



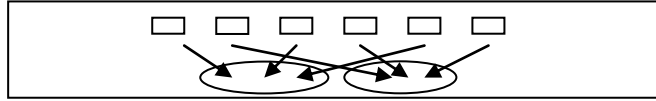
# Division



- Sharing objects into equal groups

- Repeated subtraction/addition

- Discussion and practical activities
- Drawing objects and splitting into groups
- Match numerals to groups



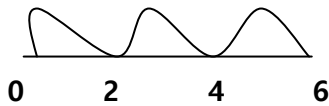
- Write a horizontal sentence along with drawings of groups of objects
- Use  $\div$  sign to indicate sharing/grouping

- Draw arrays (arrangements of dots/marks)
- Write related horizontal calculations.

\* \* \*      \* \* \*       $6 \div 2 = 3$

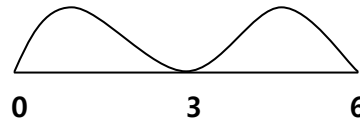
- Regular times table practice begins (see multiplication section)
- Make the connection with the inverse and matching multiplication facts.

- Use a number line to jump forward in groups from 0 to the number being divided into and record the horizontal number sentence to go with it (without remainders)

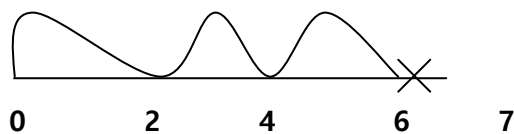


$$6 \div 2 = 3$$

$$6 \div 3 = 2$$



- Use a number line to jump forward in groups from 0 to the number being divided into and record the horizontal number sentence to go with it (with remainders)



$7 \div 2 = 3 \text{ r } 1$

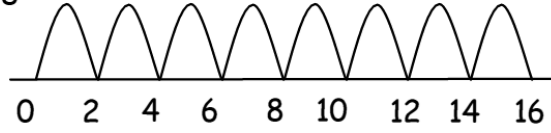
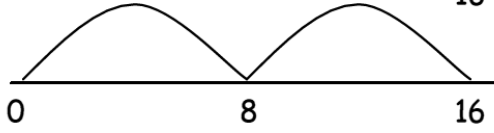
### Vocabulary

- divide
- divided by
- divided into
- how many
- each
- share
- left
- left over
- group
- equally
- goes into
- remainder
- divisible
- factor
- quotient
- inverse

This method can also be used with larger numbers

$$16 \div 8 = 2$$

$$16 \div 2 = 8$$



Make estimates for calculations

Regular times table practice (with associated division facts)



Place value understanding *is* needed to count **on** in multiples of the divisor.

For many pupils, the addition of an 'I Know' box can be very beneficial.

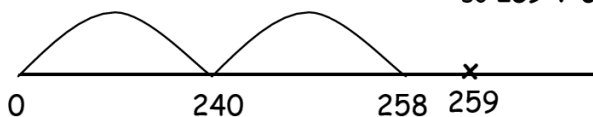
<p><b>I Know</b></p> <p>6 x 10 = 60</p> <p>6 x 20 = 120</p> <p>6 x 30 = 180</p> <p>6 x 40 = 240</p> <p>6 x 50 = 300</p> <p>(too many)</p> <p>so I will use</p> <p>6 x 40</p>
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$$259 \div 6 =$$

$$6 \times 40 = 240$$

$$6 \times 3 = 18$$

$$\text{so } 259 \div 6 = 43 \text{ r } 1$$



Make estimates for calculations

Regular times table practice (with associated division facts)

Link to informal written method

$$94 - 5 = 18 \text{ r } 4$$

$$\begin{array}{r} 94 \\ - 50 \quad (10 \times 5) \\ \hline 44 \\ - 40 \quad (8 \times 5) \\ \hline 4 \end{array}$$

Begin compact short division, move onto remainders

$$96 \div 6 = 16$$

$$\begin{array}{r} 6 \overline{) 96} \\ - 60 \quad (10 \times 6) \\ \hline 36 \\ - 36 \quad (6 \times 6) \\ \hline 0 \end{array}$$

Continue with compact short division

$$972 - 36 = 27$$

$$\begin{array}{r} 36 \overline{) 972} \\ - 720 \quad (20 \times 36) \\ \hline 252 \\ - 252 \quad (7 \times 36) \\ \hline 0 \end{array}$$

The remainder can be written as a fraction (simplifying fractions where possible and then using equivalent decimals)

$$674 \div 6 = 112 \text{ r } 2 = 112 \frac{2}{6} = 112 \frac{1}{3}$$

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$$3786 \div 4 = 946 \text{ r } 2 = 946 \frac{2}{4} = 946 \frac{1}{2} = 946.5$$

Extend to decimals

$$87.5 - 7 = 12.5$$

$$\begin{array}{r} 7 \overline{) 87.5} \\ \underline{- 70.0} \quad (10 \times 7) \\ 17.5 \\ \underline{- 14.0} \quad (2 \times 7) \\ 3.5 \\ \underline{- 3.5} \quad (0.5 \times 7) \\ 0.0 \end{array}$$

Or, if appropriate cancel out the decimal e.g.  $87.5 - 7$  becomes  $875 - 70$

Please note:

- Use of any method is appropriate depending on the type of calculation.
- Practise choosing the most appropriate method for a variety of calculations.
- Apply methods learnt and use confidently in a range of situations
- Ongoing consolidation of times tables and related division facts
- Instant recall of 2, 5, 10, 3, 4, 6, 7, 8, 9 times tables (usually in that order)

