Mathematics Pupil learning journey **Key Stage 3**

	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Year 7 Topics	Analysing and Displaying Data Number Skills	Expressions, functions and formulae	Decimals and Measures Fractions and Percentages	Probability Ratio and Proportion	Lines and angles	Sequences and graphs Transformations
I am learning about:	Finding the mean, median, mode and range and interpreting the results. Displaying the results of data collection in appropriate ways. Using negative numbers and finding special types of number such as Primes, factors and multiples.	Combining like terms in algebra by addition and subtraction. Multiplying algebraic terms together. Expanding brackets in algebra and substitution of numbers into a given formula.	Rounding numbers to appropriate degrees of accuracy. Comparing lengths and capacities in real life problems. Calculating perimeter and area of simple 2D shapes and compound shapes. Simplify fractions and carry out addition and subtraction with them. Find percentages of given amounts.	Understand the language of probability and how to calculate probabilities of events. Compare given probabilities with the outcomes of experiments. Find and write ratios for given events. Divide an amount into a given ratio. Convert between a ratio and a fraction and understand the relationship between them.	Measuring and drawing angles using a protractor to be able to construct accurate triangles and 2D shapes. Using the angle facts for straight lines, full turns and triangles to find unknown angles. Naming special types of quadrilaterals and understanding their special properties.	Spotting the patterns in number sequences and finding the rules that underpin the patterns. Using coordinates to solve shape problems on a grid. Understanding the relationship between a sequence and a straight line graph on a grid Using the four transformations of reflections, rotations, translations and enlargements to move 2D shapes.
Assessment	Unit 1 and Unit 2 tests	Unit 3 test	Unit 4 and Unit 5 tests	Unit 6 and Unit 7 tests	Unit 8 test	Unit 9 and Unit 10 test

Year 8 Topics	Number Area and Volume	Statistics Graphs and Charts	Expressions and Equations Real life graphs	Decimals and ratio Lines and angles	Calculating with fractions	Straight line Graphs Percentages, decimals and fractions.
I am learning about:	Making use of the numerical rules to calculate using decimals. Using squares, cubes and roots in calculations Using index notation to write efficiently in mathematics. Calculating the area of 2D shapes including triangles, parallelograms and trapezium. Calculating the volume and surface areas of 3D shapes.	Collecting data and displaying data in a variety of different ways. Using and interpreting pie charts, stem and leaf and scatter graphs. Identifying misleading data and graphs.	Simplifying algebraic powers using the correct notation. Multiplying and dividing algebraic terms to simplify expressions. Factorising algebraic expressions. Solving single and multi-step equations. Reading from and interpreting conversion graphs, line graphs, real life graphs to solve everyday problems.	Rounding decimals to appropriate degrees of accuracy. Being able to use equivalent calculations to find answers to multiplying and dividing with decimals. Using decimals when dealing with ratio. Solving problems with alternate, corresponding and co-interior angles. Using the properties of polygons to find exterior and interior angles.	Using the 4 rules of add subtract multiply and divide with fractions. Converting mixed numbers to fractions and vice versa.	Finding the gradient and equation of a straight line. Being able to use the equation of a straight line to solve problems. Using percentages to solve problems and convert to decimals and fractions. Using multipliers to calculate percentage increase and decrease.
Assessment	Unit 1 and Unit 2 tests	Unit 3 test	Unit 4 and Unit 5 test	Unit 6 and Unit 7 tests	Unit 8 test	Unit 9 and unit 10 test
Year 9 Topics	Indices and standard form Expressions and formulae	Dealing with data	Multiplicative reasoning Constructions	Sequences, Inequalities, equations and proportion	Graphs	Probability Comparing shapes

				Circles, Pythagoras and Prisms		
I am learning about:	Using standard form and index notation to write numbers and carry out calculations. Using estimation to be able to find approximate calculations. Rearranging formula and equations to change the subject. Solving equations using the balancing method. Expanding double brackets in algebra.	Designing and using a suitable survey or questionnaire to gather data. Interpret given data and find mean, median and range from tabulated data.	Calculating enlargements and using scale factors. Working out percentage change from real life situations and working with compound measures. Carrying out constructions using mathematical tools to create scale diagrams and accurate 2D shapes.	Finding the nth term of a given sequence. Recognising and continuing non-linear sequences. Solving multi step equations and inequalities. How to find the circumference and area of a circle and find missing side lengths of a right angled triangle. Finding the volume and surface areas of spheres and prisms.	Using the equation of a straight line to solve coordinate geometry problems. Finding the solution to simultaneous equations graphically. Constructing the graph of a non-linear equation.	Using sample space, two way tables and Venn diagrams to calculate given probabilities. Understanding the difference between experimental and theoretical probabilities. Identifying congruent and similar shapes and how similar shapes are related. Understanding how the trigonometric ratios can be used to find the size of an angle.
Assessment	Unit 1 and Unit 2 tests	Unit 3 test	Unit 4 and Unit 5 test	Unit 6 and Unit 7 tests	Unit 8 test	Unit 9 and unit 10 test