

Number Talks Strategies Posters



Renfrewshire

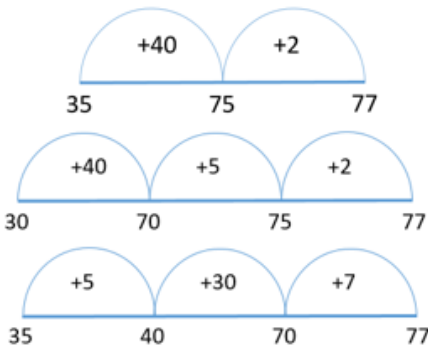
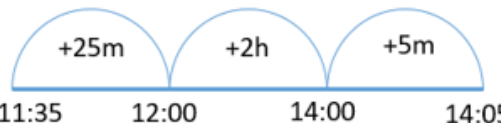


Attainment

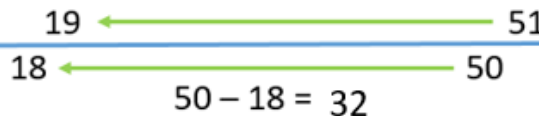


Challenge

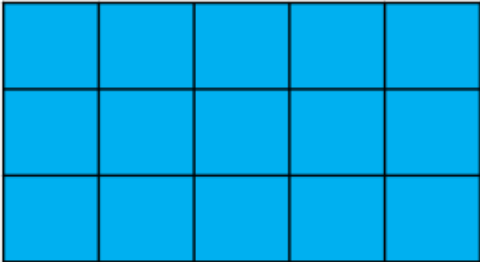
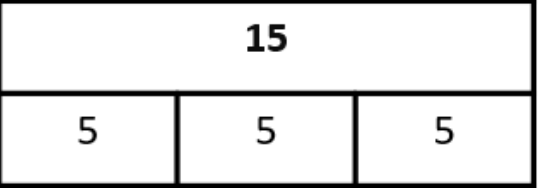
Addition Strategies

<p>Making Tens / Bridging Through Tens</p> $8 + 23$ $\quad 2 \quad 21$ $8 + 2 + 21$ $10 + 21 = 31$	<p>Making Landmark or Friendly Numbers</p> $26 + 49$ $\quad -1 \quad +1$ $25 + 50 = 75$	<p>Doubles / Near Doubles</p> $98 + 99$ $100 - 2 \quad 100 - 1$ $100 + 100 = 200$ $200 - 3 = 197$	<p>Partitioning / Place Value Parts</p> $36 + 22$ $30 \quad 6 \quad 20 \quad 2$ $30 + 20 = 50$ $6 + 2 = 8$ $50 + 8 = 58$
<p>Adding Up in Chunks</p> $35 + 42$  <p>Number line for 35 + 42: 35, 75, 77 (jumps: +40, +2); 30, 70, 75, 77 (jumps: +40, +5, +2); 35, 40, 70, 77 (jumps: +5, +30, +7).</p>	<p>Bridging Through 60 (time)</p> <p>How long between</p> $11:35 - 14:05$  <p>Number line for 11:35 to 14:05: 11:35, 12:00, 14:00, 14:05 (jumps: +25m, +2h, +5m).</p> $2\text{h} + 30\text{m} = 2\text{h}30\text{m}$	<p>Reordering</p> $14 + 9 + 6$ $14 + 6 + 9$ $20 + 9 = 29$	<p>Compensation</p> $18 + 25$ $+ 2$ $20 + 25 = 45$ $45 - 2 = 43$


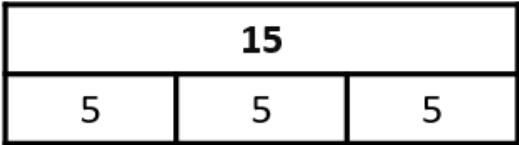
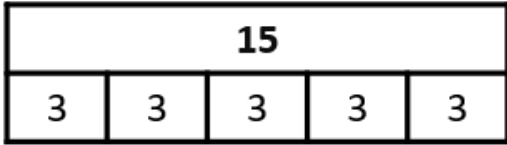
Subtraction Strategies

