formal written methods to divide a decimal by a decimal • Identify the operation required to solve a worded problem • Add and subtract positive and negative integers • Multiply and divide positive and negative integers • Solve problems including negative numbers
	Powers & Roots	<ul style="list-style-type: none"> • Use the index laws for multiplication and division of integer powers • Simplify expressions involving sums, products and powers, including using index laws • Calculate with fractional indices • Calculate with negative indices • Calculate exactly with surds • Simplify expressions involving surds • Convert between ordinary numbers and standard form • Rewrite a number in correct standard form notation • Multiply and divide with numbers written in standard form • Add and subtract with numbers written in standard form • Solve worded problems involving numbers written in standard form
	Fractions, Decimals & Percentages	<ul style="list-style-type: none"> • Add and subtract mixed numbers and improper fractions • Multiply fractions including improper fractions and mixed numbers and integers • Divide fractions including improper fractions and mixed numbers and integers • Solve problems including the multiplication and division of fractions including mixed numbers • Order fractions, decimals and percentages • Convert fractions into recurring decimals • Change recurring decimals into fractions • Complete and construct tree diagrams for independent events • Complete and construct tree diagrams for dependent events • Find probabilities from a tree diagrams for both independent and dependent events
Autumn 2	Algebraic Manipulation	<ul style="list-style-type: none"> • Simplify expressions by collecting like terms, including powers • Substitute positive and negative integers into expressions and formulae, including with powers • Expand and simplify multiple single brackets • Take out common factors to factorise • Expand the product of two binomials • Factorise a quadratic expression of the form $x^2 + bx + c$, including using the difference of two squares • Simplify algebraic fractions • Complete the square on an algebraic expression
	Coordinates & Graphs	<ul style="list-style-type: none"> • Solve complex problems on a coordinate grid • Find the midpoint of two points and the endpoint when given the midpoint and one endpoint • Use a table of values to plot graphs of simple linear functions (including using the table function on a calc) • Use a table of values to plot graphs of two linear functions and identify the point of intersection • Use the form $y = mx + c$ to interpret the graph • Identify the equation of a linear graph from the graph • Find the equation of a line when given the gradient (or parallel line) and a point • Use the form $y = mx + c$ to identify perpendicular lines • Find the equation of a line through two given points
Spring 1	2D Shapes	<ul style="list-style-type: none"> • Use Pythagoras's theorem to find a missing length in right-angled triangles • Apply Pythagoras' theorem to prove whether a triangle is right-angled or not • Apply Pythagoras' theorem to solve a real life problem • Use the trigonometric ratios to find a missing length in a right-angled triangle • Use the trigonometric ratios to find a missing angle in a right-angled triangle • Identify when to use Pythagoras' theorem and when to use the trigonometric ratios • Solve problems using Pythagoras's theorem and trigonometry
	3D Shapes	<ul style="list-style-type: none"> • Calculate the volume of prisms including cylinders • Solve problems using the volume of prisms including cylinders • Apply the formulae to calculate the volume of a pyramid, sphere and cone (using given formulae) • Apply the formulae to calculate the volume of a composite solids • Find the surface area of rectilinear compound prisms • Calculate the surface area of prisms • Apply the formulae to calculate the surface area of a pyramid, sphere and cone (using given formulae)

KS3 Mathematics Intent Overview

Y9H	Unit	Students will learn to:
Spring 2	Solving Equations	<ul style="list-style-type: none"> • Solve linear equations with one unknown on both sides and those involving brackets • Write and solve equations from a problem or area and perimeter of shapes • Solve linear equations involving two variables (x and y) where one variable is known and subbed in • Solve two step linear inequalities in one variable, and represent the solution on a number line • Solve linear inequalities with an inequality on each side, and represent the solution on a number line • Change the subject of a formula • Change the subject of a formula, where factorising is required • Solve two linear simultaneous equations in two variables graphically • Solve two linear simultaneous equations in two variables algebraically with integer solutions • Form and solve two linear simultaneous equations in two variables algebraically • Plot a quadratic graph from a table of values and identify the solutions graphically • Solve quadratic equations containing x^2 by factorising
	Sequences	<ul style="list-style-type: none"> • Generate linear sequence from the nth term rule • Use the nth term of a linear sequence to solve a problem • Find the nth term of a linear diagrammatic sequence • Recognise and continue recursive (Fibonacci-type) sequences • Generate a quadratic sequence from the nth term rule • Find the nth term of any quadratic sequence • Continue a geometric sequence and find missing terms within a geometric sequence • Find and use the nth term of geometric sequences (r^n, where r and n are integers)
Summer 1	Percentages	<ul style="list-style-type: none"> • Perform a percentage increase or decrease • Find the percentage change • Calculate simple interest • Calculate repeated percentage change (compound interest) • Find the overall percentage change after repeated percentage changes • Solve problems with simple and compound interest • Solve original value problems • Set up, solve and interpret the answers in growth and decay
	Proportion	<ul style="list-style-type: none"> • Divide into a ratio when given one share, given the total or given the difference • Use proportion to adapt a recipe and use this to solve problems • Solve best value problems • Solve direct proportion problems (involving worded questions and tables) • Solve inverse proportion problems (involving worded questions and tables)
Summer 2	Constructions Loci & Bearings	<ul style="list-style-type: none"> • Accurately construct triangles from ASA and SAS information • Accurately construct triangles from SSS information • Use a ruler and compass to construct a perpendicular bisector of a line • Use a ruler and compass to construct perpendicular to a given line from a given point • Use a ruler and compass to construct an angle bisector • Use constructions to solve simple loci problems • Use constructions to solve complex loci problems • Use scale factors, diagrams and maps • Construct and measure bearings on diagrams • Find the bearing from B to A, when given the bearing of A to B • Solve bearing problems including Pythagoras and right-angled trigonometry • Calculate bearings using known angle facts (no protractor etc)