

Wallace Fields Junior School Maths Progression Map 2019-2020.

Curriculum intent

Place value

	Year 3	Year 4	Year 5	Year 6
<p>Place Value: Counting</p> <p><u>KS1 expectations:</u> *Count in steps from 1 and 10 forward and backwards through 100 from any given number Count in steps of 2, 3 and 5 from 0</p>	<p>-Count from 0 in multiples of 4, 8, 50 and 100</p> <p>-Find 10 or 100 more or less than a given number</p> <p align="center"><b>Autumn 1</b> <b>Autumn 2</b></p>	<p>-Count in multiples of 6, 7, 9, 25 and 1000</p> <p>-Count backwards through zero including negative numbers</p> <p align="center"><b>Autumn 1</b> <b>Autumn 2</b></p>	<p>-Count forwards and backwards in steps of powers of 10 for any given number up to 1 000 000</p> <p>-Count forwards and backwards with positive and negative numbers, including through zero</p> <p align="center"><b>Autumn 1</b></p>	
<p>Place Value: Represent</p> <p><u>KS1 expectations:</u> *Read and write numbers to at least 100 in words and numerals Identify, represent and estimate numbers using different representations (including a number line)</p>	<p>-Identify, represent and estimate numbers using different representations</p> <p>-Read and write numbers up to 1000 in numerals and words</p> <p align="center"><b>Autumn 1</b></p>	<p>-Identify, represent and estimate numbers using different representations</p> <p>-Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value</p> <p align="center"><b>Autumn 1</b></p>	<p>-Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</p> <p>-Read Roman numerals to 1000 (M) and recognise years written in Roman Numerals</p> <p align="center"><b>Autumn 1</b></p>	<p>-Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</p> <p align="center"><b>Autumn 1</b></p>
<p>Place Value: Use PV and Compare</p> <p><u>KS1 expectations:</u> *Recognise the place value of each digit in a two-digit number Compare and order numbers from 0 to 100 using &lt; &gt; and =</p>	<p>-Recognise the place value of each digit in a three digit number (H,T,O)</p> <p>-Compare and order numbers up to 1000</p> <p align="center"><b>Autumn 1</b></p>	<p>-Find 1000 more or less than a given number</p> <p>-Recognise the place value of each digit in a four digit number (Th,H,T,O)</p> <p>-Order and compare numbers beyond 1000</p> <p align="center"><b>Autumn 1</b></p>	<p>-Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</p> <p align="center"><b>Autumn 1</b></p>	<p>-Read, write, order and compare numbers to 10 000 000 and determine the value of each digit</p> <p align="center"><b>Autumn 1</b></p>
<p>Place Value: Problems and Rounding</p> <p><u>KS1 expectations:</u> *Use place value and number facts to solve problems</p>	<p>-Solve number problems and practical problems involving these ideas</p> <p align="center"><b>Autumn 1</b></p>	<p>-Round any number to the nearest 10, 100 or 1000</p> <p>-Solve number and practical problems that involve all of the above and with increasingly large positive numbers</p> <p align="center"><b>Autumn 1</b></p>	<p>-Interpret negative numbers in context</p> <p>-Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</p> <p>-Solve number problems and practical problems that involve all of the above</p> <p align="center"><b>Autumn 1</b></p>	<p>-Round any whole number to a required degree of accuracy</p> <p>-Use negative numbers in context and calculate intervals across zero</p> <p>-Solve number and practical problems that involve all of the above</p> <p align="center"><b>Autumn 1</b></p>
<p>Cross curricular activities carried out</p>	<p><b>Science</b> - How tall is General Sherman? <b>History</b> - Ordering dates on time lines (chronological).</p>	<p><b>Science</b> <b>History</b> <b>DT</b></p>	<p><b>Science</b> <b>History</b> <b>DT</b></p>	<p><b>Science</b> <b>History</b> <b>DT</b></p>

