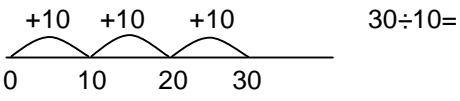
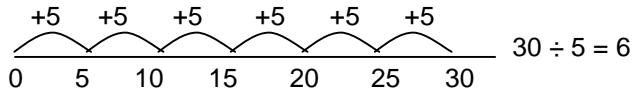
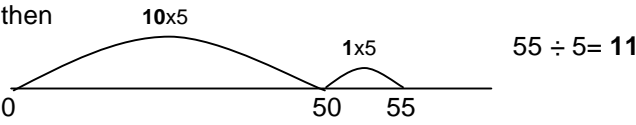
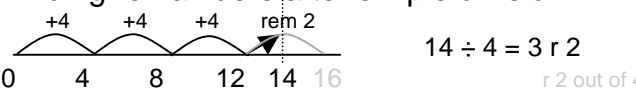
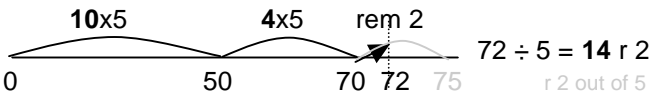
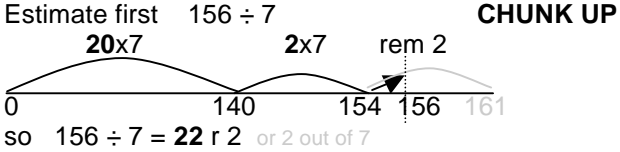
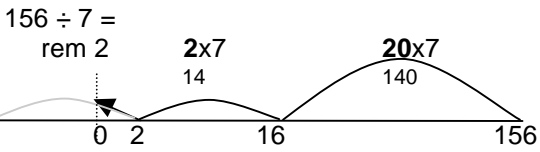
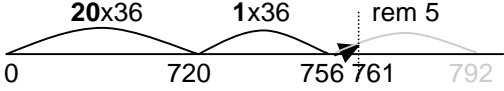
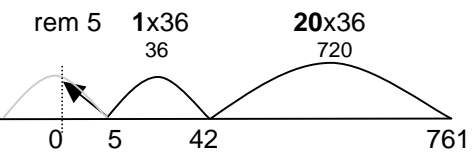


Progression in Maths – Division – CHUNKING 2009

St. Michael's CE (C) Primary School

Year	What will division look like?	Notes
R	<p>Sharing objects equally, such as 6 biscuits are on two plates. How many biscuits are on each plate? Grouping modelled as well i.e. 8 biscuits are put so there are 4 biscuits on each plate. How many plates of biscuits are there?</p>	<p><u>Primary Framework for literacy and mathematics page 92 and 94 and PSRN (foundation stage)</u></p> <p>Sharing and grouping</p>
1	<p>100 square counting up & repeated addition. Counting in 2's and 10's on the counting stick and asking how many 2's are there in... Model examples of grouping and sharing.</p>	<p><u>Primary Framework for literacy and mathematics page 92 and 94</u></p> <p>Counting back in ones, twos, fives and tens Sharing and grouping Introduce the \div symbol</p>
2	<p>Record using the correct division symbols. $6 \div 2 = ?$ $20 \div ? = 2$ $? \div 2 = 8$</p> <p>Vocabulary of division, emphasising grouping i.e. How many groups of 2 are there in 6? Counting on and jumping along a counting stick /number line</p> 	<p><u>Primary Framework for literacy and mathematics page 92 and 94</u></p> <p>Begin to understand division as repeated addition. Recall table facts (see multiplication) Use \times and \div signs Use practical and informal written methods and related vocabulary to support division, including calculations with remainders Related division facts corresponding to the 2, 5 and 10 times tables Use knowledge of number facts and operations to estimate and check answers</p>
3	<p>$36 \div 4 = ?$ $360 \div 4 = ?$</p> <p>$5 \times 6 = 30,$ $30 \div 5 = 6,$ $30 \div 6 = 5$ Repeated addition along a number line.</p>  <p>then</p>  <p>Finding remainders after simple division</p> 	<p><u>Primary Framework for literacy and mathematics page 92 ad 94</u></p> <p>Understand division as grouping, repeated addition. Know what each digit represents Use practical and informal written methods to divide a 2-digit number by a 1-digit number, including calculations with remainders Understand that division is the inverse of multiplication and use this to record related number sentences Related division facts corresponding to the 2, 3,4,5,6 and 10 times tables. Use knowledge of number operations and corresponding inverse, including doubling and</p>

