

Year 1 Reception Maths Long Term Plan 2022-2023

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number <b>Place value (within 10)</b>					Number <b>Addition and subtraction (within 10)</b>					Geometry <b>Shape</b>	Consolidation
Spring	Number <b>Place value (within 20)</b>			Number <b>Addition and subtraction (within 20)</b>			Number <b>Place value (within 50)</b>		Measurement <b>Length and height</b>		Measurement <b>Mass and volume</b>	
Summer	Number <b>Multiplication and division</b>			Number <b>Fractions</b>		Geometry <b>Position and direction</b>	Number <b>Place value (within 100)</b>		Measurement <b>Money</b>	Measurement <b>Time</b>		Consolidation

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Strand/ Half-term	Subitising	Cardinality, ordinality and counting	Composition	Comparison	Addition and subtraction/ Number facts
1 <b>Children will:</b>	<ul style="list-style-type: none"> <li>revisit subitising within 5 using perceptual subitising</li> <li>practise conceptual subitising of bigger numbers as they become more familiar with patterns made by the numbers 5–10.</li> </ul>	<ul style="list-style-type: none"> <li>explore the linear number system within 10, looking at a range of ordinal representations</li> <li>explore the link between the 'staircase' pattern and a number track.</li> </ul>	<ul style="list-style-type: none"> <li>focus on the composition of numbers within 10, with a particular emphasis on the composition of numbers 6, 7, 8 and 9 as '5 and a bit', as well as exploring the composition of numbers 5 and 6 in-depth</li> <li>explore the composition of odd and even numbers, identifying that even numbers are made of 2s and odd numbers have 'an extra 1' – they will link this to the 'shape' of these numbers.</li> </ul>		Although children will not be looking at number bonds expressed as equations, their work on the composition of numbers within 10 will be developing their knowledge of number bonds.
2 <b>Children will:</b>	<ul style="list-style-type: none"> <li>continue to practise conceptually subitising numbers they have already explored the composition of.</li> </ul>	<ul style="list-style-type: none"> <li>review the linear number system to 10 as they compare numbers.</li> </ul>	<ul style="list-style-type: none"> <li>continue to explore the composition of the numbers 7–9 in-depth, linking this to their understanding of odd and even numbers</li> <li>explore the composition of 10, developing a systematic approach to finding pairs that sum to 10.</li> </ul>	<ul style="list-style-type: none"> <li>revisit what is meant by 'comparing' and see that quantities can be compared according to different attributes, including numerosity.</li> </ul>	As above.
3	<ul style="list-style-type: none"> <li>continue to practise conceptually subitising numbers they have</li> </ul>		<ul style="list-style-type: none"> <li>review the composition of numbers within 10, linking</li> </ul>	<ul style="list-style-type: none"> <li>compare numbers within 10, linking this to their</li> </ul>	<ul style="list-style-type: none"> <li>develop their recall of number bonds within 10, through the use of</li> </ul>

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<p><b>Children will:</b></p>	<p>already explored the composition of.</p>		<p>these to part-part-whole representations</p> <ul style="list-style-type: none"> <li>practise recalling missing parts for numbers within 10.</li> </ul>	<p>understanding of the linear system</p> <ul style="list-style-type: none"> <li>use the inequality symbol to create expressions, e.g. <math>7 &gt; 2</math>, and use the language of 'greater than' and 'less than'</li> <li>reason about inequalities, drawing on their knowledge of the composition of numbers, e.g. Is this true or false? 3 and 2 is less than 4.</li> </ul>	<p>exercises which use written numerals but not the symbols +, −, or =.</p>
<p><b>4 Children will:</b></p>	<ul style="list-style-type: none"> <li>continue to practise conceptually subitising numbers they have already explored the composition of.</li> </ul>	<ul style="list-style-type: none"> <li>review the linear number system to 10, looking at a range of representations, including a number line</li> <li>explore the use of 'midpoints' to enable them to identify the location of other numbers.</li> </ul>	<ul style="list-style-type: none"> <li>review the composition of odd and even numbers, linking this to doubles and near doubles</li> <li>explore the composition of the numbers 11–20, seeing representations which show the structure of these numbers as 'ten and a bit'.</li> </ul>		<ul style="list-style-type: none"> <li>continue to develop their recall of bonds within 10, through the use of exercises which do NOT involve written equations, such as <math>4 + 3 = ?</math></li> <li>identify doubles and near doubles through visual representations of odd and even numbers.</li> </ul>
<p><b>5 Children will:</b></p>	<ul style="list-style-type: none"> <li>continue to practise conceptually subitising numbers they have already explored the composition of.</li> <li>conceptually subitise numbers within 20 as they become more familiar with the</li> </ul>	<ul style="list-style-type: none"> <li>review the linear number system to 20, looking at a range of representations, including a number line</li> <li>explore the use of 'midpoints' to enable them to identify the</li> </ul>	<ul style="list-style-type: none"> <li>continue to explore representations which expose the composition of numbers within 20.</li> </ul>	<ul style="list-style-type: none"> <li>compare numbers within 20, including questions which use the symbols +, &lt;, &gt;, or =, such as: True or false? <math>10 + 4 &lt; 14</math> <math>10 + 4 = 14</math> <math>10 + 4 &gt; 14</math></li> </ul>	<ul style="list-style-type: none"> <li>develop their fluency in additive relationships within 10, using a range of activities and games</li> <li>draw on their knowledge of the composition of numbers to complete written equations</li> </ul>