Addition and subtraction

	Year 3	Year 4	Year 5	Year 6
<p>Addition and subtraction: Recall, represent, use</p> <p><b>KS1 expectations:</b> *Recall and use addition and subtraction facts to 20 fluently, derive and use related facts up to 100 *Show that addition of two numbers can be done in any order (commutativity) and subtract of one number from another can not *Recognise and use inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</p>	<p>-Estimate the answer to a calculation and use the inverse operations to check answers</p> <p><b>Autumn 2</b></p>	<p>-Estimate and use inverse operations to check answers to a calculation</p> <p><b>Autumn 2</b></p>	<p>-Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p><b>Autumn 2</b></p>	
<p>Addition and subtraction: Calculations</p> <p><b>KS1 expectations:</b> *Add and subtract number including concrete objects, pictorial representations and mentally including:  <ul style="list-style-type: none"> <li>&gt; a two digit numbers and ones</li> <li>&gt; a two digit numbers and tens</li> <li>&gt; two, two digit</li> <li>&gt; adding three one digit numbers</li> </ul> </p>	<p>-Add and subtract numbers mentally, including: *a three digit number and ones *a three digit number and tens *a three digit number and hundreds</p> <p>-Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p><b>Autumn 2</b></p>	<p>-Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p><b>Autumn 2</b></p>	<p>-Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>-Add and subtract numbers and mentally with increasingly large numbers</p> <p><b>Autumn 2</b></p>	<p>-Perform mental calculations, including with mixed operations and large numbers</p> <p>-Use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p><b>Autumn 2</b></p>
<p>Addition and subtraction: Solving problems</p> <p><b>KS1 expectations:</b> *Solve problems with addition and subtraction:  <ul style="list-style-type: none"> <li>&gt; using concrete objects and pictorial representations, including involving numbers, quantities and measures</li> <li>&gt; applying their increasing knowledge of mental and written methods</li> </ul> </p>	<p>-Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction</p> <p><b>Autumn 2</b></p>	<p>-Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</p> <p><b>Autumn 2</b></p>	<p>-Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>-Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p> <p><b>Autumn 2</b></p>	<p>-Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p><b>Autumn 2</b></p>
<p>Cross curricular activities carried out</p>	<p><b>Science</b> - How tall is General Sherman? <b>History</b> - Ordering dates on time lines (chronological).</p>	<p><b>Science</b> <b>History</b> DT</p>	<p><b>Science</b> <b>History</b> DT</p>	<p><b>Science</b> <b>History</b> DT</p>

## Multiplication and Division

	Year 3	Year 4	Year 5	Year 6
<p>Multiplication and division: Recall, represent, use</p> <p><b>KS1 expectations:</b>            *Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including and recognising odd and even numbers            *Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</p>	<p>-recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p><b>Autumn 3</b></p>	<p>-recall multiplication and division facts for the multiplication tables up to 12x12</p> <p>-use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</p> <p>-recognise and use factor pairs and commutativity in mental calculations</p> <p><b>Autumn 2 Spring 1</b></p>	<p>-identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers</p> <p>-know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>-establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>-recognise and use square numbers and cube numbers and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>)</p> <p><b>Autumn 2</b></p>	<p>-identify common factors, common multiples and prime numbers</p> <p>-use estimation to check answers to calculations and determine, in the context of a problem, an accurate degree of accuracy</p> <p><b>Autumn 2</b></p>
<p>Multiplication and division: Calculations</p> <p><b>KS1 expectations:</b>            *Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs</p>	<p>-write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</p> <p><b>Autumn 2 Spring 1</b></p>	<p>-multiply two-digit and three-digit numbers by one-digit number using formal written layout</p> <p><b>Spring 1</b></p>	<p>-multiply numbers up to 4 digits by a one-digit number using formal written method, including long multiplication for two-digit numbers</p> <p>-multiply and divide numbers mentally drawing upon known facts</p> <p>-divide numbers up to 4 digits by one-digit number using the formal written method of short division and interpret remainders appropriately for the context</p> <p>-multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p> <p><b>Autumn 2 Spring 1 Summer 1</b></p>	<p>-multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <p>-divide numbers up to 4 digits by two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context</p> <p>-divide the numbers up to 4 digits by two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</p> <p>-perform mental calculations, including with mixed operations and large numbers</p> <p><b>Autumn 2</b></p>
<p>Multiplication and division: Solve problems</p> <p><b>KS1 expectations:</b>            *Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts</p>	<p>-solve problems, including missing number problems involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects</p> <p><b>Spring 1</b></p>	<p>- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects</p> <p><b>Spring 1</b></p>	<p>-solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p> <p>-solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p> <p><b>Autumn 2 Spring 1</b></p>	<p>-solve problems involving addition, subtraction, multiplication and division</p> <p><b>Autumn 2</b></p>
<p>Multiplication and division: Combined operations</p> <p><b>KS1 expectations – not covered</b></p>			<p>-solve problems involving addition, subtraction, multiplication and division and a combination of these including</p>	<p>-use their knowledge of the order of operations to carry out calculations involving the four operations</p>

