SUBJECT:	Maths	YEAR GROUP:	5

PURPOSE OF STUDY

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

THE NATIONAL CURRICULUM FOR ART AND DESIGN AIMS TO ENSURE THAT ALL PUPILS:	NATIONAL CURRICULUM LINKS
• Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils Develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately • Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions	Geography – countries, population and climate. Life skills – using timetables Food technology English – speaking and listening English Food Tech Outdoor Learning

TOPICS COVERED:	
• Place Value, Addition and Subtraction, Statistics • Statistics, Multiplication and Division, Perimeter and Area. • Multiplication and Division, Fractions • Fractions, Decimals and Percentages • Decimals, properties of shapes • Position and direction, converting units, volume	
INTENT OF SUBJECT:	
• Pupils will develop a greater understanding of place value. • Pupils will develop their addition and subtraction skills. • Pupils will develop understanding of interpreting and presenting data in different graphs and charts. • Pupils will develop greater awareness of ways data is presented and be able to interpret this. • Pupils will develop their multiplication and division skills. • Pupils will develop an understanding of area and perimeter and how to calculate these. • Pupils will add and subtract fractions. • Pupils will multiply fractions by an integer. • Pupils will multiply and divide numbers • Pupils will identify fractions of amounts. • Pupils will work with decimals and percentages. • Pupils will add and subtract decimals • Pupils will multiply and divide decimals. • Pupils will identify properties of shapes • Pupils will use the language of position and direction. • Students will convert units. • Pupils will understand volume and use the units associated with it.	

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SKILLS OVERVIEW BY HALF TERM:	
AUTUMN ONE	**AUTUMN TWO**
• To be able to read, write and represent numbers up to 1 million. • To be able round numbers to the nearest 10, 100 and 1000. • To be able to explain the rounding rules. • To know the value of each digit in numbers up to 100,000. • To be able to compare and order numbers up to 1 million • Round any given numbers within 100,000. • To be able to count up and down in 10s, 100s, 1000s, 10,000s and 100,000s. • To be able to round numbers to 1 million. • To read and write negative numbers and place them on a number line. • To be able to read and write Roman Numerals up to 1000. • To be able to add and subtract 4-digit numbers with and without exchanges. • To be able to use the column method to add and subtract numbers with more than 4 digits. • To be able to round to approximate and estimate. • To recall inverse operations and be able to use inverse addition and subtraction to check answers. • To be able to complete multi-step addition and subtraction problems. • To be able to interpret charts, including answering sum and comparison questions. • To be able to read and interpret data shown on line graphs. • To be able to draw line graphs to show data.	• To be able to answer questions through reading and interpreting data shown in tables. • To be able to read and interpret data showing in two-way tables. • Collect own data and present this in a two-way table. • Read data shown in timetables. • To explain what a multiple is and identify multiples of numbers. • To explain what a factor is and identify factors and common factors of numbers. • To be able to explain what a prime number is and identify and recognise prime numbers. • To be able to identify and calculate square and cubed numbers and use notations for these. • Be able to multiply and divide given numbers by 10, 100 and 1000 including decimals. • To be able to use knowledge of multiples of 10, 100 and 1000 to solve problems. • To be able to measure perimeter on a grid. • To be able to measure perimeter of rectangles and rectilinear shapes. • To be able to calculate perimeter and calculating lengths of missing sides. • To be able to explain that area is measured in squares. • To be able to count squares to find the area of a shape. • To be able to use a calculation to find the area of rectangles. • To be able to calculate the area of compound shapes. • To be able to estimate the area of irregular shapes using squares and knowledge of fractions.

SPRING ONE	**SPRING TWO**
• To be able to multiply 2, 3 and 4 digits by 1 digit. • To be able to use the area model to multiply 2 digits. • To be able to multiply 2, 3 and 4 digits by 2 digits. • To be able to divide 2, 3 and 4 digits by 1 digit. • To know how to divide numbers with remainders. • To be able to explain what a fraction is. • To be able to identify equivalent fractions. • To be able to recognise fractions greater than 1. • To be able to convert mixed numbers and improper fractions and vice versa. • To be able to compare and order fractions less than and greater than 1. • To be able complete number sequences using fractions. • To be able to add and subtract fractions with the same denominator. • To be able to complete addition with fractions within 1 with the same and different denominators. • To be able to add two or more fractions where the denominators are a multiple of the other.	• To add two or more proper fractions where the total is more than 1. • Can add mixed numbers and improper fractions. • To subtract fractions and mixed numbers. • To subtract two mixed numbers. • To be able to multiply unit fractions and non-unit fractions by an integer. • To be able to calculate fractions of a quantity and an amount. • To use fractions as operators. • To use knowledge of fractions to solve problems. • To recognise, read and write numbers with decimals up to 2 decimal places. • To explain and recognise the relationship between fractions and decimals, including numbers greater than 1. • To be able to explain what thousandths are and recognise thee as decimals. • To round decimals to the nearest tenths and nearest whole numbers. • To be able to order and compare numbers up to 3 decimal places. • To be able to explain what a percentage is and identify percentages on a hundred square. • To present percentages as fractions and decimals. • To identify equivalent fractions, decimals and percentages.

SUMMER ONE	**SUMMER TWO**
• To add and subtract decimals within 1. • To use number bonds to help find the complements which add to make 1. • To add decimals that cross the whole. • Can add and subtract decimals with the same and different number of decimal places. • Can add and subtract wholes and decimals. • Can create and complete decimal sequences identifying and using simple rules. • To multiply and divide decimals by 10, 100 and 1000. • Can explain what obtuse and acute angles are, making comparisons to 90˚ angles. • Can compare and order angles. • Can use correct vocabulary when talking about angles. • To measure angles accurately using a protractor. • Can draw lines and angles accurately. • Can calculate angles on a straight line and around a point and lengths and angles in shapes. • Can distinguish between regular and irregular polygons, explaining the difference. • Can identify 3D shapes from 2D projections. • Can use language associated with properties of 3D shapes such as faces, curved surfaces, vertices, edges accurately.	• Can describe positions in the first quadrant using coordinates. • Can read, write and use pairs of coordinates. • Can accurately plot points on a grid using coordinates. • Can explain positions of coordinates in the first quadrant, including the origin and that coordinates start with the x coordinate, then the y coordinate. • Can translate shapes and coordinates on a grid. • Can describe translations of coordinates. • Can identify lines of symmetry in 2D shapes. • Can knowledge of symmetry to complete 2D shapes and pattern accurately. • Can complete reflections objects using lines that are parallel to the axes and coordinates. • Can convert between metres and kilometres and grams and kilograms. • Can convert between millilitres and litres and millimetres to metres. • Can convert between different units of length and select appropriate unit for measurement. • Shows an understanding of imperial units of measurement such as inches, pounds and pints. • Can convert units of time including years, months, weeks, days, hours, minutes and seconds. • Can retrieve information from timetables and can convert units of time to solve problems involving timetables. • Can explain what volume is. • Can compare and order solids made up of cubes using knowledge of volume. • Can estimate volume and capacity of different solids and objects and can do this using practical equipment.

	• Can use technical vocabulary accurately