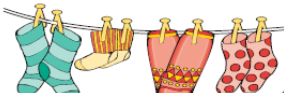

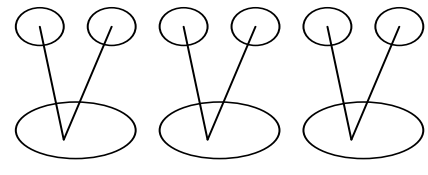
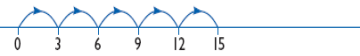

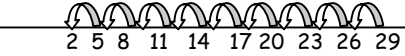
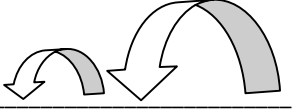

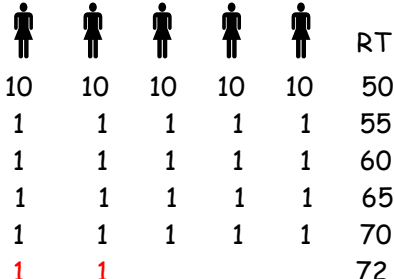


# St John the Baptist, Progression in division

Prerequisite skills and knowledge	Visual models and prompts	Grouping - Number lines	More efficient grouping	Chunking, most efficient method
<p>Understanding of place value</p> <p>Counting on and back in multiples of numbers</p> <p>Division as repeated subtraction.</p> <p>Use arrays to model divisions and related i.e. <math>20/5 = 4</math>, <math>20/4=5</math>, <math>5 \times 4=20</math> etc.</p> <p>Dividing by 0 = 0</p> <p>Times tables facts Build up from 2, 5 and 10; then 3, 4 and 6; finally 7, 8 and 9</p> <p>Partitioning of numbers</p> <p>Begin to relate to fractions <math>\frac{1}{2}</math> is dividing by 2, <math>\frac{1}{4}</math> is dividing by 4</p> <p>Understand principle of moving columns when <math>\times</math> and <math>\div</math> by 10, 100, 100</p> <p><b>Key vocabulary:</b> Divide, share equally, halve, equal groups of, divided by, divided into, divisible by, remainder, factor, quotient,</p>	<p>4 groups of 2 socks = 8 socks</p> <p>8 socks shared between 4 people = 2</p>  <p>There are 6 Easter eggs. They are shared between 3 children how many does each child get?</p> 	<p><b>Grouping:</b></p> <p>There are 6 biscuits. How many children can have two biscuits each?</p>  <p><b>Repeated subtraction on a number line:</b></p> <p>Start at 15 and count back in 3s</p>  <p>How many 3s in 15?</p>  <p><math>15 \div 3 = 5</math></p> <p><b>Repeated subtraction on a number line, with remainders</b></p> <p><math>29 \div 3 = 9</math> remainder 2</p> <p>Count back from starting number in groups of 3</p>  <p>9 groups of 3 and 2 left over</p> <p><math>29 \div 3 = 9</math> remainder 2</p> <p><math>72 \div 5</math></p> <p>Focus around groups of 5 and knowledge of 5x table</p> <p><math>4 \times 5</math>      <math>10 \times 5</math></p> <p>rem 2</p>  <p>0    2      22                      72</p>	<p><b>Stickman method:</b></p> <p><math>82 \div 5 =</math></p>  <p>Count back in 5 groups of 10 Count back in 5 groups of 5 Count back in 5 groups of 1 That is 16 groups of 5 in total. There are none left over, so there is no remainder. The answer to <math>82 \div 5 = 16</math></p> <p><math>72 \div 5 = 14</math> r2</p>  <p><math>72 \div 5</math></p> <p>72</p> <p>-50 (<math>10 \times 5</math>)</p> <p>22</p> <p>20      (<math>4 \times 5</math>)</p> <p>2                      remainder 2</p>	<p><b>Chunking:</b></p> <p><math>6 \overline{)196}</math></p> <p style="margin-left: 20px;">- 60    <math>6 \times 10</math></p> <p style="margin-left: 20px;">136</p> <p style="margin-left: 20px;">- 60    <math>6 \times 10</math></p> <p style="margin-left: 20px;">76</p> <p style="margin-left: 20px;">- 60    <math>6 \times 10</math></p> <p style="margin-left: 20px;">16</p> <p style="margin-left: 20px;">- 12    <math>6 \times 2</math></p> <p style="margin-left: 20px;">4        32</p> <p style="margin-left: 20px;">Answer:    32 R 4</p> <p>So <math>656 \div 16 = 41</math></p> <p><math>16 \overline{)656}</math></p> <p style="margin-left: 20px;">- 160    <math>-16 \times 10</math></p> <p style="margin-left: 20px;">496</p> <p style="margin-left: 20px;">- 160    <math>-16 \times 10</math></p> <p style="margin-left: 20px;">236</p> <p style="margin-left: 20px;">- 160    <math>-16 \times 10</math></p> <p style="margin-left: 20px;">176</p> <p style="margin-left: 20px;">- 160    <math>-16 \times 10</math></p> <p style="margin-left: 20px;">016</p> <p style="margin-left: 20px;">- 016    <math>-16 \times 1</math></p> <p style="margin-left: 20px;">000</p> <p style="text-align: right; margin-right: 20px;">41</p> <p><b>Develop by using more efficient chunks</b></p> <p>320    <math>16 \times 20</math></p> <p>320    <math>16 \times 20</math></p> <p>640</p> <p>16      <math>16 \times 1</math></p> <p>656      <math>\overline{41}</math></p> <p><b>Short division:</b></p> <p><math>81 \div 3 =</math></p> <p style="margin-left: 20px;"><math>3 \overline{)81}</math></p> <p style="margin-left: 20px;">27</p>
				<p>Write down 16 times table if it helps</p> <p><math>1 \times 16 = 16</math></p> <p><math>2 \times 16 = 32</math></p> <p><math>5 \times 16 = 80</math></p> <p><math>10 \times 16 = 160</math></p> <p><math>15 \times 16 = 240</math></p> <p><math>20 \times 16 = 320</math></p> <p><b>Progressing onto Quotient.</b></p> <p>Remainders as decimals and fractions</p>