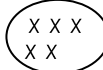
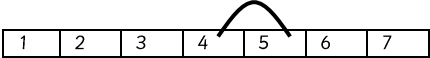
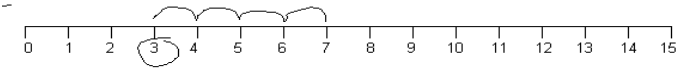
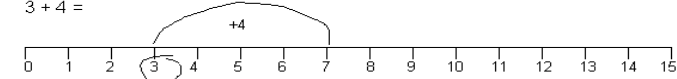
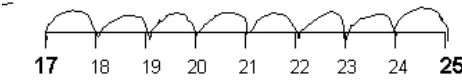
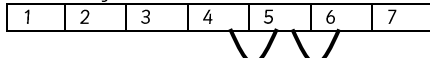
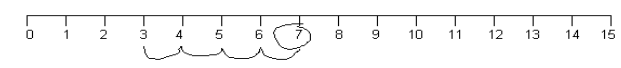
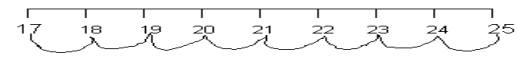



Progression in Written Methods for Addition and Subtraction

Addition	Subtraction
<p style="text-align: center;"><u>Practical activities and picture representations</u></p> <p>E.g. $\begin{array}{cc} X & X \\ X & X \end{array}$ </p> <p>Concrete apparatus models the addition of 3 objects and 2 objects by combining sets. Using number stories to support ideas e.g. I have 3 apples and you have 2 how many do we have altogether?</p> <p style="text-align: center;">Recording story, picture representations and practical equipment as $3 + 2 = 5$</p>	<p style="text-align: center;"><u>Practical activities and picture representations</u></p> <p>E.g. $X \ X \ X \ \bigcirc \ X \ X$</p> <p>Concrete apparatus models the subtraction of 2 objects from five, finding out what is left. Using number stories to support ideas e.g. I have 5 apples and I eat 2 how many are left?</p> <p style="text-align: center;">Recording story, picture representations and practical equipment as $5 - 2 = 3$</p>
<p style="text-align: center;"><u>Use of number tracks and number lines</u> For use when adding a single digit to a number</p> <p>What is 1 more than 4?</p>  <p>Using a number line: U+U</p>  <p>$3 + 4 =$</p>  <p>Using a number line: TU+U E.g. $17 + 8$</p>  <p style="text-align: center;">Recording number statements to support number line work: $17 + 8 = 25$</p>	<p style="text-align: center;"><u>Use of number tracks and number lines</u> For use when adding a single digit to a number</p> <p>6 take away 2</p>  <p>$7 - 4 = 3$</p>  <p>$25 - 8 = 17$</p>  <p style="text-align: center;">Recording number statements number line work to support : $25 - 8 = 17$</p> <p>Find a small difference by counting up $7 - 4 = 4 + \square$ E.g. $7 - 4$ can be done by starting at four and counting up and identifying</p> 
<p style="text-align: center;"><u>Partitioning</u> <u>Expanded Sandwich Method</u></p> <p>$45 + 31 =$</p> $\begin{array}{r} 40 + 5 \\ + 30 + 1 \\ \hline 70 + 6 = 76 \end{array}$ <p>Leading to:</p> $\begin{array}{r} 79 \\ + 32 \\ \hline 11 \\ \hline 100 \\ \hline 111 \end{array}$ <p style="text-align: center;">Extending to using with larger numbers and simple decimals</p>	<p style="text-align: center;"><u>Partitioning - Expanded Decomposition</u> <u>Expanded Sandwich Method</u></p> <p>$75 - 32 = 43$</p> $\begin{array}{r} 70 + 5 \\ - 30 + 2 \\ \hline 40 + 3 \end{array}$ <p>$94 - 37$</p> $\begin{array}{r} 80 \\ 90 \quad 1 \quad 4 \\ - 30 \quad + 7 \\ \hline 50 \quad + 7 = 57 \end{array}$ <p style="text-align: center;">Extending to larger numbers and decimals</p>
<p style="text-align: center;"><u>Compact Column Addition</u> <u>Sandwich Method</u></p> $\begin{array}{r} 79 \\ + 32 \\ \hline 111 \\ \hline 11 \end{array}$	<p style="text-align: center;"><u>Compact Column Subtraction</u> <u>Sandwich Method</u></p> $\begin{array}{r} 6 \quad 13 \quad 1 \\ \cancel{9} \quad \cancel{4} \quad 1 \\ - 2 \quad 5 \quad 9 \\ \hline 4 \quad 8 \quad 2 \end{array}$