<p>Adding Up</p> <p>102 - 96</p> <p>96 + <u> </u> = 102 96 + 6 = 102 102 - 96 = 6</p>	<p>Removal / Counting Back</p> <p>43 - 14 10 4</p> <p>43 - 10 = 33 33 - 4 = 29</p>	<p><u>Place Value / Negative Numbers</u></p> <p>57 - 43 50 7 40 3</p> <p>50 - 40 = 10 7 - 3 = 4 10 + 4 = 14</p>	<p>Adjusting One Number to Create an Easier Problem</p> <p>149 - 18 149 + 1</p> <p>150 - 18 = 132 32 - 1 = 31</p>
<p>Keeping a Constant Difference</p> <p>51 - 19 -1 -1</p> <p>51 - 19 = 32</p>  <p>50 - 18 = 32</p>	<p>Reordering</p> <p>75 - 4 - 15</p> <p>75 - 15 - 4 60 - 4 = 56</p>	<p><u>Place Value / Negative Numbers</u></p> <p>53 - 47</p> <p>50 - 40 = 10 3 - 7 = -4 10 - 4 = 6</p> <p><i>Place value should be explored first when regrouping is not required. Use negative numbers only if learners are ready for these ideas – NOT used as a trick.</i></p>	

Multiplication Strategies and Models

<p>Repeated Addition</p> <p>3 x 5</p> <p>$5 + 5 + 5 = 15$</p>	<p>Landmark / Friendly Numbers</p> <p>7 x 9</p> <p>$7 \times 10 = 70$</p> <p>$70 - (1 \times 7)$</p> <p>$70 - 7 = 63$</p>	<p>Partial Products</p> <p>6 x 15</p> <p><i>10 5</i></p> <p>$6 \times 10 = 60$</p> <p>$6 \times 5 = 30$</p> <p>$60 + 30 = 90$</p>	<p>Doubling and Halving</p> <p>4 x 8</p> <p>2×16</p> <p>1×32</p>												
<p>Breaking Factors into Smaller Factors</p> <p>2 x 4 x 25</p> <p>$2 \times 4 \times 5 \times 5$</p> <p>$8 \times 25$</p> <p>This is key to being able to apply the associative property in solving multiplication problems.</p>	<p>Array</p> <p>3 x 5</p> <p><i>Row x Column</i></p> 	<p>Grid Method</p> <p>24 x 14</p> <table border="1" data-bbox="1312 1002 1847 1182"> <tbody> <tr> <td>x</td> <td>10</td> <td>4</td> <td></td> </tr> <tr> <td>20</td> <td>200</td> <td>80</td> <td>280</td> </tr> <tr> <td>4</td> <td>40</td> <td>16</td> <td>56</td> </tr> </tbody> </table> <p>$280 + 56 = 336$</p>	x	10	4		20	200	80	280	4	40	16	56	<p>Bar Model</p> <p>3 x 5</p>  <p>$3 \times 5 = 15$</p>
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4	40	16	56												

Division Strategies and Models

<p>Repeated Subtraction</p> <p>$12 \div 2$</p> <p>$12 - 2 - 2 - 2 - 2 - 2 - 2 = 0$ $\quad 1 \ 2 \ 3 \ 4 \ 5 \ 6$</p> <p>$12 \div 2 = 6$</p>	<p>Partial Quotients</p> <p>$56 \div 4$</p> <p>$40 \div 4 = 10$ $16 \div 4 = 4$ $56 \div 4 = 14$</p> <p>This method can also be supported with arrays/area model using Numicon/Dienes</p>	<p>Multiplying Up</p> <p>$72 \div 4$</p> <p>$4 \times 10 = 40$ $4 \times 8 = 32$ $10 + 8 = 18$</p>	<p>Proportional Reasoning</p> <p>$800 \div 40$</p> <p>$80 \div 4$ $40 \div 2$</p> <p>Using knowledge of relationships between numbers to simplify a problem.</p>
<p>Array / Area Model</p> <p>$15 \div 3$ <i>Total area \div Rows</i></p> <p><u>5</u></p> <p>3 </p>		<p>Bar Model</p> <p>$15 \div 3$ <i>Whole \div Number of parts</i></p> <p></p> <p>$15 \div 3 = 5$</p> <p>$15 \div 3$ <i>Whole \div size of share</i></p> <p></p>	