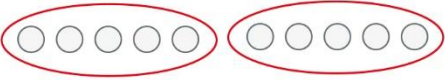
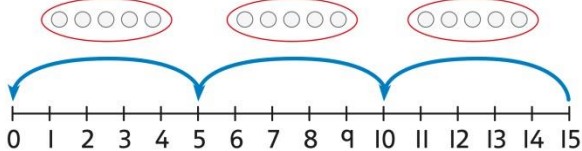
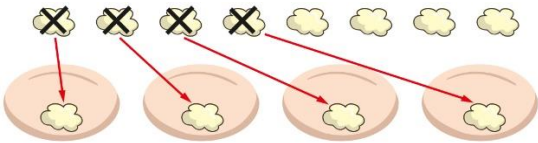
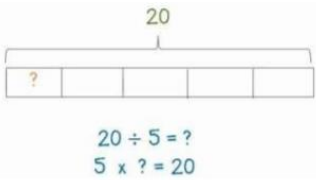
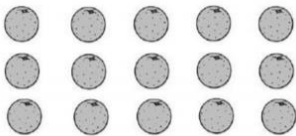
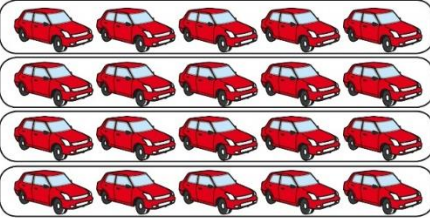
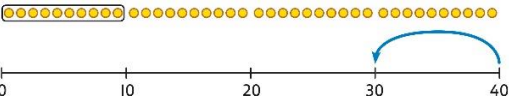
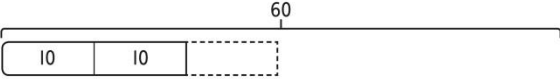
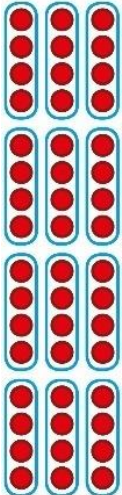
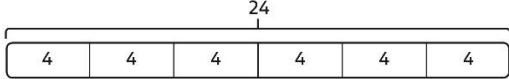
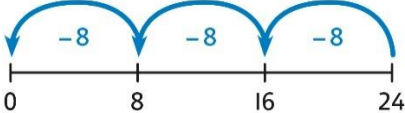
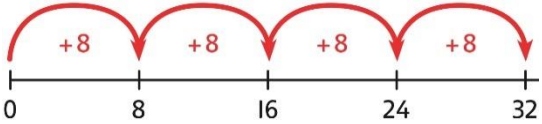
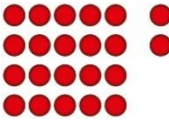
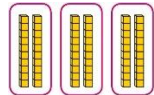
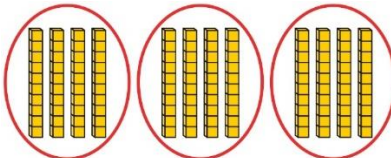
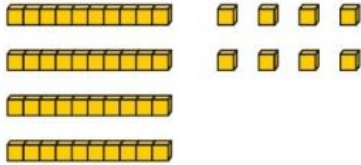
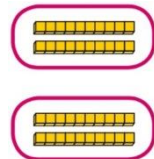
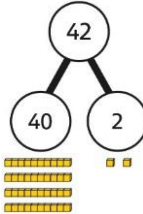
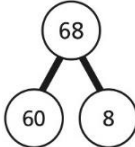


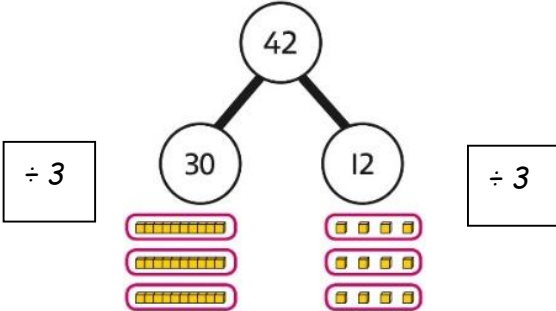
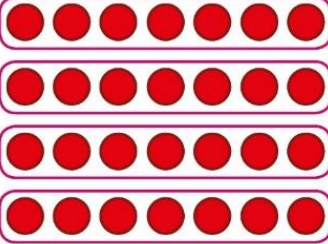
Year 1 Division			
Grouping	Learn to make equal groups from a whole and find how many equal groups of a certain size can be made. Sort a whole set people and objects into equal groups.  There are 10 children altogether. There are 2 in each group. There are 5 groups.	Represent a whole and work out how many equal groups.  There are 10 in total. There are 5 in each group. There are 2 groups.	Children may relate this to counting back in steps of 2, 5 or 10. 
Sharing	Share a set of objects into equal parts and work out how many are in each part. 	Sketch or draw to represent sharing into equal parts. This may be related to fractions. 	10 shared into 2 equal groups gives 5 in each group.
Year 2 Division			
Grouping equally	Understand how to make equal groups from a whole.  8 divided into 4 equal groups. There are 2 in each group.	Use bar modelling to aid solving problems.  20 20 ÷ 5 = ? 5 x ? = 20	How many groups of six are in 24? 24 ÷ 6 = 6
Division using arrays	Link division to multiplication by creating an array and thinking about the number sentences that can be created.  Eg 15 ÷ 3 = 5 5 x 3 = 15 15 ÷ 5 = 3 3 x 5 = 15	Draw an array and use lines to split the array into groups to make multiplication and division sentences. 	Find the inverse of multiplication and division sentences by creating eight linking number sentences. 7 x 4 = 28 4 x 7 = 28 28 ÷ 7 = 4 28 ÷ 4 = 7 28 = 7 x 4 28 = 4 x 7 4 = 28 ÷ 7 7 = 28 ÷ 4