		<p>halving, to estimate and check answers.</p>
<p>4</p>	<p>Estimate first</p> <p>Using appropriate size of steps on a number line</p> 	<p><u>Primary Framework for literacy and mathematics page 93 and 95</u></p> <p>Derive and recall multiplication facts up to 10 x 10 and corresponding division facts</p> <p>Divide any integer up to 1000 by 10 and then 100 (whole number answers), understanding the effect.</p> <p>Begin to use chunking method for TU by U division, including remainders</p> <p>Use knowledge of rounding number operations and inverse to estimate and check answers</p> <p>Use calculator as appropriate, including carrying out 1 and 2 step calculations and interpreting the display in the context of money</p> <p>Approximate answer first. Use a spider of known facts</p> <p>Chunk up using tables facts</p> <p>Possibility of developing partitioning (for checking or estimating.)</p> <p>i.e. $70 \div 5 =$</p> $\begin{array}{r} 50 + 20 \\ (10 \times 5) \text{ and } (4 \times 5) \end{array}$
<p>5</p>	<p>Recognise that division is non-commutative. i.e. $10 \div 2$ is not equal to $2 \div 10$</p> <p>A number cannot be divided by 0.</p> <p>Estimate first $156 \div 7$</p>  <p>so $156 \div 7 = 22 \text{ r } 2$ or 2 out of 7</p> <p>check answer with inverse</p> <p>or when confident introduce CHUNKING BACK as a visual stage before moving to the 'bus shelter'</p> 	<p><u>Primary Framework for literacy and mathematics page 93 and 95</u></p> <p>Recall quickly all multiplication facts to 10 x 10 and derive quickly corresponding division facts</p> <p>Use understanding of place value to divide whole numbers and decimals by 10, 100 and 1000</p> <p>Refine and use efficient written method to include HTU by U, with a remainder.</p> <p>Use knowledge of rounding, place value, number facts and inverse operations to estimate and check answers</p> <p>Use calculator to solve problems (also involving</p>

	<p>so $156 \div 7 = 22 \text{ r } 2$ (Harder to explore 2 of 7 when in to negative numbers)</p> <p>or $\underline{22 \text{ r } 2}$ $\begin{array}{r} 7 \) \ 156 \\ \underline{20 \times 7 \ 140} \\ 16 \\ \underline{2 \times 7 \ 14} \\ 2 \end{array}$</p>	<p>decimals) as appropriate</p> <p>Chunk-up using tables fact</p> <p>Extend number line method to include HTU by U, with an integer remainder</p> <p>Dividing up to 10,000 by 10 / 100</p> <ul style="list-style-type: none"> • Check with inverse operation. • Use of calculator <p>Possibility of developing partitioning (for checking or estimating.)</p> <p>i.e. $168 \div 14 =$ 140 and 28 (10×14) and (2×14)</p>
<p>6</p>	<p>Estimate first $761 \div 36$ CHUNK UP</p>  <p>$761 \div 36 = 21 \text{ r } 5$ or 5 out of 36</p> <p>$761 = 720 + 41$ $= 720 + 36 + 5$ $= (20 \times 36) + (1 \times 36) + 5$ so $761 \div 36 = 21 \text{ r } 5$ check answer with inverse</p> <p>or CHUNK BACK (see Y5) Estimate $761 \div 36$</p>  <p>so $761 \div 36 = 21 \text{ r } 5$ (Harder to explore 5 of 36 when in to negative numbers)</p> <p>or</p> $\begin{array}{r} \underline{21 \text{ r } 5} \\ 36 \) \ 761 \\ \underline{20 \times 36 \ 720} \\ 41 \\ \underline{1 \times 36 \ 36} \\ 5 \end{array}$ <p>so $761 \div 36 = 21 \text{ r } 5$</p>	<p><u>Primary Framework for literacy and mathematics page 93 and 95</u></p> <p>Explain the effect of dividing by 1000</p> <p>Extend number line method to include HTU by TU</p> <p>Use same method for decimals</p> <p>Use efficient written method to divide integers and decimals by a 1-digit integer and HTU by TU</p> <p>Use approximations, inverse operations and tests o divisibility to estimate and check results</p> <p>Appropriate use of a calculator, including solving multi step problems</p> <p>Possibility of developing partitioning (for checking or estimating.)</p> <p>i.e. $400 \div 36 =$ 360 + 40 (10×36) and (1×36)</p>