			understanding the meaning of the equals sign <b>Spring 1</b>	<b>Autumn 2</b>
Cross curricular activities carried out	<b>Science</b> - How tall is General Sherman? <b>History</b> - Ordering dates on time lines (chronological).	<b>Science</b> <b>History</b> DT	<b>Science</b> <b>History</b> DT	<b>Science</b> <b>History</b> DT

### Fractions, Decimals and Percentages

	Year 3	Year 4	Year 5	Year 6
Fractions: Recognise and write  <b>KS1 expectations:</b> *Find, recognise and name $\frac{1}{2}$ as two equal parts of an object shape or quantity Find, recognise and name $\frac{1}{4}$ as one of four equal parts of an object shape or quantity *Recognise, find, name, write fractions $\frac{1}{3}$ , $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	-count up and down in tenths; recognise that tenths arise from the dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 -recognise, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with small denominators  <b>Spring 2</b>	-count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten  <b>Spring 2</b>	-identify, name and write the equivalent fractions of a given fraction, represented visually, including tenths and hundredths -recognise mixed numbers and improper fractions and convert from one to the other and write mathematical statements $>1$ as a mixed number ( for example $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$ )  <b>Spring 2</b>	
Fractions: Compare  <b>KS1 expectations - not covered</b>	-recognise and show, using diagrams, equivalent fractions with small denominators -compare and order unit fraction, and fractions with the same denominators  <b>Summer 1</b>	-recognise and show, using diagrams, families of common equivalent fractions  <b>Spring 2</b>	-compare and order fractions whose denominators are all multiples of the same number  <b>Spring 2</b>	-use the common factors to simplify fractions; use multiples to express fractions in the same denomination -compare and order fractions, including fractions $>1$  <b>Autumn 2</b>
Fractions: Calculations  <b>KS1 expectations - not covered</b>	-add and subtract fractions with the same denominator within one whole (for examples $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ )  <b>Summer 1</b>	-add and subtract fractions with the same denominator  <b>Spring 2</b>	-add and subtract fractions with the same denominator and the denominators and multiples of the same number -multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams  <b>Spring 2</b>	-add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions -multiply same pairs of proper fractions, writing the answer in its simplest form (for example $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ) -divide proper fractions by the whole numbers (for example $\frac{1}{3} \div 2 = \frac{1}{6}$ )  <b>Autumn 2</b>
Fractions: Solve problems  <b>KS1 expectations - not covered</b>	-solve problems that involve all of the above  <b>Spring 2</b> <b>Summer 1</b>	-solve problems involving increasingly harder fractions to calculate quantities and fractions to divide quantities including non-unit fractions where the answer is a whole number		

