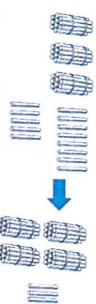

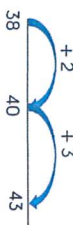

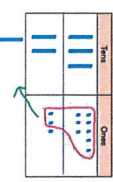
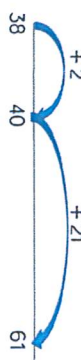
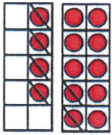



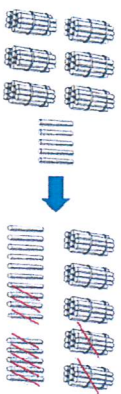

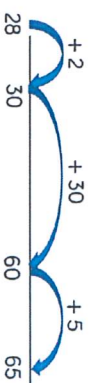
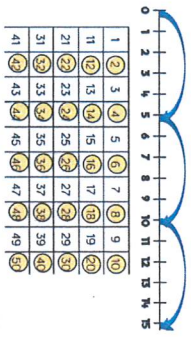

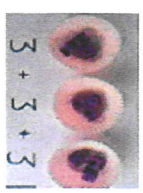

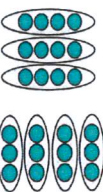
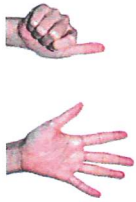
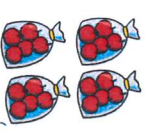


Addition and Subtraction in Year 2

Objective	Using concrete resources	Using pictures	Using mental methods
<p>Adding 1-digit and 2-digit numbers to 100, e.g. $38+5$</p>	<p>When adding single digits to a two-digit number, children could use straws, coins or other place value resources to represent each number. In the example below, the top row of straws shows 38 (3 bundles of ten and 8 straws) and the bottom row shows the 5 straws that are being added. When seeing how many straws there are altogether, children need to make a bundle if there are ten straws.</p> 	<p>When adding single digits to a two-digit number, children should be encouraged to count on from the bigger number. They can use a number line or hundred square or draw their own number line to support them.</p> <p>$38+5=$</p> 	<p>In the example $38+5$, children can count on by starting at the bigger number (38) and using their fingers to count on 5 times. Progressing further, children can jump to the nearest ten and then jumping to the total.</p> <p>$38+5=$</p> 
<p>Adding two 2-digit numbers to 100, e.g. $38+23$</p>	<p>When adding two 2-digit numbers, children could use straws, coins or other place value resources to represent each number. In the example below, the top row of straws shows 38 (3 bundles of ten and 8 straws) and the bottom row shows the 23 straws (2 bundles of ten and 3 straws) that are being added. When seeing how many straws there are altogether, children need to make a bundle if there are ten straws.</p> 	<p>Children can progress to represent numbers with drawings. In the example below, the top row shows 38 (3 rods representing the tens and 8 cubes representing ones) and the bottom row shows the 23 (2 rods and 3 cubes) that are being added. When counting the total, children need to bundle together (by putting a ring around) 10 cubes to make 1 rod.</p> 	<p>Children can also count on to find the total. Encourage them to jump to multiples of ten to become more efficient.</p> <p>$38+23=$</p> 
<p>Subtract one-digit numbers from two-digit numbers e.g. $14-6=$</p>	<p>When subtracting ones from 2-digit numbers, children can represent the starting number with counters and then physically take them away to see how many are left. At this stage, children should practise counting backwards past ten to support them in the transition to calculating mentally.</p> <p>$14-6=$</p> 	<p>Children can use a number track to count backwards from the starting number. In the example $14-6$, they can start at 14 and jump back 6 times. The answer being the number they have landed on. To progress further, children can draw a blank number line, draw 6 jumps backwards and count backwards from the starting number to calculate the answer.</p> 	<p>Children can jump to the nearest ten and then subtract the rest of the number. In the example below ($14-6=$) children can subtract 4 away from 14 to get to 10, leaving 2 more to subtract.</p> <p>$14-6=8$</p>  <p>When the number that is being subtracted is close to the whole number e.g. 11-9, they can find the difference by starting at the smaller number (9) and then counting on to the larger number (11).</p> <p>9</p> 
<p>Subtract two-digit numbers from two-digit numbers e.g. $65-28=$</p>	<p>Children can represent numbers using place value resources e.g. bundles of straws. In the example below, the starting number (65) has been represented by 6 bundles of ten and 5 straws. When subtracting, children first need to subtract the ones (5). If there are not enough straws (there are only 5 straws available), children will need to unbundle a group of ten straws before subtracting. They will then subtract the tens.</p> <p>$65-28=$</p>  <p>At this stage, practise counting back from any 2-digit numbers in lots of e.g. 65, 55, 45, And in jumps of one e.g. 92, 91, 90, 89, ...</p>	<p>Children can draw a blank number line to help them. In the example $65-28$, they start at 65 and count back 8 times (to get to 57) then they count back in tens 2 times to get to 37 so that they have subtracted 28 altogether.</p> <p>$65-28=$</p> 	<p>Progressing further, children can use a blank number line to find the difference between numbers. This can be done by starting at the smaller number and counting on to the larger number. They then add up the parts they have counted on to find the difference between the two numbers.</p> <p>$65-28=$</p> 