Division

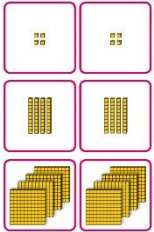
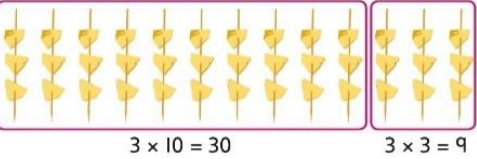
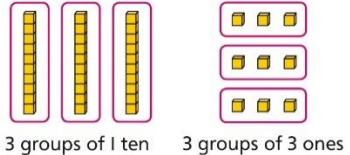
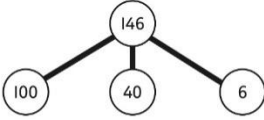
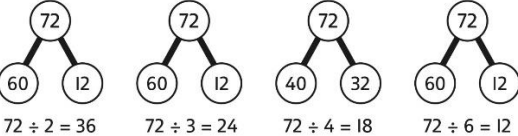
Using known times-tables to solve divisions	Understand the relationship between multiplication facts and division.  4 groups of 5 cars is 20 cars in total. 20 divided by 4 is 5.	Link equal grouping with repeated subtraction and known times-table facts to support division.  40 divided by 4 is 10. Use a bar model to support understanding of the link between times-table knowledge and division. 	Relate times-table knowledge directly to division. $1 \times 10 = 10$ $2 \times 10 = 20$ $3 \times 10 = 30$ $4 \times 10 = 40$ $5 \times 10 = 50$ $6 \times 10 = 60$ $7 \times 10 = 70$ $8 \times 10 = 80$ I used the 10 times-table to help me. $3 \times 10 = 30$. I know that 3 groups of 10 makes 30, so I know that 30 divided by 10 is 3. $3 \times 10 = 30$ so $30 \div 10 = 3$
Year 3 Division			
Using times-tables knowledge to divide	Use knowledge of known times-tables to calculate divisions.  24 divided into groups of 8. There are 3 groups of 8.	Use knowledge of known times-tables to calculate divisions.  $48 \div 4 = 12$ 48 divided into groups of 4. There are 12 groups. $4 \times 12 = 48$ $48 \div 4 = 12$	Use knowledge of known times-tables to calculate divisions. I need to work out 30 shared between 5. I know that $6 \times 5 = 30$ so I know that $30 \div 5 = 6$. A bar model may represent the relationship between sharing and grouping.  $24 \div 4 = 6$ $24 \div 6 = 4$ Children understand how division is related to both repeated subtraction and repeated addition.  $24 \div 8 = 3$ 

			$32 \div 8 = 4$
Understanding remainders	Use equipment to understand that a remainder occurs when a set of objects cannot be divided equally any further.  There are 13 sticks in total. There are 3 groups of 4, with 1 remainder.	Use images to explain remainders.  $22 \div 5 = 4$ remainder 2 Base 10 would be used for larger numbers.	Understand that the remainder is what cannot be shared equally from a set. $22 \div 5 = ?$ $3 \times 5 = 15$ $4 \times 5 = 20$ $5 \times 5 = 25 \dots$ this is larger than 22 So, $22 \div 5 = 4$ remainder 2
Using known facts to divide multiples of 10	Use place value equipment to understand how to divide by unitising. Make 6 ones divided by 3.  Now make 6 tens divided by 3.  What is the same? What is different?	Divide multiples of 10 by unitising.  12 tens shared into 3 equal groups. 4 tens in each group.	Divide multiples of 10 by a single digit using known times-tables. $180 \div 3 = ?$ 180 is 18 tens. 18 divided by 3 is 6. 18 tens divided by 3 is 6 tens. $18 \div 3 = 6$ $180 \div 3 = 60$
2-digit number divided by 1-digit number, no remainders	Children explore dividing 2-digit numbers by using place value equipment.  $48 \div 2 = ?$ First divide the 10s. 	Children explore which partitions support particular divisions.  I need to partition 42 differently to divide by 3.	Children partition a number into 10s and 1s to divide where appropriate.  $60 \div 2 = 30$ $8 \div 2 = 4$ $30 + 4 = 34$ $68 \div 2 = 34$ Children partition flexibly to divide where appropriate. $42 \div 3 = ?$ $42 = 40 + 2$ I need to partition 42 differently to divide