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	composition of numbers within 20.	location of other numbers.			<ul style="list-style-type: none"> <li>revisit strategies for addition and subtraction within 10 and apply these to a range of questions, including written equations.</li> </ul>
<p><b>6</b></p> <p><b>Children will:</b></p>	<ul style="list-style-type: none"> <li>continue to use conceptual subitising, especially when using a rekenrek.</li> </ul>		<ul style="list-style-type: none"> <li>apply their knowledge of the composition of numbers, to calculations within 10 and 20.</li> </ul>	<ul style="list-style-type: none"> <li>continue to draw on their knowledge of the relative size of numbers when answering questions using the inequality symbol.</li> </ul>	<ul style="list-style-type: none"> <li>continue to practise recalling additive facts within 20, applying their knowledge of the composition of numbers within 20 and strategies within 10.</li> </ul>

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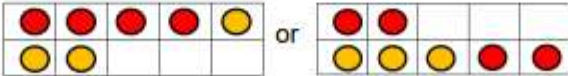
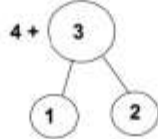
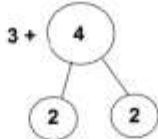
Number and Place Value	Addition and Subtraction	Multiplication and Division
<div style="background-color: #6a3d9a; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core concept: COUNTING and COMPARISON</b> </div> <div style="background-color: #00a0c9; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core skill: SUBITISING</b> </div> <p><b>Numbers to 10</b> recognising dot patterns on dice / dominoes and tens frames.</p> <div style="text-align: center; margin: 10px 0;"> </div> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; margin: 10px 0; text-align: center;"> <p>I can see three and three and one makes seven. Four and one and one and one makes seven.</p> </div> <p><b>Progression</b> Matching patterns where number of dots is equal. Matching patterns where the number of dots is equal but the pattern is arranged differently. Finding dot patterns that are one more or one less than the pattern displayed. Identifying numbers within the whole set of dots (see example above).</p>	<div style="background-color: #6a3d9a; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core concept: COMPARISON</b> </div> <div style="background-color: #00a0c9; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core skill: COUNTING ON and BACK</b> </div> <p>Pupils count on to find the total and difference.</p> <div style="text-align: center; margin: 10px 0;"> </div> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; margin: 10px 0; text-align: center;"> <p>Three and two more equals five. Two fewer than five equals three.</p> </div> <div style="background-color: #6a3d9a; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core concept: CONSERVATION</b> </div> <div style="background-color: #00a0c9; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core skill: REGROUPING</b> </div> <p><b>Part part whole model</b> drawing out an understanding of commutativity.</p> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <p>Pupils to extract fact families from the models and explore commutativity.</p>	<div style="background-color: #6a3d9a; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core concept: UNITISING</b> </div> <p><b>Equal grouping</b> drawing out understanding of repeated addition.</p> <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div> <p style="text-align: center;">and</p> <p style="text-align: center;"><math>2 + 2 + 2 = 6</math></p> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; margin: 10px 0; text-align: center;"> <p>There are three groups of two teddies. Three groups of two equals six.</p> </div>

Year 1  
Numbers to 10

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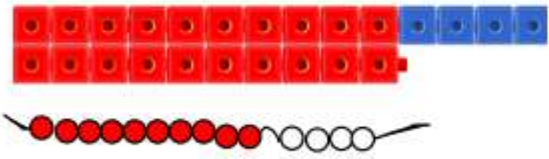
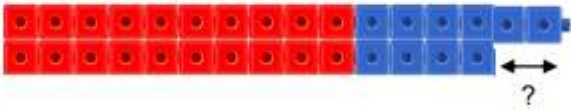
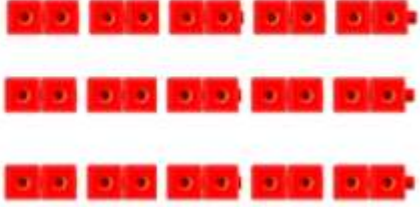
Number and Place Value	Addition and Subtraction	Multiplication and Division										
	<div style="background-color: #0072bc; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core skill: APPLYING THE INVERSE</b> </div> <p><b>Think addition</b> to solve subtraction – leading to greater understanding that if we know one part we can use that to find the unknown part.</p> <p>8 - 3</p> <div style="display: flex; align-items: center; gap: 20px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td style="width: 20px; height: 20px; background-color: red;"></td><td style="width: 20px; height: 20px; background-color: red;"></td><td style="width: 20px; height: 20px; background-color: red;"></td><td style="width: 20px; height: 20px; background-color: red;"></td><td style="width: 20px; height: 20px; background-color: red;"></td></tr> <tr><td style="width: 20px; height: 20px; background-color: yellow;"></td><td style="width: 20px; height: 20px; background-color: yellow;"></td><td style="width: 20px; height: 20px; background-color: yellow;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <div style="text-align: center;"> </div> </div> <div style="text-align: center; margin: 10px 0;"> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; background-color: #fff9e6; width: 30%;"> <p>I can see that eight can be split into three and five.</p> </div> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; background-color: #fff9e6; width: 30%;"> <p>I know that five and three are eight.</p> </div> </div> <div style="text-align: center; margin-top: 20px;"> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; background-color: #fff9e6; width: 60%; margin: 0 auto;"> <p>I can see that five more than three is eight.</p> </div> </div>											<div style="background-color: #0072bc; color: white; padding: 5px; text-align: center; margin-bottom: 10px;"> <b>Core skill: COUNTING ON and BACK</b> </div> <p><b>Skip counting</b> Counting groups of objects with two hands (drawing out understanding of doubles).</p> <div style="text-align: center; margin: 10px 0;"> </div> <p>To include opportunities to count in 2s in several ways.</p> <div style="text-align: center; margin: 10px 0;"> </div> <div style="text-align: center; margin: 10px 0;"> </div> <div style="text-align: right; margin-top: 20px;"> <div style="border: 1px solid orange; border-radius: 50%; padding: 10px; background-color: #f4a460; width: 150px; height: 100px; display: flex; align-items: center; justify-content: center;"> <p style="color: white; text-align: center;">Year 1 Numbers to 10</p> </div> </div>