Decimals: Recognise and write  <i>KS1 expectations - not covered</i>		<p><b>Spring 2</b></p> <p>-recognise and write decimal equivalents of any number of tenths and hundredths</p> <p>-recognise and write decimal equivalents for <math>\frac{1}{4}</math> <math>\frac{1}{2}</math> <math>\frac{3}{4}</math></p> <p><b>Spring 2</b> <b>Summer 1</b></p>	<p>-read and write decimal numbers as fractions (for example recognise <math>0.71 = \frac{71}{100}</math>)</p> <p>-recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p> <p><b>Spring 2</b></p>	<p>-identify the value of each digit in the numbers given to three decimal places</p> <p><b>Spring 1</b></p>
Decimals: Compare  <i>KS1 expectations - not covered</i>		<p>-read decimals with one decimal place to the nearest whole number</p> <p>-compare numbers with the same number decimal places up to two decimal places</p> <p><b>Summer 1</b></p>	<p>-round decimals with two decimal places to the nearest whole number and to one decimal place</p> <p>-read, write, order and compare numbers with up to three decimal places</p> <p><b>Spring 2</b></p>	
Decimals: Calculations and problems  <i>KS1 expectations - not covered</i>		<p>-find the effect of dividing one- or two-digit numbers by 10 or 100, identifying the value of the digits in the answer as ones, tenths or hundredths</p> <p><b>Spring 2</b></p>	<p>-solve problems involving number up to three decimal places</p> <p><b>Summer 1</b></p>	<p>-multiply and divide numbers by 10, 100 and 1000 giving the answers up to three decimal places</p> <p>-multiply one-digit numbers with up to two decimal places by whole numbers</p> <p>-use written division methods in cases where the answer has up to two decimal places</p> <p>-solve problems which require answers to be rounded to specified degrees of accuracy</p> <p><b>Spring 1</b></p>
Fractions, decimals and percentages  <i>KS1 expectations - not covered</i>		<p>-solve simple measure and money problems involving fractions and decimals to two decimal places</p> <p><b>Spring 2</b> <b>Summer 1</b></p>	<p>-recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred' and write percentages as a fraction with a denominator 100 and as a decimal</p> <p>-solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25</p> <p><b>Spring 2</b></p>	<p>-associate fractions with division and calculate equivalent decimal fraction equivalents (for example, 0.375) for a simple fraction (for example <math>\frac{3}{8}</math>)</p> <p>-recall and use equivalences between simple fractions, decimals and percentages, including in a different range of contexts</p> <p><b>Spring 1</b> <b>Spring 2</b></p>
Cross curricular activities carried out	<p><b>Science</b> - How tall is General Sherman?</p> <p><b>History</b> - Ordering dates on time lines (chronological).</p>	<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>	<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>	<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>

Ratio and Proportion

	Year 3	Year 4	Year 5	Year 6
<p>Ratio and Proportion</p> <p><u>KS1 expectations - not covered</u></p>				<p>-solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts</p> <p>-solve problems involving the calculation of percentages (for example of measures such as 15% of 360°) and use the percentages for comparisons</p> <p>-solve problems involving similar shapes where the scale factor is known or can be found</p> <p>-solve problems involving unequal sharing and grouping using the knowledge of fractions and multiples</p> <p style="text-align: center;"><b>Spring 2</b></p>
Cross curricular activities carried out				<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>

Algebra

	Year 3	Year 4	Year 5	Year 6
<p>Algebra</p> <p><u>KS1 expectations:</u></p> <p>*Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as: <math>7 = \square + 9</math></p> <p>*Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</p>	<p>-solve problems including missing number/empty box problems</p>	<p>-solve problems including missing number/empty box problems</p>	<p>-solve problems including missing number/empty box problems</p>	<p>-use simple formulae</p> <p>-generate and describe linear number sequences</p> <p>-express missing number problems algebraically</p> <p>-find pairs of numbers that satisfy an equation with two unknowns</p> <p>-enumerate possibilities of combinations of two variables</p> <p style="text-align: center;"><b>Spring 2</b></p>
Cross curricular activities carried out	<p><b>Science</b> - How tall is General Sherman?</p> <p><b>History</b> - Ordering dates on time lines (chronological).</p>	<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>	<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>	<p><b>Science</b></p> <p><b>History</b></p> <p><b>DT</b></p>