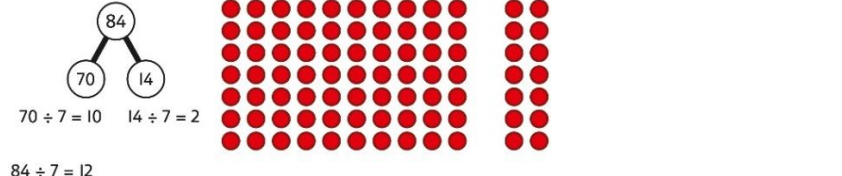
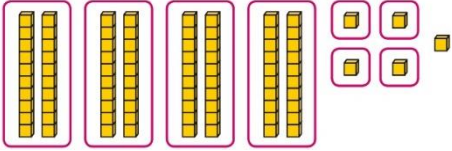
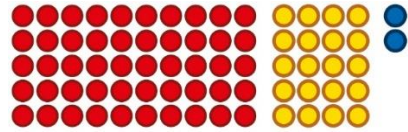
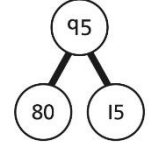
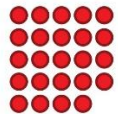
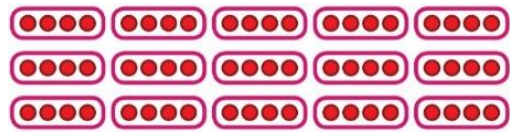
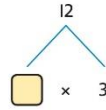
Division

	Then divide the 1s. 	 $42 = 30 + 12$ $42 \div 3 = 14$	by 3. $42 = 30 + 12$ $30 \div 3 = 10$ $12 \div 3 = 4$ $10 + 4 = 14$ $42 \div 3 = 14$ Children may be more likely to understand this process, rather than writing this method out to answer questions.
2-digit number divided by 1-digit number, with remainders	Use place value equipment to understand the concept of remainder. Make 29 from place value equipment. Share it into 2 equal groups.  There are two groups of 14 and 1 remainder.	Use place value equipment to understand the concept of remainder in division. $29 \div 2 = ?$  $29 \div 2 = 14 \text{ remainder } 1$ Children would be encouraged to draw this as soon as they understand the concept so that they can use it during test conditions or when equipment is unavailable.	Partition to divide, understanding the remainder in context. 67 children try to make 5 equal lines. $67 = 50 + 17$ $50 \div 5 = 10$ $17 \div 5 = 3 \text{ remainder } 2$ $67 \div 5 = 13 \text{ remainder } 2$ There are 13 children in each line and 2 children left out.
Year 4 Division			
Understanding the relationship between multiplication and division, including times-tables	Use objects to explore families of multiplication and division facts.  $4 \times 6 = 24$ 24 is 6 groups of 4. 24 is 4 groups of 6. 24 divided by 6 is 4. 24 divided by 4 is 6.	Represent divisions using an array.  $28 \div 7 = 4$	Understand families of related multiplication and division facts. I know that $5 \times 7 = 35$ so I know all these facts: $5 \times 7 = 35$ $7 \times 5 = 35$ $35 = 5 \times 7$ $35 = 7 \times 5$ $35 \div 5 = 7$ $35 \div 7 = 5$

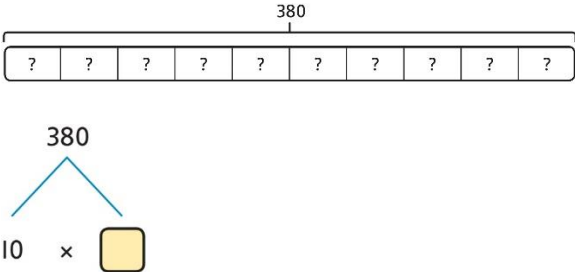
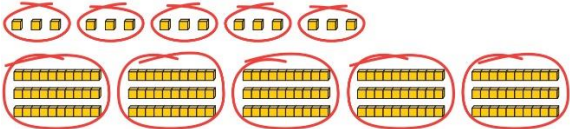
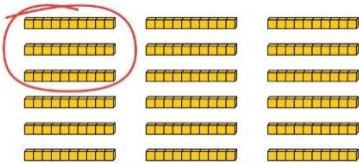
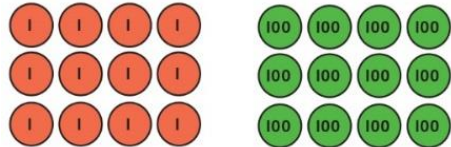
Division