Year 1 Reception Maths Long Term Plan 2022-2023

Number and Place Value	Addition and Subtraction	Multiplication and Division
	<p style="background-color: #4a4a8a; color: white; padding: 5px; text-align: center;">Core concept: CONSERVATION</p> <p style="background-color: #00838f; color: white; padding: 5px; text-align: center;">Core skill: REGROUPING</p> <p><b>Think 5 for addition</b> using five as a benchmark number.</p> <p><math>4 + 3 =</math></p>  <p style="text-align: center;">can become</p>  <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p><math>4 + 3 =</math></p> <p><math>4 + 1 + 2 =</math> <math>5 + 2 =</math></p> </div> <div style="text-align: center;">  <p><math>3 + 4 =</math></p> <p><math>3 + 2 + 2 =</math> <math>5 + 2 =</math></p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 2px solid orange; border-radius: 50%; padding: 10px; width: 30%; background-color: #fff9c4;"> <p>I know that four and one more is five. I can see that three can be split into one and two. Five and two more is seven.</p> </div> <div style="border: 2px solid orange; border-radius: 50%; padding: 10px; width: 30%; background-color: #fff9c4;"> <p>I know that three and two more is five. I can see that four can be split into two and two. Five and two more is equal to seven.</p> </div> </div>	

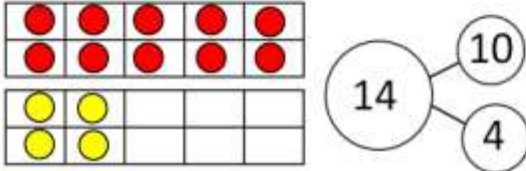
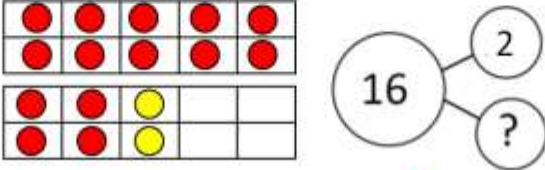
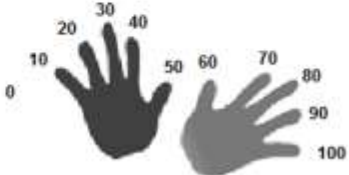
Year 1  
Numbers to 10

Year 1 Reception Maths Long Term Plan 2022-2023

Number and Place Value	Addition and Subtraction	Multiplication and Division
<p><b>Core concept: COMPARISON and PLACE VALUE</b></p> <p><b>Comparing numbers</b> using ten as a benchmark number.</p>  <p> <math>14 - 4 = 10</math>  <math>4 + 10 = 14</math>  <math>10 = 14 - 4</math>  <math>4 = 14 - 10</math> </p> <p>14 is 4 more than 10.            4 more than 10 is 14.            10 is 4 fewer than 14.            10 is 4 fewer than 14 is 4.</p> <p>Explore the language of 'more than' and 'less than' through measures and bar charts.</p>	<p><b>Core concept: COMPARISON</b></p> <p><b>Core skill: COUNTING ON and BACK</b></p> <p><b>Comparison model</b> Pupils to count on to find total and difference.</p>  <p> <math>14 + \square = 16</math>  <math>\square + 14 = 16</math>  <math>16 - 14 = \square</math>  <math>16 - \square = 14</math> </p> <p>14 and 2 more equals 16.            2 fewer than 16 equals 14.</p>	<p><b>Core concept: UNITISING</b></p> <p><b>Equal grouping</b> drawing out the concept of repeated addition.</p>  <p> <math>10 + 10 + 10</math>            3 groups of 10 equals 30         </p> <p>I can see 10 and 10 and 10 makes 30.            3 equal groups of 10 makes 30.            30 can be split into 3 groups of 10.</p>

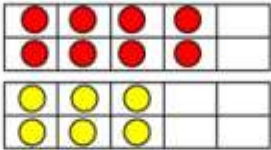
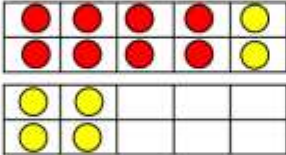
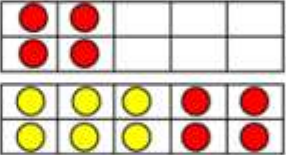
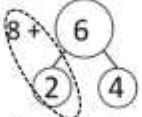
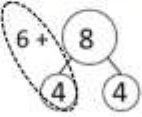
Year 1  
Numbers to 20

