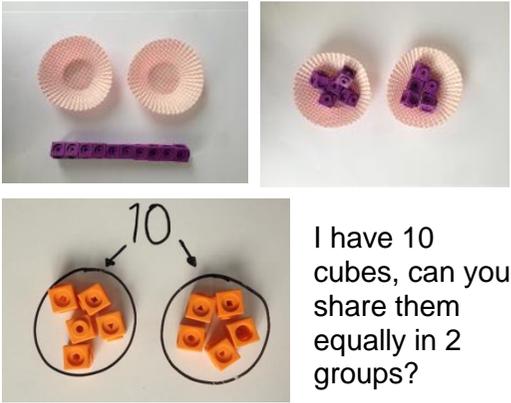
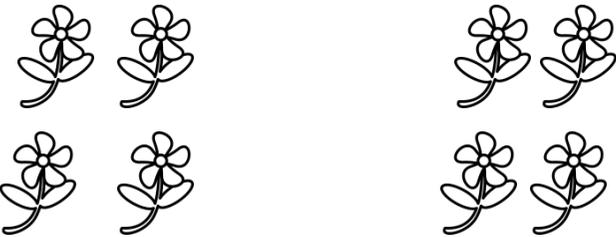
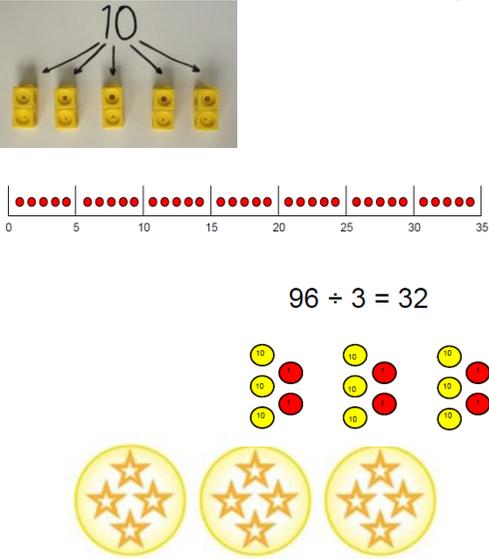
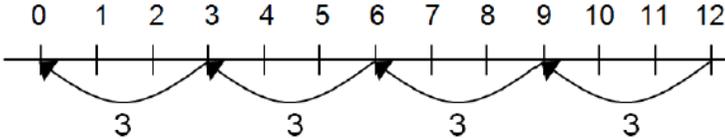
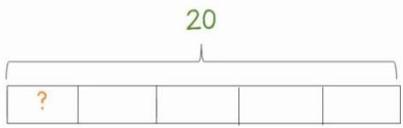


King George V Primary School



Division Calculation Policy

Division

Objective and Strategies	Concrete	Pictorial	Abstract
<p>Year 1 Sharing objects into groups Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p>	 <p>I have 10 cubes, can you share them equally in 2 groups?</p>	<p>Children use pictures or shapes to share quantities.</p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $8 \div 2 = 4$ </div>	<p>Share 9 buns between three people.</p> $9 \div 3 = 3$
<p>Year 2 Division as grouping Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>	<p>Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding.</p>  <p>$96 \div 3 = 32$</p>	<p>Use a number line to show jumps in groups. The number of jumps equals the number of groups.</p>  <p>Think of the bar as a whole. Split it into the number of groups you are dividing by and work out how many would be within each group.</p>  $20 \div 5 = ?$ $5 \times ? = 20$	<p>$28 \div 7 = 4$</p> <p>Divide 28 into 7 groups. How many are in each group?</p>

Year 4 Division through vertical method focussing on grouping

Recall multiplication and division facts for multiplication tables up to 12×12 .

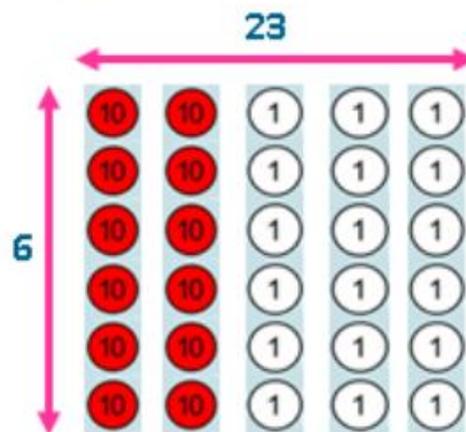
Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Grouping and sharing using place value counters.
Exchanging counters which cannot be grouped.

$$138 \div 6 = 23$$

Hundreds	Tens	Units
100	30	8
	20	18
		18
		18

Result of grouping/sharing counters during 'concrete' stage.



Check using multiplication inverse.