			$7 = 35 \div 5$ $5 = 35 \div 7$
Dividing multiples of 10 and 100 by a single digit	Use place value equipment to understand how to use unitising to divide.  <i>8 ones divided into 2 equal groups 4 ones in each group</i> <i>8 tens divided into 2 equal groups 4 tens in each group</i> <i>8 hundreds divided into 2 equal groups 4 hundreds in each group</i>	Represent divisions using place value equipment. $9 \div 3 = \square$  $90 \div 3 = \square$  $900 \div 3 = \square$  $9 \div 3 = 3$ <i>9 tens divided by 3 is 3 tens.</i> <i>9 hundreds divided by 3 is 3 hundreds.</i>	Use known facts to divide 10s and 100s by a single digit. $15 \div 3 = 5$ $150 \div 3 = 50$ $1500 \div 3 = 500$
Dividing 2-digit and 3-digit numbers by a single digit by partitioning into 100s, 10s and 1s	Partition into 10s and 1s to divide where appropriate. $39 \div 3 = ?$  $3 \times 10 = 30$ $3 \times 3 = 9$ $39 = 30 + 9$ $30 \div 3 = 10$ $9 \div 3 = 3$ $39 \div 3 = 13$	Partition into 100s, 10s and 1s using Base 10 equipment to divide where appropriate. $39 \div 3 = ?$  3 groups of 1 ten 3 groups of 3 ones $39 = 30 + 9$ $30 \div 3 = 10$ $9 \div 3 = 3$ $39 \div 3 = 13$	Partition into 100s, 10s and 1s using a part-whole model to divide where appropriate. $142 \div 2 = ?$  $100 \div 2 = 50$ $40 \div 2 = 20$ $2 \div 2 = 1$ $50 + 20 + 1 = 71$ $142 \div 2 = 71$
Dividing 2-digit and 3-digit numbers by a single digit, using flexible partitioning (need to have a secure understanding of times tables before this can be applied)	Use place value equipment to explore why different partitions are needed. $42 \div 3 = ?$ <i>I will split it into 30 and 12, so that I can divide by 3 more easily.</i>	Represent how to partition flexibly where needed. $84 \div 7 = ?$ <i>I will partition into 70 and 14 because I am dividing by 7.</i>	Make decisions about appropriate partitioning based on the division required.  $72 \div 2 = 36$ $72 \div 3 = 24$ $72 \div 4 = 18$ $72 \div 6 = 12$ Understand that different partitions can be used to complete the same division.

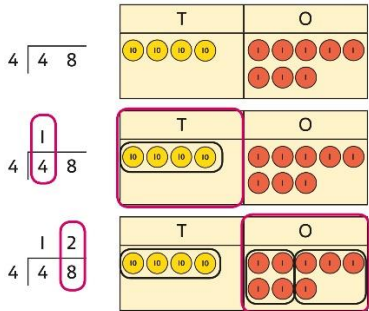
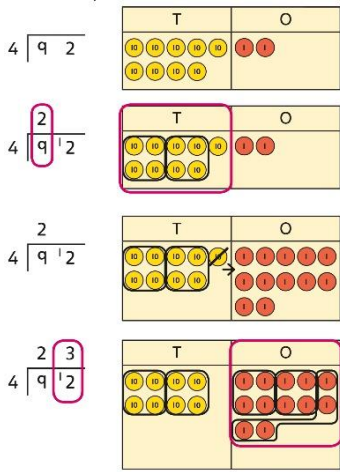
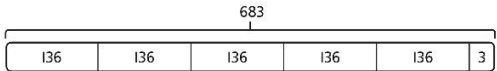
Division