Year 1 Reception Maths Long Term Plan 2022-2023

Number and Place Value	Addition and Subtraction	Multiplication and Division
<p><b>Core concept: UNITISING and PLACE VALUE</b></p> <p><b>Core skill: REGROUPING</b></p> <p><b>Regrouping numbers into ten and some more</b> drawing out understanding that ten ones are equal to one ten.</p>  <p>I made 14 into 10 and 4 more. There is 1 ten and 4 ones in the number 14. Here is the ten and here are the 4 more.</p>	<p><b>Core skill: APPLYING THE INVERSE</b></p> <p><b>Think addition</b> to solve subtraction using the comparison or part whole model to identify the missing part.</p> <p><math>16 - 2 = \square</math></p>  <p>I can see that sixteen can be split into fourteen and two.</p> <p>I know that fourteen and two more is sixteen. So 16 subtract two is fourteen.</p>	<p><b>Core skill: COUNTING ON and BACK</b></p> <p><b>Skip counting</b> Counting to include opportunities to count in 5s and 10s in several ways including with coins, tallies and pictograms.</p> 

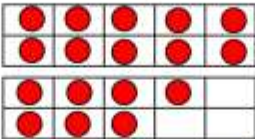


Year 1  
Numbers to 20

Year 1 Reception Maths Long Term Plan 2022-2023

Number and Place Value	Addition and Subtraction	Multiplication and Division
	<p style="text-align: center;"><b>Core concept: CONSERVATION</b></p> <p style="text-align: center;"><b>Core skill: REGROUPING</b></p> <p>Regrouping numbers to 20 leading to <b>'think 10 for addition'</b>. Pupils should experience regrouping either addend.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"><math>8 + 6</math></div>  </div> <p style="text-align: center;">can become</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">or</div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;">  <p><math>8 + 2 + 4 =</math> <math>10 + 4 =</math></p> </div> <div style="text-align: center;">  <p><math>6 + 4 + 4 =</math> <math>10 + 4 =</math></p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; width: 45%; background-color: #fff9c4;"> <p>I know that eight and two more is ten. Four and two make six. So <math>8 + 6</math> can become <math>8 + 2 + 4</math>.</p> </div> <div style="border: 1px solid orange; border-radius: 15px; padding: 10px; width: 45%; background-color: #fff9c4;"> <p>I know that six and four more is ten. Four and four make ten. So <math>6 + 8</math> can become <math>6 + 4 + 4</math>.</p> </div> </div>	

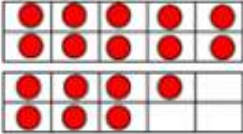
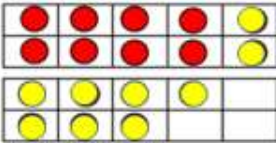
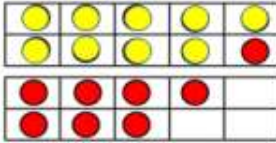
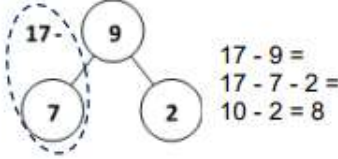
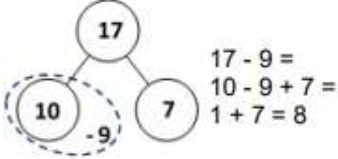
Year 1  
Numbers to 20

Year 1 Reception Maths Long Term Plan 2022-2023

Number and Place Value	Addition and Subtraction	Multiplication and Division
	<p><b>'Think 10 for subtraction'</b> using the minuend or the subtrahend. First with numbers where no bridging through ten is required.</p> <p style="text-align: center;"><math>17 - 3</math></p>  <p>Regrouping the minuend in two ways and recombining the remaining quantity.</p>  <p style="text-align: center;">or</p>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <math>17 - 3 =</math>  <math>7 - 3 + 10 =</math>  <math>4 + 10 = 14</math> </div> <div style="text-align: center;"> <math>17 - 3 =</math>  <math>10 - 3 + 7 =</math>  <math>7 + 7 = 14</math> </div> </div> <div style="border: 2px solid orange; border-radius: 15px; padding: 10px; margin-top: 20px; width: fit-content; margin-left: auto; margin-right: auto;"> <p>I know that 17 can be regrouped into 10 and 7. I can take 3 from either 10 or 7.</p> </div>	

Year 1  
Numbers to 20

Year 1 Reception Maths Long Term Plan 2022-2023


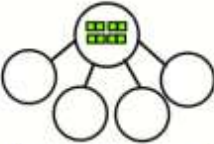
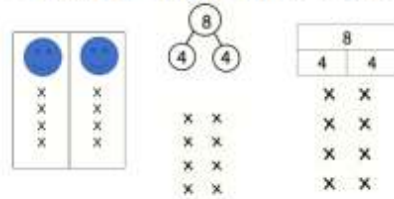

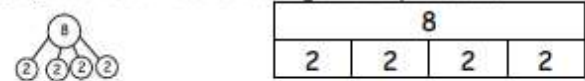
Number and Place Value	Addition and Subtraction	Multiplication and Division
	<p>Then with numbers which would require bridging through ten.</p> <p>For example, <math>17 - 9</math></p>  <p><b>Regrouping the subtrahend</b></p>  <p>or</p> <p><b>Regrouping the minuend</b></p>  <p>  <math display="block">17 - 9 =</math> <math display="block">17 - 7 - 2 =</math> <math display="block">10 - 2 = 8</math> </p> <p>  <math display="block">17 - 9 =</math> <math display="block">10 - 9 + 7 =</math> <math display="block">1 + 7 = 8</math> </p> <p>Nine can be regrouped into 7 and 2. I can take 7 from 17 to leave 10 and then I can use my number bonds to take away 2 more.</p> <p>Seventeen can be regrouped into 10 and 7. Then I can use my number bonds to take 9 from 10. I'm left with 1. Then I add one to seven.</p>	

