

**Mental Maths/Arithmetic (throughout the year):**

**Mental Maths:**

- count in multiples of 6, 7, 9, 25 and 1000
- find 1000 more or less than a given number
- count backwards through zero to include negative numbers
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- order and compare numbers beyond 1000
- round any number to the nearest 10, 100 or 1000
- read Roman numerals to 100 (I to C)
- **recall multiplication and division facts for multiplication tables up to  $12 \times 12$**
- 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
- recognise and use factor pairs and commutativity in mental calculations
- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten
- recognise and write decimal equivalents of any number of tenths or hundredths

**Problem Solving**

Problem solving should be integrated throughout all maths learning as well as lessons where the main focus is on a problem solving objective.

**Method of Solving Problem**

To test a statement by finding as many examples as possible  
To use trial and improvement to solve a problem

**Ways of Recording**

Record my first problem solving ideas, then re-organise them

**Speaking and Listening**

To be able to change my ideas/method after listening to someone else

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Number and place value (~ 3 weeks)</b></p> <p><i>count in multiples of 6, 7, 9, 25 and 1000</i></p> <p><i>find 1000 more or less than a given number</i></p> <p><i>count backwards through zero to include negative numbers</i></p> <p><i>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</i></p> <p><i>order and compare numbers beyond 1000</i></p> <p><i>identify, represent and estimate numbers using different representations</i></p> <p><i>round any number to the nearest 10, 100 or 1000</i></p> <p><b>solve number and practical problems that involve all of the above and with increasingly large positive numbers</b></p> <p><i>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. (include links throughout Romans topic)</i></p> <p><b>Calculation (~3 weeks)</b></p> <p><i>add and subtract numbers with up to 4</i></p>	<p><b>Decimals and measures (~3 weeks)</b></p> <p><i>recognise and write decimal equivalents of any number of tenths or hundredths; recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></i></p> <p><i>find the effect of dividing a one- or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</i></p> <p><i>round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places up to two decimal places</i></p> <p><i>solve simple measure and money problems involving fractions and decimals to two decimal places</i></p> <p><i>Convert between different units of measure [for example, kilometre to metres] measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres estimate, compare and calculate different measures, including money in pounds and pence</i></p> <p><b>Geometry and data (~3 weeks)</b></p>	<p><b>Multiplication, division and fractions (~3 weeks)</b></p> <p><i>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math></i></p> <p><i>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</i></p> <p><i>recognise and use factor pairs and commutativity in mental calculations</i></p> <p><i>multiply two-digit and three-digit numbers by a one digit number using formal written layout</i></p> <p><i>solve problems involving multiplying and adding, including using the distributive law</i></p> <p><i>to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects.</i></p> <p><i>recognise and show, using diagrams, families of common equivalent fractions</i></p> <p><i>solve problems involving increasingly harder fractions to calculate quantities, and fractions</i></p>	<p><b>Number and decimal place value (~ 3 weeks)</b></p> <p>Revisit objectives from Autumn 1 (as needed)</p> <p><i>recognise and write decimal equivalents of any number of tenths or hundredths; recognise and write decimal equivalents to <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math></i></p> <p><i>find the effect of dividing a one- or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</i></p> <p><i>round decimals with one decimal place to the nearest whole number</i></p> <p><i>compare numbers with the same number of decimal places up to two decimal places</i></p> <p><i>solve simple measure and money problems involving fractions and decimals to two decimal places.</i></p> <p><b>Text: Just A Second – comparison book about what can happen in a second/minute/hour</b></p> <p><i>convert between different units of measure (linking to decimals)</i></p> <p><i>count up and down in hundredths; recognise that hundredths arise</i></p>	<p><b>Decimals, time and measures (~ 3 weeks)</b></p> <p><i>Convert between different units of measure [for example, kilometre to metre; hour to minute]</i></p> <p><i>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</i></p> <p><i>find 1000 more or less than a given number (linked to measure)</i></p> <p><i>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</i></p> <p><i>find the area of rectilinear shapes by counting squares</i></p> <p><i>estimate, compare and calculate different measures, including money in pounds and pence</i></p> <p><i>read, write and convert time between analogue and digital 12- and 24-hour clocks</i></p> <p><i>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</i></p> <p><b>Geometry and Statistics (~3 weeks)</b></p> <p>Revisit objectives from</p>	<p><b>Calculation and problem solving</b></p> <p><i>recall multiplication and division facts for multiplication tables up to <math>12 \times 12</math> – Times Tables Graduation Ceremony to celebrate?</i></p> <p>Revisit written methods for four operations, including for decimals.</p> <p><b>Text: The King's Chessboard – problem solving, multiplication, patterns</b></p> <p>Revisit methods for calculating using negative numbers</p> <p><i>solve simple measure, money and time problems using appropriate mental or written methods</i></p> <p>My Money Week - June</p>

<p><i>digits using the formal written methods of columnar addition and subtraction where appropriate</i></p> <p><i>estimate and use inverse operations to check answers to a calculation</i></p> <p><i>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why recall multiplication and division facts for multiplication tables up to 12 x 12</i></p> <p><i>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</i></p>	<p><i>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes (including using venn and carroll diagrams to sort)</i></p> <p><i>identify acute and obtuse angles and compare and order angles up to two right angles by size</i></p> <p><i>identify lines of symmetry in 2-D shapes presented in different orientations</i></p> <p><i>complete a simple symmetric figure with respect to a specific line of symmetry.</i></p> <p><i>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (link to Science – sound)</i></p> <p><i>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs</i></p>	<p><i>to divide quantities, including non-unit fractions where the answer is a whole number</i></p> <p><b>Time and measure problems (~3 weeks)</b></p> <p><i>read, write and convert time between analogue and digital 12- and 24-hour clocks</i></p> <p><i>solve problems involving converting from hours to minutes</i></p> <p><i>minutes to seconds; years to months; weeks to days. (use this as an opportunity to practise mental and written multiplication)</i></p> <p><i>find the area of rectilinear shapes by counting squares (link to multiplication arrays and division facts)</i></p> <p><i>solve simple measure and money problems involving fractions and decimals to two decimal places.</i></p> <p>Revisit graphs and data linked to Science – States of Matter</p>	<p><i>when dividing an object by one hundred and dividing tenths by ten</i></p> <p><b>Calculating (including with fractions and decimals) (~ 3 weeks)</b></p> <p><i>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</i></p> <p><i>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction</i></p> <p><i>where appropriate estimate and use inverse operations to check answers to a calculation</i></p> <p><i>add and subtract fractions with the same denominator</i></p> <p><i>solve simple measure and money problems involving fractions and decimals to two decimal places.</i></p>	<p>Autumn 2 (as needed)</p> <p><i>Pupils continue to classify shapes using geometrical properties, extending to classifying different triangles (for example, isosceles, equilateral, scalene) and quadrilaterals (for example, parallelogram, rhombus, trapezium) describe positions on a 2-D grid as coordinates in the first quadrant</i></p> <p><i>describe movements between positions as translations of a given unit to the left/right and up/down</i></p> <p><i>plot specified points and draw sides to complete a given polygon.</i></p> <p><i>interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</i></p> <p><i>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. (link to science –</i></p>	
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