			
Understanding remainders	Use place value equipment to find remainders. <i>85 shared into 4 equal groups</i> <i>There are 24, and 1 that cannot be shared.</i> 	Represent the remainder as the part that cannot be shared equally.  $72 \div 5 = 14 \text{ remainder } 2$	Understand how partitioning can reveal remainders of divisions.  $80 \div 4 = 20$ $12 \div 4 = 3$ $95 \div 4 = 23 \text{ remainder } 3$
Year 5 Division			
Understanding factors and prime numbers	Use equipment to explore the factors of a given number.  $24 \div 3 = 8$ $24 \div 8 = 3$ <i>8 and 3 are factors of 24 because they divide 24 exactly.</i> $24 \div 5 = 4 \text{ remainder } 4.$  <i>5 is not a factor of 24 because there is a remainder.</i>	Understand that prime numbers are numbers with exactly two factors. $13 \div 1 = 13$ $13 \div 2 = 6 \text{ r } 1$ $13 \div 4 = 4 \text{ r } 1$ <i>1 and 13 are the only factors of 13.</i> <i>13 is a prime number.</i>	Understand how to recognise prime and composite numbers. <i>I know that 31 is a prime number because it can be divided by only 1 and itself without leaving a remainder.</i> <i>I know that 33 is not a prime number as it can be divided by 1, 3, 11 and 33.</i> <i>I know that 1 is not a prime number, as it has only 1 factor.</i>
Understanding inverse operations and the link with multiplication, grouping and sharing	Use equipment to group and share and to explore the calculations that are present. <i>I have 28 counters.</i> <i>I made 7 groups of 4. There are 28 in total.</i> <i>I have 28 in total. I shared them equally into 7 groups. There are 4 in each group.</i> <i>I have 28 in total. I made groups of 4. There are 7 equal groups.</i>	Represent multiplicative relationships and explore the families of division facts.  $60 \div 4 = 15$ $60 \div 15 = 4$	Represent the different multiplicative relationships to solve problems requiring inverse operations. $12 \div 3 = \square$ $12 \div \square = 3$ $\square \times 3 = 12$ $\square \div 3 = 12$  Understand missing number problems for division calculations and know how to solve them using inverse operations. $22 \div ? = 2$ $22 \div 2 = ?$ $? \div 2 = 22$

Division

			$? \div 22 = 2$								
Dividing whole numbers by 10, 100 and 1,000	Use place value equipment to support unitising for division. $4,000 \div 1,000$ <i>4,000 is 4 thousands.</i> $4 \times 1,000 = 4,000$ <i>So, $4,000 \div 1,000 = 4$</i>	Use a bar model to support dividing by unitising. $380 \div 10 = 38$  <i>380 is 38 tens.</i> $38 \times 10 = 380$ $10 \times 38 = 380$ <i>So, $380 \div 10 = 38$</i>	Understand how and why the digits change on a place value grid when dividing by 10, 100 or 1,000. <table border="1" data-bbox="1982 367 2377 447"><thead><tr><th>Th</th><th>H</th><th>T</th><th>O</th></tr></thead><tbody><tr><td>3</td><td>2</td><td>0</td><td>0</td></tr></tbody></table> $3,200 \div 100 = ?$ <i>3,200 is 3 thousands and 2 hundreds.</i> $200 \div 100 = 2$ $3,000 \div 100 = 30$ $3,200 \div 100 = 32$ <i>So, the digits will move two places to the right.</i>	Th	H	T	O	3	2	0	0
Th	H	T	O								
3	2	0	0								
Dividing by multiples of 10, 100 and 1,000	Use place value equipment to represent known facts and unitising.  <i>15 ones put into groups of 3 ones. There are 5 groups.</i> $15 \div 3 = 5$ <i>15 tens put into groups of 3 tens. There are 5 groups.</i> $150 \div 30 = 5$	Represent related facts with place value equipment when dividing by unitising.  <i>180 is 18 tens.</i> <i>18 tens divided into groups of 3 tens. There are 6 groups.</i> $180 \div 30 = 6$  <i>12 ones divided into groups of 4. There are 3 groups.</i> <i>12 hundreds divided into groups of 4 hundreds. There are 3 groups.</i> $1200 \div 400 = 3$	Reason from known facts, based on understanding of unitising. Use knowledge of the inverse relationship to check. $3,000 \div 5 = 600$ $3,000 \div 50 = 60$ $3,000 \div 500 = 6$ $5 \times 600 = 3,000$ $50 \times 60 = 3,000$ $500 \times 6 = 3,000$								
Dividing up to four digits by a single	Explore grouping using place value equipment.	Use place value equipment on a place value grid alongside short division.	Use short division for up to 4-digit numbers divided by a single digit.								