Year 1  
Numbers to 20

Year 1 Reception Maths Long Term Plan 2022-2023

## Inverse Relationships







### Year One

Notes	Concrete	Visual - moving towards Abstract
<p>Children should work practically to divide by 2, 5 and 10 and draw what they have done in ways that are meaningful to them.</p> <p>Teacher can model using part whole models/bar models, talking about the parts and whole amounts and linking it to multiplication through the discussion.</p> <p>Discuss the idea of equality and give examples where groups are unequal to discuss.</p>	<p><u>Sharing:</u> E.g. I have 8 stickers and I share them between my 2 friends. How many stickers do they get each? Share practically and then explore how it could be shown visually (drawing). Teacher can demonstrate how it would look in a part whole or bar model. Talk about what is the whole amount and what are the parts?</p>  <p><u>Grouping:</u> Problems involving grouping should also be included so children can use practical apparatus to act out the problem. The bus had room for 2 people on each seat. If there were 8 children getting on the bus, how many seats would they fill? Take off 2 children each time to fill a seat and teacher can draw part whole model as doing it. Discuss the whole amount and the parts.</p>  <p>Relate it to everyday problems. Also, give examples solved incorrectly. E.g. Share some cubes out but give one person more than the others. Discuss if this is fair and relate to the idea of equal groups for both sharing and grouping.</p>	<p><u>Sharing:</u> Encourage children to draw the children (stick people or smiley faces) and crosses to represent the objects. Teacher can model recording on part whole or bar models. E.g. 8 shared between 2.</p>  <p>When discussing sharing between 2, make the link to halving. Also, use bar models or part whole models to represent practical situations where sharing is between 5 or between 10.</p> <p><u>Grouping:</u> Encourage children to work through the problem and draw, for example, squares to represent the seats on the bus, then put cubes on them. Eventually it can be recorded with crosses to represent the cubes.</p>  <p>Teacher can model on part whole or bar models but children may use their own drawings to represent.</p> 

Year 1 Reception Maths Long Term Plan 2022-2023




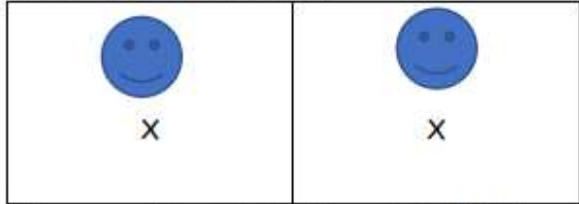
## Year 1 Guidance

### Underlying Skill: Doubling

Notes	Concrete	Visual to support Abstract
<p>Ensure doubles are covered before multiplication.</p> <p>Expectation that children know doubles to 10+10.</p> <p>Lots of singing/ doubles raps/ fingers (for doubles within 10).</p> <p>Vocabulary- 'lots of' etc to be used with doubles.</p> <p>Bridging can also be used to develop mental doubling. (See page 18).</p>	<p>Use a range of concrete apparatus, e.g. Numicon, small world objects to show doubles. Show me double 3 with Numicon, with counters, with teddies etc.</p> <p>Use fingers. Show me 4. Now show me double 4.</p> <p>If <math>5+5=10</math>, what would <math>6+6</math> be? How do you know?</p>  <p>Show doubles in an array. Make one half of the array. Ask children to predict the whole amount and add the other half to check.</p> <p>Include and discuss examples of two numbers that aren't doubles (unequal groups).</p> <p>E.g. Which set shows double 5? How do you know?</p>   <p>Make an even number but hide half under a pot/cover. Show half.</p> <p>Predict how many will there be altogether when remove pot/cover?</p>  <p>Hide half of a snake made of beads or a tower of cubes behind your back.</p> <p>This is half my snake/tower.</p> <p>What does my whole snake/tower look like?</p> <p>(Can play as game in pairs).</p> <p>Dice can be used to double. E.g. Can children quickly say what the double is when shown one die? Can they recognise the doubles dominoes and match them to the total, calculations? etc.</p>	<p>Use dominoes to show a double and ask children to complete picture and answer.</p>  <p>Double 1 = _____</p> <p>Number sentences could be match to dominoes or dominoes drawn to match number sentences. Draw the domino for double 5. How many spots do you think will be on double 6? Explain your thinking.</p> <p>Show one half of an array.</p>  <p>Ask children to imagine then draw the other half and predict what the double will be. Write the addition to match.</p>

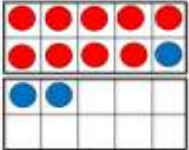

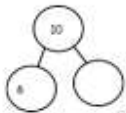
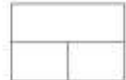
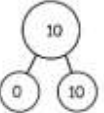
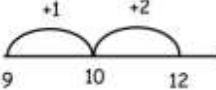
Year 1 Reception Maths Long Term Plan 2022-2023

Underlying Skill: Halving (Numbers)