Measurement

	Year 3	Year 4	Year 5	Year 6
<p><b>Measurement: Using measures</b></p> <p><u>KS1 expectations:</u>                      * Choose and use appropriate standard units to estimate and measure length/ height in any direction (m/cm) mass (kg/g) temperature (°C) capacity (l/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels                      *compare and order lengths, mass, volume, capacity and record results using &lt; &gt; and =</p>	<p>-measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p><b>Spring 2 Summer 2</b></p>	<p>-convert between different units of measure (km-m, hour to minute)                      -estimate, compare and calculate different measures</p> <p><b>Autumn 2 Spring 1 Summer 2</b></p>	<p>-convert between different units of metric measure (e.g. km-m, cm-m, cm-mm, g-kg, l-ml)                      -understand and use the approximate equivalences between metric units and common imperial units such as inches, pounds and pints                      -use all four operations to solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling</p> <p><b>Summer 1 Summer 2</b></p>	<p>-solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate                      -use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit and vice versa, using decimal notation up to three decimal places                      -convert between miles and km</p> <p><b>Spring 2</b></p>
<p><b>Measurement: Money</b></p> <p><u>KS1 expectations:</u>                      * Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value                      *Find different combinations of coins equal the same amounts of money                      *Solve simple problems in a practical context involving addition and subtraction of money</p>	<p>-add and subtract amounts of money to give change, using both £ and p in practical contexts                      -fluency practise given in speedy maths books</p> <p><b>Spring 1 Fluency: Aut/Spr/Sum</b></p>	<p>-estimate and compare and calculate different measures, including money in £ and p                      -fluency practise given in speedy maths books</p> <p><b>Summer 2 Fluency: Aut/Spr/Sum</b></p>	<p>-use all four operations to solve problems involving money                      -fluency practise given in speedy maths books</p> <p><b>Summer 1 Fluency: Aut/Spr/Sum</b></p>	<p>-fluency practise given in speedy maths books</p> <p><b>Autumn/Spring/Summer</b></p>
<p><b>Measurement: Time</b></p> <p><u>KS1 expectations:</u>                      * Compare and sequence intervals of time                      *Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on clock face to show these times                      *Know the number of minutes in an hour and the number of hours in a day</p>	<p>-tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12-hour and 24-hour clocks                      -estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; using vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight                      -know the number of seconds in a minute and the number of days in each month, year and leap year                      -compare durations of events (for example to calculate the time taken by particular events or tasks)</p> <p><b>Summer 2</b></p>	<p>-read, write and convert time between analogue and digital 12- and 24-hour clocks                      -solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</p> <p><b>Summer 2</b></p>	<p>-solve problems involving converting between units of time</p> <p><b>Summer 2</b></p>	<p>-use, read, write and convert between standard units converting measurements of time from a similar unit of measure to a large unit of measure and vice versa</p> <p><b>Summer2</b></p>
<p><b>Measurement: Perimeter, area, volume</b></p> <p><u>KS1 expectations - not covered</u></p>	<p>-measure the perimeter of simple 2-D shapes</p> <p><b>Spring 2</b></p>	<p>-measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m</p>	<p>-measure and calculate the perimeter of composite rectilinear shapes in cm and m</p>	<p>-recognise that shapes with the same areas can have different perimeters and vice versa</p>

		-find the area of rectilinear shapes by counting squares  <b>Autumn 2 Spring 2</b>	-calculate and compare the areas of rectangles (including squares), and including using standard units square cm (cm <sup>2</sup> ) and squared m (m <sup>2</sup> ) and estimate the area of irregular shapes -estimate the volume (for example using 1cm <sup>3</sup> blocks to build cuboids) and the capacity  <b>Autumn 2 Summer 2</b>	-recognise when it is possible to use formulae for area and volume of shapes -calculate the area of parallelograms and triangles -calculate, estimate and compare volume of cubes and cuboids using the standard units including cubic cm (cm <sup>3</sup> ) and cubic m (m <sup>3</sup> ) and extending to other units (e.g. mm <sup>3</sup> , km <sup>3</sup> )  <b>Spring 2</b>
Cross curricular activities carried out	<b>Science</b> - How tall is General Sherman? <b>History</b> - Ordering dates on time lines (chronological).	<b>Science History DT</b>	<b>Science History DT</b>	<b>Science History DT</b>