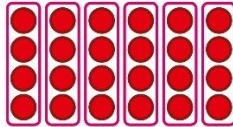
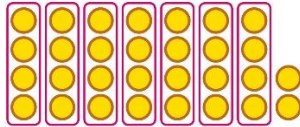
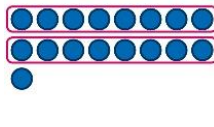
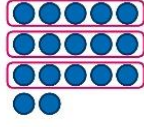
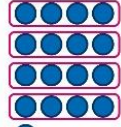
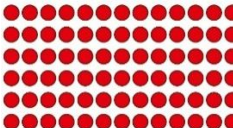
Division

digit using short division	$268 \div 2 = ?$ <i>There is 1 group of 2 hundreds.</i> <i>There are 3 groups of 2 tens.</i> <i>There are 4 groups of 2 ones.</i> $264 \div 2 = 134$	The model uses grouping. A sharing model can also be used, although the model would need adapting.  Lay out the problem as a short division. <i>There is 1 group of 4 in 4 tens.</i> <i>There are 2 groups of 4 in 8 ones.</i> Work with divisions that require exchange.  First, lay out the problem. How many groups of 4 go into 9 tens? 2 groups of 4 tens with 1 ten left over. Exchange the 1 ten left over for 10 ones. We now have 12 ones. How many groups of 4 go into 12 ones? 3 groups of 4 ones.	$\begin{array}{r} 0 \ 5 \ 5 \ 6 \\ 7 \overline{) 3 \ 8 \ 9 \ 2} \end{array}$ $3,892 \div 7 = 556$ Use multiplication to check. $556 \times 7 = ?$ $6 \times 7 = 42$ $50 \times 7 = 350$ $500 \times 7 = 3500$ $3,500 + 350 + 42 = 3,892$
Understanding remainders	Understand remainders using concrete versions of a problem. <i>80 cakes divided into trays of 6.</i> 	Use short division and understand remainders as the last remaining 1s.	In problem solving contexts, represent divisions including remainders with a bar model.  $683 = 136 \times 5 + 3$ $683 \div 5 = 136 \text{ r } 3$

Division

	80 cakes in total. They make 13 groups of 6, with 2 remaining.	6 8 0 <table><tr><th>T</th><th>O</th></tr><tr><td></td><td></td></tr></table> 6 1 8 0 <table><tr><th>T</th><th>O</th></tr><tr><td></td><td></td></tr></table> 6 1 3 2 0 <table><tr><th>T</th><th>O</th></tr><tr><td></td><td></td></tr></table> Lay out the problem as short division. How many groups of 6 go into 8 tens? There is 1 group of 6 tens. There are 2 tens remaining. How many groups of 6 go into 20 ones? There are 3 groups of 6 ones. There are 2 ones remaining.	T	O			T	O			T	O																																													
T	O																																																								
T	O																																																								
T	O																																																								
Dividing decimals by 10, 100 and 1,000	Understand division by 10 using exchange. 2 ones are 20 tenths. 20 tenths divided by 10 is 2 tenths.	Represent division using exchange on a place value grid. <table><tr><th>O</th><th>•</th><th>Tth</th><th>Hth</th></tr><tr><td></td><td></td><td></td><td></td></tr></table><table><tr><th>O</th><th>•</th><th>Tth</th><th>Hth</th></tr><tr><td></td><td></td><td></td><td></td></tr></table><table><tr><th>O</th><th>•</th><th>Tth</th><th>Hth</th></tr><tr><td></td><td></td><td></td><td></td></tr></table> 1.5 is 1 one and 5 tenths. This is equivalent to 10 tenths and 50 hundredths. 10 tenths divided by 10 is 1 tenth. 50 hundredths divided by 10 is 5 hundredths. 1.5 divided by 10 is 1 tenth and 5 hundredths. 1.5 ÷ 10 = 0.15	O	•	Tth	Hth					O	•	Tth	Hth					O	•	Tth	Hth					Understand the movement of digits on a place value grid. <table><tr><th>O</th><th>•</th><th>Tth</th><th>Hth</th><th>Thth</th></tr><tr><td>0</td><td></td><td>8</td><td>5</td><td></td></tr><tr><td>0</td><td></td><td>0</td><td>8</td><td>5</td></tr></table> 0.85 ÷ 10 = 0.085 <table><tr><th>O</th><th>•</th><th>Tth</th><th>Hth</th><th>Thth</th></tr><tr><td>8</td><td></td><td>5</td><td></td><td></td></tr><tr><td>0</td><td></td><td>0</td><td>8</td><td>5</td></tr></table> 8.5 ÷ 100 = 0.085	O	•	Tth	Hth	Thth	0		8	5		0		0	8	5	O	•	Tth	Hth	Thth	8		5			0		0	8	5
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Understanding the relationship between fractions and division	Use sharing to explore the link between fractions and division. 1 whole shared between 3 people. Each person receives one-third.	Use a bar model and other fraction representations to show the link between fractions and division. <table><tr><td></td><td></td><td></td></tr></table> 1 ÷ 3 = $\frac{1}{3}$				Use the link between division and fractions to calculate divisions. $5 \div 4 = \frac{5}{4} = 1\frac{1}{4}$ $11 \div 4 = \frac{11}{4} = 2\frac{3}{4}$																																																			