Notes	Concrete	Visual to support Abstract
<p>This section focuses on those aspects of halving which directly underpin relationships in multiplication. However, halving of objects and shapes must also be covered in Year One.</p> <p>Halving should be explored as sharing equally, but also as breaking/folding in two so that two equal parts result.</p> <p>Ensure halves and doubles are closely linked through practical and visual representations.</p>	<p>Use a range of concrete apparatus to halve initially by sharing in real life contexts and on part whole models and bar models. What is the whole amount? How many parts? What is important about the parts?</p>  <p>Find half of 8. Do you need to share here?</p>  <p>Give cubes in two different colours. Build me a tower that is half white. How can you check it is half white? Practise building and snapping in two to make two equal parts. (Link to taller or longer/shorter). Double sided counters could also be used. Make half red.</p>  <p>This is my tower. What would half my tower look like? Predict how tall your tower will be when snapped in half.</p> <p>Build a tower and hide half behind your back. Show the other half and ask children to tell you how many cubes are in the whole tower.</p> <p>True or false. I can break any tower I make exactly in half?</p> <p>Ask children to prove what they say and begin to predict which towers can't be halved exactly and which will make two equal parts. Can they explain what they found?</p>	<p>Relate problems to everyday life, sharing sweets etc.</p> <p>Begin to record by drawing.</p>  <p>When recording visually, it can be helpful to share in an array so that the equality of the parts when halving is obvious.</p> <p>Children can begin to match a range of number sentences to concrete apparatus and visuals such as part whole models or bar models. E.g. <math>\frac{1}{2}</math> of 10 = Half of 10 = 10 shared between 2 =</p> <p>Children can also make up and solve their own number sentences to match problems and visuals or draw what they did with apparatus to solve problems.</p> <p>E.g. I make a tower. When I halve it, I have 4. How tall is my tower?</p>

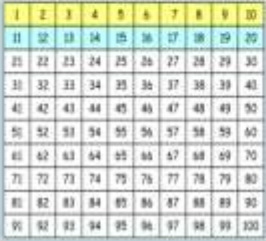
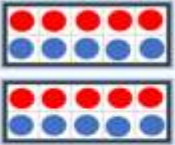
Year 1 Reception Maths Long Term Plan 2022-2023

Underlying Skill: Bonds to 10 (Preparation for Bridging)

Notes	Concrete	Visual to Support Abstract
<p>Reinforce bonds to 10 throughout the year. Predict the pattern when writing numbers that bond to ten as this involves mentally moving the numbers, so is useful to prepare for bridging. When children are secure with number bonds they can move onto bridging with practical equipment, again predicting what will happen when the numbers are moved over to make ten.</p> <p>Bonds can also be constantly practised through songs, rhymes, stories and actions.</p>	<p>Place a range of real objects on part whole and bar models, discussing which is the whole amount and which are the parts. Put 10 counters in the 'whole' of the part whole model and ask children to close their eyes while you split them into the two parts. Hide one part under a tub and ask the children to say how many are hiding. How do they know?</p> <p>Pour out ten double sided counters and find the number sentence to match it, explaining why they chose it. Discuss the different ways children may 'see' it, e.g. 3(red) +7(blue), 3(blue) +7(red), 7(red)+3(blue). Place all the counters the same way up and turn one over at a time. Record systematically, asking the children to predict the next in the sequence. Eg. Turn one over, what will the number sentence be now? (1+9=10). Turn another over, record the number sentence (2+8=10). What do they think the number sentence will be if they turn another counter over? And another? This visualisation requires children to visualise the movement of numbers, so prepares for bridging.</p> <p><u>Bridging</u></p>  <p>Use tens frames alongside number tracks/ 100 squares with cubes placed on top to show how to use the ten as a 'bridge' to rest at instead of counting on in ones. E.g. For 9+3, one of the 3 can be imagined moving onto the tens frame so the calculation becomes 10+2 instead of 9+3. It can then be physically moved. Children can predict what will happen then find out.</p> <p>Begin by adding a single digit to 9, e.g. 9+3, 9+4,9+5 etc. Gradually add to other single digit numbers once confident.</p> 	<p><u>Visual to Support Abstract</u></p>   <p>Fill in missing numbers on part whole models/bar models. Use them to work out the parts and the whole in problems.</p> <p>___ + 6 = 10 6 + ___ = 10 10 = 6 + ___</p> <p>Predict and write the next number sentence each time. E.g. What will happen if we move one across (from the right part to the part on the left)?</p>  <p>0+10=10 1+9=10 2+8=10</p> <p>Explain why one side increases by one each time and the other decreases by one (because one is moving over from one side to the other). Use cubes on bar models or part whole models to show this happening.</p> <p><u>Bridging</u></p> <p>Teacher can also demonstrate on a numbered number line.</p> 


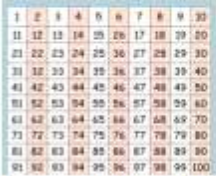

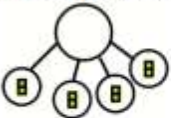
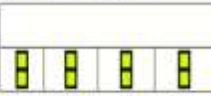
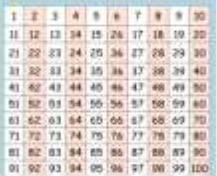
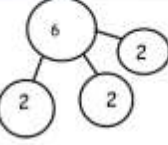
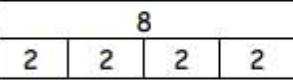
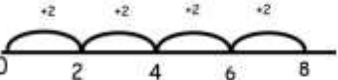
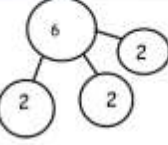
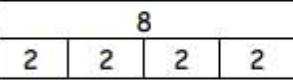
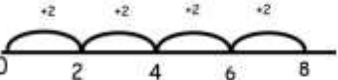
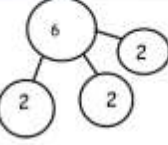
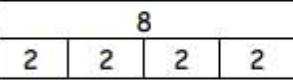
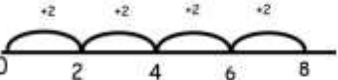
Year 1 Reception Maths Long Term Plan 2022-2023

Underlying Skill: Subtraction from 10/Multiple of 10.