Teach chd vertical method through grouping multiples of the divisor. Examples to include remainders.

$$\begin{array}{r}
 23 \text{ a)} \\
 7 \overline{) 161} \\
 \underline{-70} \quad (10 \times 7) \\
 91 \quad \text{b)} \\
 \underline{-70} \quad (10 \times 7) \\
 21 \quad \text{c)} \\
 \underline{-21} \quad (3 \times 7) \\
 0 \quad \text{d)}
 \end{array}$$

Link to work done on concrete and pictorial learning done previously

Year 5

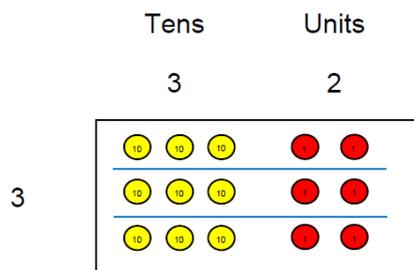
Short division

Pupils start with dividing 4-digit numbers by 2, 3 and 4, where no regrouping is required. Place value counters are used simultaneously in a place value chart, to develop conceptual understanding. They progress to calculations that require regrouping in the hundreds or tens columns. Pupils build on their conceptual knowledge of division to become confident with dividing numbers where the tens digit is smaller than the divisor, extending this to any digit being smaller than the divisor.

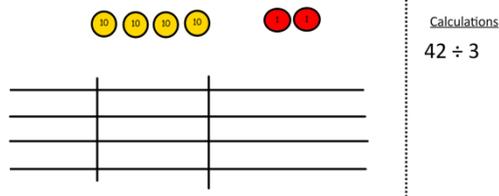
Multiply and divide numbers mentally drawing upon known facts.

Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

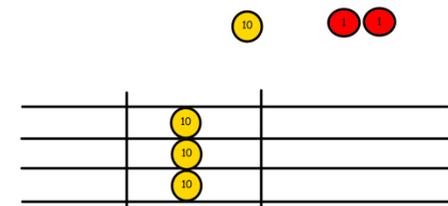
Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.



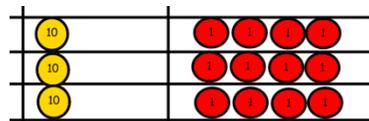
Use place value counters to divide using the bus stop method alongside



$42 \div 3 =$
Start with the biggest place value, we are sharing 40 into three groups. We can put 1 ten in each group and we have 1 ten left over.

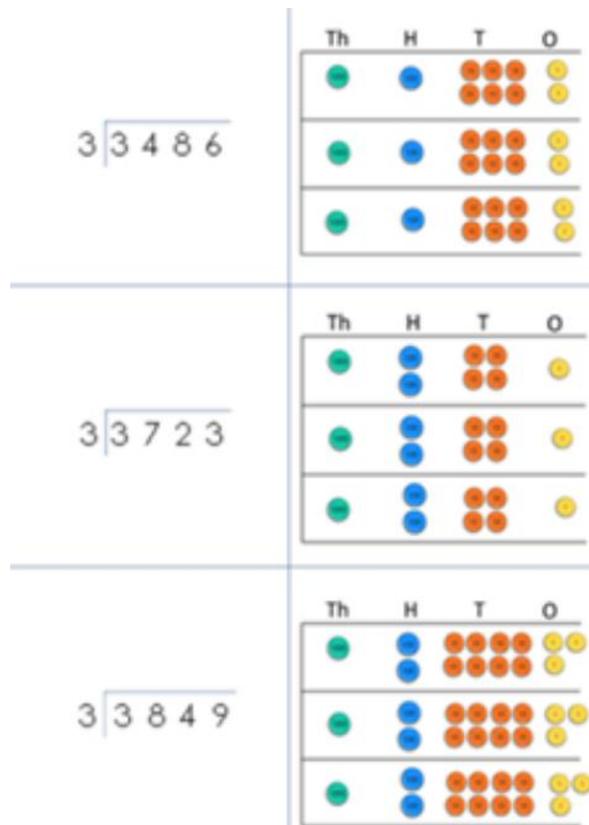


We exchange this ten for ten ones and then share the ones equally among the groups.



We look how much in 1 group so the answer is 14.

Students move onto representing concept learn using concrete apparatus to drawing to represent different values:



Moving onto short division; begin with divisions that divide equally with no remainder.

$$\begin{array}{r} 218 \\ 3 \overline{) 872} \end{array}$$

Move onto divisions with a remainder.

$$\begin{array}{r} 86 \text{ r } 2 \\ 3 \overline{) 432} \end{array}$$

Year 6

Short division

Children to be able to divide so that there are no remainders, going into the decimal values if needed.

Use written division methods in cases where the answer has up to two decimal places.

Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.

Pupils should be encouraged to note down multiples when dividing by a 2 digit number

$$\begin{array}{r} 14.6 \\ 35 \overline{) 511.0} \\ \underline{35} \\ 161 \\ \underline{140} \\ 210 \\ \underline{210} \\ 0 \end{array}$$

35

70

105

140

...