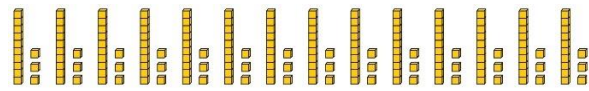
Division

Year 6 Division																																																					
Understanding factors	Use equipment to explore different factors of a number.  $24 \div 4 = 6$  $30 \div 4 = 7 \text{ remainder } 2$ 4 is a factor of 24 but is not a factor of 30.	Recognise prime numbers as numbers having exactly two factors. Understand the link with division and remainders.  $17 \div 2 = 8 \text{ r } 1$  $17 \div 3 = 5 \text{ r } 2$  $17 \div 4 = 4 \text{ r } 1$  $17 \div 5 = 3 \text{ r } 2$	Recognise and know primes up to 100. Understand that 2 is the only even prime, and that 1 is not a prime number. <table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr><tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr><tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr><tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr></table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
1	2	3	4	5	6	7	8	9	10																																												
11	12	13	14	15	16	17	18	19	20																																												
21	22	23	24	25	26	27	28	29	30																																												
31	32	33	34	35	36	37	38	39	40																																												
41	42	43	44	45	46	47	48	49	50																																												
Dividing by a single digit	Use equipment to make groups from a total.  There are 78 in total. There are 6 groups of 13. There are 13 groups of 6.	<table><tr><td>H</td><td>T</td><td>O</td></tr><tr><td>●</td><td>●●●</td><td>●●</td></tr></table> How many groups of 6 are in 100? $\begin{array}{r} 0 \\ 6 \overline{) 1 \ 3 \ 2} \end{array}$ <table><tr><td>H</td><td>T</td><td>O</td></tr><tr><td>●</td><td>●●●●</td><td>●●</td></tr></table> How many groups of 6 are in 13 tens? $\begin{array}{r} 0 \ 2 \\ 6 \overline{) 1 \ 3 \ 2} \end{array}$ <table><tr><td>H</td><td>T</td><td>O</td></tr><tr><td></td><td>●●●●</td><td>●●●●</td></tr></table> How many groups of 6 are in 12 ones? $\begin{array}{r} 0 \ 2 \ 2 \\ 6 \overline{) 1 \ 3 \ 2} \end{array}$	H	T	O	●	●●●	●●	H	T	O	●	●●●●	●●	H	T	O		●●●●	●●●●	Use short division to divide by a single digit. $\begin{array}{r} 0 \\ 6 \overline{) 1 \ 3 \ 2} \end{array}$ $\begin{array}{r} 0 \ 2 \\ 6 \overline{) 1 \ 3 \ 2} \end{array}$ $\begin{array}{r} 0 \ 2 \ 2 \\ 6 \overline{) 1 \ 3 \ 2} \end{array}$ Use an area model to link multiplication and division. $\begin{array}{ c } \hline ? \\ \hline 6 \times ? = 132 \end{array}$ <table><tr><td>10</td><td>10</td><td>1</td><td>1</td></tr><tr><td>60</td><td>60</td><td>6</td><td>6</td></tr></table>$132 = 120 + 12$$132 \div 6 = 20 + 2 = 22$	10	10	1	1	60	60	6	6																								
H	T	O																																																			
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10	10	1	1																																																		
60	60	6	6																																																		
Dividing by a 2-digit number using factors	Understand that division by factors can be used when dividing by a number that is not prime.	Use factors and repeated division. $1,260 \div 14 = ?$ 1,260 $1,260 \div 2 = 630$ $630 \div 7 = 90$ $1,260 \div 14 = 90$	Use factors and repeated division where appropriate. $2,100 \div 12 = ?$ $2,100 \rightarrow \div 2 \rightarrow \div 6 \rightarrow$ $2,100 \rightarrow \div 6 \rightarrow \div 2 \rightarrow$ $2,100 \rightarrow \div 3 \rightarrow \div 4 \rightarrow$ $2,100 \rightarrow \div 4 \rightarrow \div 3 \rightarrow$ $2,100 \rightarrow \div 3 \rightarrow \div 2 \rightarrow \div 2 \rightarrow$																																																		

Division

Dividing by a 2-digit number using long division

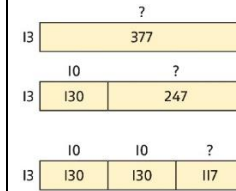
Use equipment to build numbers from groups.



182 divided into groups of 13.
There are 14 groups.

Use an area model alongside written division to model the process.