Notes	Concrete	Visual to Support Abstract
<p>Practise counting across the hundred square.</p>	<p>Show in a range of ways: full tens frames, sticks of ten, cubes horizontally across a 100 square etc.</p>   <p>10-2=8. What would 20-2 be?</p> <p>I know 10-4=6. What else do I know?</p> <p>What would 20-6 be? Prove it.</p> <p>What about 30-6?</p>	<p>Write the multiples of ten on an empty 100 square. Use 10-2 to help find 20-2, 30-2 etc and write them in.</p> <p>10-2=8, 20-2=18 30-2=28.</p> <p>What do you notice? What would be next in the pattern?</p> <p>Use flashcards of full tens frames. Use the first to find 10-6. Predict what the number sentence will be when another ten is added and another etc.</p>


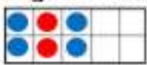
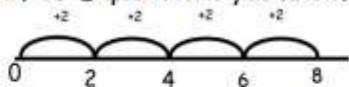
Year 1 Reception Maths Long Term Plan 2022-2023

Counting in Twos- Relationship Between Repeated Addition and Skip Counting.

Notes	Concrete	Visual to Support Abstract		
<p>The Year One curriculum does not state that children must be able to use the multiplication sign, but instead focuses on the concept of repeated addition. To prepare for multiplication, describe repeated addition calculations in terms of how many 'lots of' or how many equal groups, before introducing the <math>\times</math> sign. Songs are also useful.</p>	<p>Give real life problems involving addition of two each time and use apparatus to represent and solve in lots of different ways, e.g. socks, money etc.</p>    <p>Place counters/cubes/ Numicon twos over top of a 100 square. Write or find the repeated addition to match. How many 'lots of' 2?</p> <p>Combine equipment in part whole models and bar models. Explore which are the parts and which is the whole. Predict the whole amount. Give the whole amount and see how many equal groups of two can be made.</p>   <p>True or false - is <math>2 + 2 + 2 = 3</math> lots of 2? Explain.</p> <p>Place twos along the counting stick or number track/number line and mark on the multiples of two. Hide one number for the children to 'guess', explaining how they know. Remove multiples and use to practise counting forwards/backwards from different starting points and to find missing numbers.</p> <p>When children are confident with the concept of repeated addition and describing 'lots of', the multiplication sign can be introduced as a quicker way to express this idea.</p>	<p>Colour to show the pattern. What do you notice?</p>  <p>How many twos are in 20? Circle lots of twos to find out. Show the repeated addition. Circle twos to find a total.</p> <p>Discuss relationships - Which is more - 3 lots of 2 or 5 lots of 2? How do you know? Represent repeated addition visually alongside practical representations. Number sentences could be matched to visuals and visuals to other visuals showing the same calculation. When children are confident with one way of visually recording, begin to encourage them to record practical work in different ways.</p> <table border="1" data-bbox="1429 1098 2011 1407"> <tr> <td data-bbox="1429 1098 1639 1216"> <p>In an array</p> <p>XXXX</p> <p>XXXX</p>  </td> <td data-bbox="1639 1098 2011 1407"> <p>On a bar model</p>   </td> </tr> </table>	<p>In an array</p> <p>XXXX</p> <p>XXXX</p> 	<p>On a bar model</p>  
<p>In an array</p> <p>XXXX</p> <p>XXXX</p> 	<p>On a bar model</p>  			

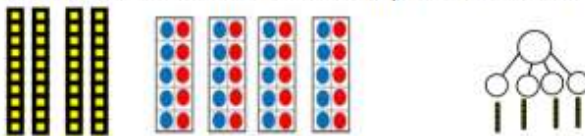
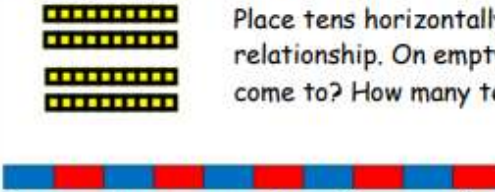

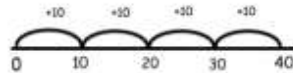
Year 1 Reception Maths Long Term Plan 2022-2023

2x Table: Investigating Relationships (Scaling - Doubles Link).


