



## Year 2 Programme of Study for Mathematics - 'Term per page overview' 2019-2020

- The topics in this document should be taught in the order that they are written.
- All objectives should be taught through problem solving and to encourage the development of reasoning and fluency.
- Please refer to the Calculation Policy and other planning documents for further guidance.
- Use the last week of each half term for addressing misconceptions and assessment.

Half term	National Curriculum requirements	
<b>Autumn</b>	<b>1. Number within 100</b>  <b>(2 weeks)</b>  <b>This can start during transition</b>	<ul style="list-style-type: none"> <li>• use place value and number facts to solve problems</li> <li>• recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>• identify, represent and estimate numbers to 100 using different representations, including the number line</li> <li>• compare and order numbers from 0 up to 100; use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs</li> <li>• read and write numbers to at least 100 in numerals and in words</li> <li>• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward</li> </ul>
	<b>2. Add and subtract 2-digit numbers</b>  <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>• show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>• add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers</li> </ul>
	<b>3. Addition and subtraction word problems</b>  <b>(1 weeks)</b>	<ul style="list-style-type: none"> <li>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li> <li>• solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods</li> </ul>
	<b>4. Measuring length</b>  <b>(1 week)</b>	<ul style="list-style-type: none"> <li>• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers and scales</li> <li>• compare and order length and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> </ul>
	<b>5. Money</b>  <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>• find different combinations of coins that equal the same amounts of money</li> <li>• solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> </ul>
	<b>6. Graphs</b>  <b>(1 week)</b>	<ul style="list-style-type: none"> <li>• interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> <li>• ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>• ask and answer questions about totalling and comparing categorical data</li> </ul>
	<b>7. Time</b>  <b>(1 weeks)</b>	<ul style="list-style-type: none"> <li>• tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li>• know the number of minutes in an hour and the number of hours in a day</li> <li>• compare and sequence intervals of time</li> </ul>
	<b>8. Multiplication and division</b>  <b>2, 5 and 10</b>  <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (<math>=</math>) signs</li> <li>• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</li> <li>• show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> <li>• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</li> </ul>



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<b>Spring</b>	<b>9. Exploring calculation strategies</b> <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers</li> <li>solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods</li> </ul>
	<b>10. Money</b> <b>(1 week)</b>	<ul style="list-style-type: none"> <li>recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>find different combinations of coins that equal the same amounts of money</li> <li>solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> </ul>
	<b>11. Fractions</b> <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li>write simple fractions for example, <math>\frac{1}{2}</math> of 6 = 3</li> <li>recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></li> </ul>
	<b>12. Time</b> <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li>know the number of minutes in an hour and the number of hours in a day</li> <li>compare and sequence intervals of time</li> </ul>
	<b>13. Faces, shapes and patterns; lines and turns</b> <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</li> <li>compare and sort common 2-D and 3-D shapes and everyday objects</li> <li>order and arrange combinations of mathematical objects in patterns and sequences</li> <li>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 anticlockwise)</li> <li>begin to draw lines and shapes using a straight edge</li> </ul>
	<b>14. Measuring capacity and volume</b> <b>(1 weeks)</b>	<ul style="list-style-type: none"> <li>compare and order numbers up to 1000. Read and write numbers up to 1000 in numerals (Y3)</li> <li>choose and use appropriate standard units to estimate and measure capacity (litres/ml) and temperature (°C) to the nearest appropriate unit, using scales, thermometers and measuring vessels</li> <li>compare and order volume and capacity and record the results using &gt;, &lt; and =</li> </ul>
	<b>15. Measuring mass</b> <b>(1 week)</b>	<ul style="list-style-type: none"> <li>choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> <li>compare and order mass and record the results using &gt;, &lt; and =</li> </ul>
	<b>16. Addition and subtraction word problems</b> <b>(1 week)</b>	<ul style="list-style-type: none"> <li>recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</li> <li>solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods</li> </ul>



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<b>Summer Term 1 SATS</b>	<b>17. Add and subtract 2-digit and 3-digit numbers</b>  <b>(2 weeks)</b>	<ul style="list-style-type: none"> <li>recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds (Y3)</li> </ul>
	<b>18. Fractions</b>  <b>(1 week)</b>	<ul style="list-style-type: none"> <li>recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li>write simple fractions for example, <math>\frac{1}{2}</math> of <math>6 = 3</math></li> <li>recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></li> </ul>
	<b>19. Time</b>  <b>(1 week)</b>	<ul style="list-style-type: none"> <li>tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li>know the number of minutes in an hour and the number of hours in a day</li> <li>compare and sequence intervals of time</li> </ul>
	<b>20. Measuring length</b>  <b>(1 week)</b>	<ul style="list-style-type: none"> <li>choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers and scales</li> <li>compare and order length and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> </ul>
	<b>21. Faces, shapes and patterns; lines and turns</b>  <b>(1 week)</b>	<ul style="list-style-type: none"> <li>identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</li> <li>compare and sort common 2-D and 3-D shapes and everyday objects</li> <li>order and arrange combinations of mathematical objects in patterns and sequences</li> <li>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 anticlockwise)</li> <li>begin to draw lines and shapes using a straight edge</li> </ul>
	<b>22. Multiplication and division 2x, 5x and 10x</b>  <b>(3x and 4x) Y3</b>  <b>(3 weeks)</b>	<ul style="list-style-type: none"> <li>calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (<math>=</math>) signs</li> <li>solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</li> <li>show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> <li>recall and use multiplication and division facts for 2,5 and 10 and make deductions outside of known facts</li> </ul>