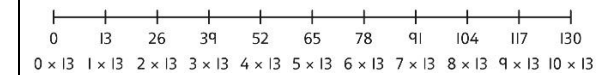
$377 \div 13 = ?$



$$377 \div 13 = 29$$

Use long division where factors are not useful (for example, when dividing by a 2-digit prime number).
Write the required multiples to support the division process.

$377 \div 13 = ?$



$$\begin{array}{r} 13 \overline{) 377} \\ - 130 \\ \hline 247 \\ - 130 \\ \hline 117 \\ - 117 \\ \hline 0 \end{array}$$

$$377 \div 13 = 29$$

A slightly different layout may be used, with the division completed above rather than at the side.

$$\begin{array}{r} 3 \\ 21 \overline{) 798} \\ - 63 \\ \hline 168 \end{array}$$

$$\begin{array}{r} 38 \\ 21 \overline{) 798} \\ \underline{- 63} \\ 168 \\ \underline{- 168} \\ 0 \end{array}$$

Divisions with a remainder explored in problem-solving contexts.

Use knowledge of factors to divide by multiples of 10, 100 and 1,000.

$40 \div 50 = \square$

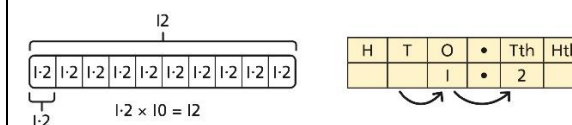
40 $\rightarrow$ $\boxed{\div 10}$ $\rightarrow$ $\boxed{\div 5}$ $\rightarrow$?

$$40 \rightarrow \boxed{\div 5} \rightarrow \boxed{\div 10} \rightarrow ?$$

Dividing by 10, 100 and 1,000

Use place value equipment to explore division as exchange.

Represent division to show the relationship with multiplication. Understand the effect of dividing by 10, 100 and 1,000 on the digits on a place value grid.



H	T	O	•	Tth	Htl
		1	•	2	

Division

	<table><tr><th>O</th><th>.</th><th>Tth</th><th>Hth</th><th>Thth</th></tr><tr><td></td><td></td><td>0.1</td><td>0.01</td><td></td></tr></table> <table><tr><th>O</th><th>.</th><th>Tth</th><th>Hth</th><th>Thth</th></tr><tr><td></td><td></td><td></td><td>0.01</td><td></td></tr></table> Exchange each 0.1 for ten 0.01s. Divide 20 counters by 10. 0.2 is 2 tenths. 2 tenths is equivalent to 20 hundredths. 20 hundredths divided by 10 is 2 hundredths.	O	.	Tth	Hth	Thth			0.1	0.01		O	.	Tth	Hth	Thth				0.01		Understand how to divide using division by 10, 100 and 1,000. $12 \div 20 = ?$ <table><tr><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td></tr></table> <table><tr><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td></tr></table> $12 \div 10 = 1.2$ $1.2 \div 2 = 0.6$	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	$40 \div 5 = 8$ $8 \div 10 = 0.8$ So, $40 \div 50 = 0.8$										
O	.	Tth	Hth	Thth																																																					
		0.1	0.01																																																						
O	.	Tth	Hth	Thth																																																					
			0.01																																																						
1	2	1	2	1	2	1	2	1	2	1	2																																														
1	2	1	2	1	2	1	2	1	2	1	2																																														
Dividing decimals	Use place value equipment to explore division of decimals. <table><tr><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td></tr></table> 8 tenths divided into 4 groups. 2 tenths in each group.	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Use a bar model to represent divisions. <table><tr><td colspan="4">0.8</td></tr><tr><td>?</td><td>?</td><td>?</td><td>?</td></tr></table> $4 \times 2 = 8$ $8 \div 4 = 2$ So, $4 \times 0.2 = 0.8$ $0.8 \div 4 = 0.2$	0.8				?	?	?	?	Use short division to divide decimals with up to 2 decimal places. <table><tr><td>8</td><td>4</td><td>.</td><td>2</td><td>4</td></tr><tr><td></td><td>0</td><td>.</td><td></td><td></td></tr><tr><td>8</td><td>4</td><td>.</td><td>2</td><td>4</td></tr><tr><td></td><td>0</td><td>.</td><td>5</td><td></td></tr><tr><td>8</td><td>4</td><td>.</td><td>2</td><td>2</td><td>4</td></tr><tr><td></td><td>0</td><td>.</td><td>5</td><td>3</td><td></td></tr><tr><td>8</td><td>4</td><td>.</td><td>2</td><td>2</td><td>4</td></tr></table>	8	4	.	2	4		0	.			8	4	.	2	4		0	.	5		8	4	.	2	2	4		0	.	5	3		8	4	.	2	2	4
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1																																																		
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