Notes	Concrete	Visual to Support Abstract
<p>Children should begin to recognise that counting in twos can mean lots of 2 or double the amount/twice as many.</p>	<p>Solve real life problems involving doubles using a range of concrete apparatus.</p> <p>Use arrays to reinforce the link between counting in twos and doubling.</p>  <p>When introducing arrays, make one lot of 2, then two lots of two/2+2 etc so children see the pattern that emerges. Ask them to make the next line in an array and describe it (e.g. or 2+2+2 or three lots of two). Can they predict what the next number sentence will be?</p> <p>Eg. Laura thinks this shows 2 + 2 + 2 + 2 + 2 but Ravi says it shows 5+5. Who is right? Show me with cubes, a tens frame, counters etc.</p> <p>Children can make their own arrays using counters to show 2+2+2 and double 3. What do they notice?</p> <p>Tens frames are also useful to demonstrate the link and for children to begin drawing their own arrays.</p> 	<p>True or false: 2 lots of 5 = 5 lots of 2? Draw an array on a tens frame to prove it.</p> <p>Group spots or crosses within an array to show double 5. Now draw around a duplicate of the array to show 5 lots of 2. Write a number sentence to go with each.</p> <p>Does this number line show 5 lots of 2 or 2 lots of 5? Explain how you know.</p>  <p>Could you draw a number line to represent 2 lots of 5?</p> <p>Match number sentences to visuals or concrete representations.</p>

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Counting in Tens- Relationship Between Repeated Addition and Skip Counting.

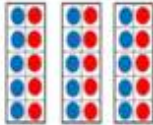
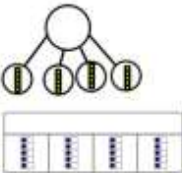
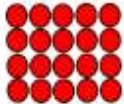

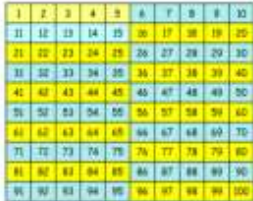
Notes	Concrete	Visual to Support Abstract
<p>Activities are broadly similar to counting in twos. The emphasis is on children becoming confident with the concept of repeated addition and ten times facts, so use the term 'lots of' as well as the x sign, to encourage understanding.</p>	<p>Give real life problems involving repeated addition of ten and use concrete materials to represent and solve. Match apparatus to repeated additions and vice versa. How else could we say it? <math>10+10+10+10</math> or 4 lots of 10.</p>  <p>Place tens horizontally across 100 square to show relationship. On empty 100 square, what would 4 tens come to? How many tens are in 40? Prove it.</p>  <p>Put tens along a counting stick or number line and mark on the multiples of ten. Discuss which numbers would be in between them. Jump in tens along a numbered number line and count up by skip counting on a counting stick. (See page 7). You may want to use a bead bar to begin with, so children can physically see the ones within the tens.</p> <p>True or false: <math>10 + 10 + 10 = 3</math> lots of 10? Make something to show me.</p>	 <p>Colour to show the multiples of ten or to solve problems. E.g. colour to find <math>10+10+10</math>.</p> <p>Write a repeated addition or find a different visual which shows the same calculation. Give out cards with multiples of ten on them. Muddle them up and ask children to reorder and place on an empty number track or line. Which numbers would go in between them? Draw number lines to solve repeated addition or 'lots of' facts. E.g. Draw 4 lots of ten on the number line.</p> 

10x Table- Investigating Relationships

Notes	Concrete	Visual
<p>Activities broadly similar to that of 2x table, as emphasis is on children becoming confident with multiplication facts.</p>	<p>Make arrays (see page 21) to show different multiplication/repeated addition calculations. Use to discuss the commutative property. E.g. Discuss how this can show both <math>10 \times 4</math> and <math>4 \times 10</math> (<math>10+10+10+10</math> or <math>4+4+4+4+4+4+4+4</math>). Match repeated addition and 'lots of' and multiplication calculations to concrete representations and to each other.</p> 	<p>Draw arrays to match repeated additions and vice versa. Circle counters/crosses in arrays to show the number sentence given.</p>

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5x Table- Relationship Between Repeated Addition and Skip Counting

Notes	Concrete	Visual to Support Abstract
<p>Activities broadly similar to counting in twos, as emphasis is on children becoming confident with the concept of repeated addition. See page 21 for introducing arrays.</p>	<p>Use a range of practical apparatus to 'act out' and represent problems. Write the repeated addition to match a representation.</p>  <p>Use 10s frames to help make links between 5s and 10s.</p>  <p>Place cubes in fives on top of a hundred square to show the pattern.</p> <p>Put practical equipment which represents fives (e.g. 5p coins/cubes etc) in part whole models and bar models. Discuss which are the parts and which is the whole. Use to solve repeated addition calculations and also describe in terms of 'lots of.'</p> <p>Make arrays to show different repeated addition calculations. Use to discuss the commutative property.</p>  <p>E.g. Discuss how it can show both 5 lots of 4 and 4 lots of 5, <math>5+5+5+5</math> or <math>4+4+4+4</math>. Match calculations to concrete representations and vice versa.</p> <p>True or false - Is 5 lots of 3 = 3 lots of 5? Explain how you know.</p> <p>Place concrete apparatus along a counting stick and discuss the relationship between repeated addition and skip counting.</p>  <p>Jump in fives along a counting stick and count up by skip counting. (See 'The Counting stick', page 7).</p> <p>Make two sticks of ten and break them in half. How many fives have you got? What do you notice? What do you think will happen with three tens?</p>	<p>Colour in the 100 square to show patterns and make the link between fives and tens visually.</p>  <p>Jump in fives along a numbered number line and count up by skip counting. Match different visual representations (array, bar model, part whole model, number line) to repeated addition and multiplication calculations or calculations to different visuals.</p> <p>True or false: When I count in fives, the numbers I say will always have a five in the ones?</p> <p>Sort cards with 2 digit numbers on them according to whether or not they are a multiple of five, checking with concrete apparatus. Explain what you notice.</p> <p>Predict other numbers that you would say when counting in fives. Put cards on 100 square to check.</p>