## Geometry

	Year 3	Year 4	Year 5	Year 6
Geometry: 2-D shapes  <u>KS1 expectations:</u> *Identify and describe the properties of 2-D shapes, including the number of sides and line of symmetry in a vertical line *Identify 2-D shapes on the surface of 3-D shapes *Compare and sort common 2-D shapes and everyday objects	-draw 2-D shapes  <b>Summer 2</b>	-compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes -identify lines of symmetry in 2-D shapes presented in different orientations  <b>Summer 2</b>	-distinguish between regular and irregular polygons based on the reasoning about the equal sides and angles -use the properties of rectangles to deduce related facts and find missing lengths and angles  <b>Summer 1</b>	-draw 2-D shapes using given dimensions and angles -compare and classify geometric shapes based on their properties and sizes -illustrate and name parts of the circles, including radius, diameter and circumference and know that the diameter is twice the radius  <b>Summer 1</b>
Geometry: 3-D shapes  <u>KS1 expectations:</u> *Recognise and name common 3-D shapes *Compare and sort common 3-D shapes and everyday objects	-make 3-D shapes using modelling materials, recognise 3-D shapes in different orientations and describe them  <b>Summer 2</b>		-identify 3-D shapes, including cubes and cuboids from 2-D representations  <b>Summer 1</b>	-recognise, describe and build simple 3-D shapes, including making nets  <b>Summer 1</b>
Geometry: Angles and lines  <u>KS1 expectations - not covered</u>	-recognise angles as a property of shape or a description of turn identify right angles and that two right angles make a half turn, three right angles make three quarters of a turn and 4 right angles make a full turn -identify whether angles are greater than or less than a right angle	-identify acute and obtuse angles and compare and order angles up to two right angles by size -identify lines of symmetry in 2-D shapes presented in different orientations -complete a simple symmetric figure with respect to a specific line of symmetry	-know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles -draw given angles and measure them in degrees -identify: ❖ angles at a point and one whole turn (360°) ❖ angles at a point on a straight line and $\frac{1}{2}$ a turn (180°)	-find unknown angles in any triangles, quadrilaterals and regular polygons recognise angles where they meet at a point, are on a straight line or are vertically opposite and find the missing angles  <b>Summer 1</b>



	identify horizontal and vertical lines and pairs of perpendicular and parallel lines  <b>Summer 2</b>	<b>Summer 2</b>	❖ other multiples of 90°  <b>Summer 1</b>	
Geometry: Position and direction  <u>KS1 expectations:</u> *Order and arrange combinations of mathematical objects in patterns and sequences *Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)		-describe positions on a 2-D grid as quadrants in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down -plot specifies points and draw sides to complete a given polygon  <b>Summer 2</b>	-identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language and know that the shape has not changed  <b>Summer 2</b>	-describe positions in the full coordinate grid (all four quadrants) -draw and translate simple shapes on the coordinate plane and reflect them in the axes  <b>Autumn 2</b>
Cross curricular activities carried out	<b>Science</b> - How tall is General Sherman? <b>History</b> - Ordering dates on time lines (chronological).	<b>Science</b> <b>History</b> DT	<b>Science</b> <b>History</b> DT	<b>Science</b> <b>History</b> DT

## Statistics

	Year 3	Year 4	Year 5	Year 6
Statistics: Present and interpret  <u>KS1 expectations:</u> *Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	-interpret and present data using bar charts, pictograms and tables  <b>Spring 2</b>	-interpret and present discrete and continuous data using the appropriate graphical methods, including bar charts and time graphs  <b>Summer 2</b>	-complete, read and interpret information in tables, including timetables  <b>Autumn 2</b>	-interpret and construct pie charts and line graphs and use these to solve problems  <b>Summer 2</b>
Statistics: Solve problems  <u>KS1 expectations:</u> *Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data	-solve one and two-step questions (e.g. 'How many more?' and 'How many fewer?') using information presented in scaled bar charts, pictograms and tables  <b>Spring 2</b>	-solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs  <b>Summer 2</b>	-solve comparison, sum and difference problems using information presented in a line graph  <b>Autumn 2</b>	-calculate and interpret the mean as an average  <b>Summer 2</b>
Cross curricular activities carried out	<b>Science</b> - How tall is General Sherman? <b>History</b> - Ordering dates on time lines (chronological).	<b>Science</b> <b>History</b> DT	<b>Science</b> <b>History</b> DT	<b>Science</b> <b>History</b> DT