Multiplication and Division in Year 2

Objective	Using concrete resources	Using pictures	Using mental methods
Counting in multiples of 2, 3, 5 and 10.	Count daily in multiples, using real objects for support e.g. pairs of socks, marbles in groups of 3 or coins of the same value. Use the vocabulary 'odd' and 'even' when describing objects that are in groups of 2.	Jump forwards in the multiple on a number line or 100 square. Look for patterns e.g. When counting in 5's, it ends in a 5 and 0. Once the multiples are identified, count with and without the resource. 	Count forwards and backwards in multiples, not always starting from 0. Use a number line of 100 square for reference if needed. 0, 5, 10, 15, 20, 25, 30 30, 25, 20, 15, 10, 0 80, 90, 100, 110, 120. 120, 110, 100, 90, 80
Multiplying by 2, 3, 5 and 10	Children are introduced to the multiplication symbol (\times). Refer to the symbol as 'times', 'multiplied by', 'groups of' or 'lots of' e.g. $3 \times 5 =$ '3 lots of 5' or '3 groups of 5'. Use real objects to make groups of the same number. If they are able to, count in the multiple to find the total. If not, count the total one object at a time $3 \times 5 = 15$  $5 + 5 + 5 = 15$ $3 \times 3 = 9$  $3 + 3 + 3 = 9$	Children are to use drawings to represent the groups and the number in each group. e.g. $4 \times 5 = 4$ groups of 5. Children draw 4 groups (represented as rings) and draw 5 counters in each group. They then count in 5's to find the total. $5 + 5 + 5 + 5 = 20$  Children to progress to putting the groups in rows (arrays). They can then be grouped vertically or horizontally to show that the order of the multiplication does not affect the answer. $5 + 5 + 5 + 5 = 20$  $3 \times 4 = 12$ OR $4 \times 3 = 12$	Children are to apply their knowledge of counting in multiples to solve problems involving multiplication. e.g. $6 \times 3 = 6$ lots of 3. Hold up 6 fingers and count in 3's 6 times.  "3, 6, 9, 12, 15, 18" If children know that multiplication can be done in any order, they can choose which multiple to count in. $5 \times 8 =$ $8 \times 5 =$ "I will count in 5's 8 times" Children should be able to remember the 2, 3, 5 and 10 times tables as known facts by the end of Year 2. Children should begin to notice that in the example $20 \div 5 =$, they can count in 5's until they reach the total amount (20), whilst counting on their fingers how many groups of 5 there are in total. "5" (1 finger up), "10" (2 fingers up), "15" (3 fingers up), "20" (4 fingers up), "20 \div 5 = 4" They learn division as the opposite of multiplication and use their learnt times tables facts to help them with division problems. e.g. $20 \div 5 =$ OR $5 \times 5 = 20$ "I know that $4 \times 5 = 20$ so $20 \div 5 = 4$ "
Dividing by 2, 3, 5 and 10.	Children are introduced to the division symbol, which they need to know as 'sharing' and 'grouping'. When sharing, get the whole amount of objects and share them between the number of equal groups until they are all shared. Count the number of objects in each group. e.g. $20 \div 5 = 20$ apples shared between 5 groups. There are 4 apples in each group. When grouping, get the whole amount of objects and put them into groups of the same amount. Count the number of groups there are.  e.g. $20 \div 5 = 20$ apples into groups of 5. There are 4 groups.	When sharing, children first draw the number of equal groups (represented as rings) then share the total amount by drawing dots into alternate groups until they have counted that they have shared the total amount. Count the number of dots in each group. $20 \div 5 = 20$ dots shared between 5 groups. I have drawn 4 dots in each group. When grouping, children start by drawing dots into groups of a number. They then count the total number of groups. e.g. $20 \div 5 = 20$ dots put into groups of 5. I have drawn 4 groups. 