

Division

Deriving and recalling division facts

Year 1 and Year 2

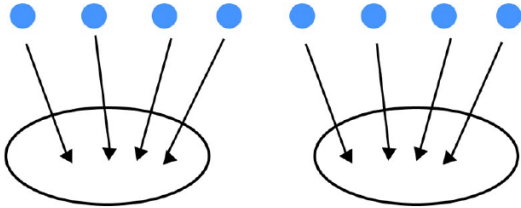

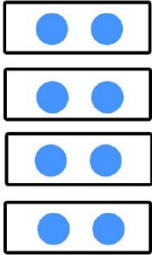
2, 5 and 10 times tables

Year 3

3,4 and 8 times tables

Year 4

To recall multiplication and division facts for multiplication tables up to 12x12

<u>Stages</u>	<u>Examples</u>
<p><u>Stage 1</u></p> <p>Practical sharing in to sets, initially splitting even numbers in to 2 sets only.</p> <p>Children will develop their understanding of division and use jottings to support calculations.</p>	<p>$8 \div 2 =$</p> <p>Sharing equally</p> <p>8 sweets shared between 2 children, how many do they each get?</p> 
<p><u>Stage 2</u></p> <p>Grouping (making sets)</p>	<p>There are 8 sweets, how many children can have 2 sweets each?</p> 
<p><u>Stage 3</u></p> <p>Arrays. Once children have set out the array initially they can circle the sets.</p> <p>Use array for investigation</p> <p>i.e. How many arrays can you find for 12?</p>	<p>$8 \div 2 =$</p> <p>8 shared between 2</p> 

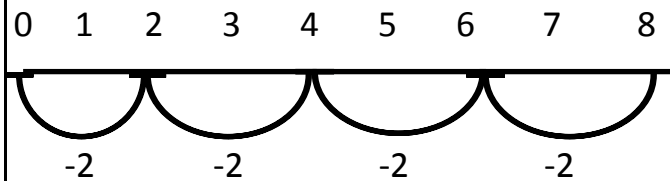
Division

Stage 4

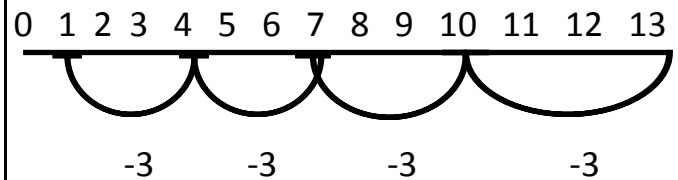
Using a number line for division as repeated subtraction.

Moving on to calculations involving remainders

$$8 \div 2 = 4$$



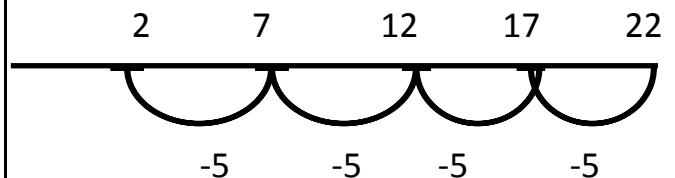
$$13 \div 3 = 4 \text{ r } 1$$



Stage 5a—Chunking on a number line using key facts:

Children will develop their use of repeated subtraction to be able to subtract multiples of the divisor. Initially this should be multiples of 10, 5, 2 and 1—numbers with which the children are more familiar with.

$$22 \div 5 = 4 \text{ r } 2$$



Stage 5b

Moving on to:

Continue to use key facts:

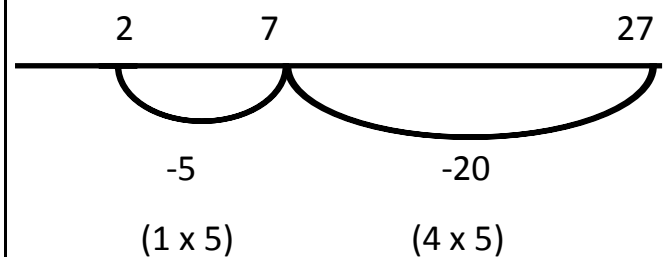
$$1 \times _ =$$

$$2 \times _ =$$

$$5 \times _ =$$

$$10 \times _ =$$

$$27 \div 5 = 5 \text{ r } 2$$



Division

Stage 6

Vertical chunking still using key facts:

$$TU \div U =$$

$$72 \div 3 =$$

$$\begin{array}{r}
 3 \overline{) 72} \\
 - 30 \quad (10 \times 3) \\
 \hline
 42 \\
 - 30 \quad (10 \times 3) \\
 \hline
 12 \\
 - 6 \quad (2 \times 3) \\
 \hline
 6 \\
 - 6 \quad (2 \times 3) \quad 10 + 10 + 2 + 2 \\
 \hline
 0 \\
 \hline
 = 24
 \end{array}$$

Stage 7

$$HTU \div U =$$

Vertical chunking introducing larger multiples of 10.

i.e. continue with key facts moving on to $20 \times _ =$ etc.

$$\begin{array}{r}
 289 \div 8 \quad 8 \overline{) 289} \\
 - 80 \quad 10 \times 8 \\
 \hline
 209 \\
 - 160 \quad 20 \times 8 \\
 \hline
 49 \\
 - 48 \quad 6 \times 8 \\
 \hline
 1 \\
 \hline
 \text{Answer} = 36 \text{ r}1
 \end{array}$$

Stage 8

Long division

How many packs of 36 can we make from 828 biscuits? Start by multiplying 36 by multiples of 10 to get an estimate. As 36×20 is 720 and 36×30 is 1080 so we know it is between 20 and 30 packs. We start subtracting 720 from 828.

$$\begin{array}{r}
 36 \overline{) 828} \\
 - 720 \quad 36 \times 20 \\
 \hline
 108 \\
 - 108 \quad 36 \times 3 \\
 \hline
 0 \\
 \hline
 \text{Answer} = 23
 \end{array}$$

Division

In effect, the previous stage is long division method, though conventionally the digits of the answer are recorded above the line as shown.

$$\begin{array}{r} 23 \\ 36 \overline{) 828} \\ \underline{- 720} \\ 108 \\ \underline{- 108} \\ 0 \end{array}$$

Stage 9

For very capable children teach:

$$\begin{array}{r} 23 \text{ r } 16 \\ 16 \quad 37 \text{ }_54 \end{array}$$