

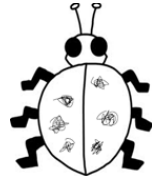
**Stage 1**

Children are encouraged to develop a mental image of the number system in their heads to use for calculation. They should experience practical calculation opportunities involving **equal groups** and **equal sharing**.



They may develop ways of recording calculations using pictures.

A child's jotting showing halving six spots between two sides of a ladybird.



A child's jotting showing how they shared the apples at snack time between two groups.

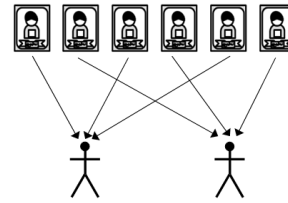


**Stage 2**

Children explore practical contexts where they share equally and group equally.  $6 \div 2 = ?$

**Equal sharing (6 shared equally between 2)**

6 football stickers are shared equally between 2 people, how many do they each get? Children may solve this by using a 'one for you, one for me' strategy until all of the stickers have been given out.



**Equal grouping (How many groups of 2 are there in 6?)**

There are 6 football stickers, how many people can have 2 stickers each?



**Stage 3**

Children continue to use practical equipment to represent division calculations as grouping (repeated subtraction) and use jottings to support their calculation.

$12 \div 3 = ?$  Children begin to read this calculation as, 'How many groups of 3 are there in 12?'



At this stage, children will also be introduced to division calculations that result in remainders.

$13 \div 4 = 3$  remainder 1



**Stage 4**

$43 \div 8$



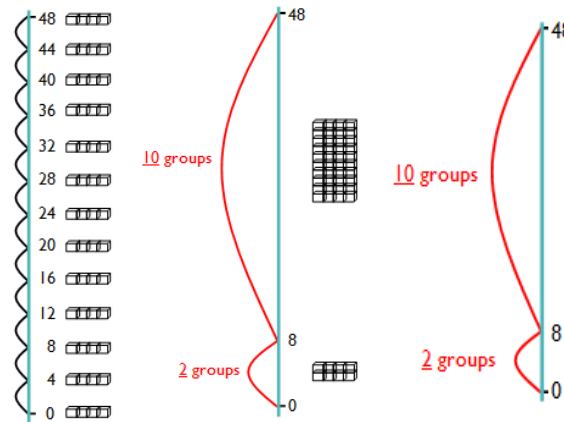
$43 \div 8 = 5$  remainder 3

At this stage, children also learn if the remainder should be rounded up or down e.g.  $62 \div 8 = 7$  remainder 6

I have 62p. Sweets are 8p each. How many can I buy?  
 Answer: 7 (the remaining 6p is not enough for another sweet)  
 Apples are packed into boxes of 8. There are 62 apples. How many boxes do I need?  
 Answer: 8 (the remaining 6 apples still need to be placed into a box)

**Stage 5**

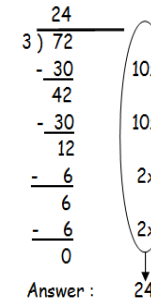
The previous method of repeated subtraction on a number line is continued, but using a vertical number line alongside practical equipment. The repeated subtraction is made more efficient by subtracting 'chunks' of the divisor.



**Stage 6**

This is the 'chunking' method of division in which children use key facts of the multiplication tables of the divisor.

$72 \div 3$



|     |    |
|-----|----|
| 1x  | 3  |
| 2x  | 6  |
| 5x  | 15 |
| 10x | 30 |

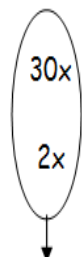
Children should write key facts in a menu box. This will help them in identifying the largest group they can subtract in one chunk.

Answer : 24

**Stage 7** During this stage children should become more efficient when using the chunking method by not having any subtraction steps that repeat a previous step. For example, when performing  $196 \div 6$  an initial subtraction of 60 ( $10 \times 6$ ) and two further subtractions of 60 ( $10 \times 6$  each) should be changed to a single subtraction of 180 ( $30 \times 6$ ).

$$196 \div 6$$

$$\begin{array}{r} 32 \text{ r } 4 \\ 6 \overline{) 196} \\ - 180 \\ \hline 16 \\ - 12 \\ \hline 4 \end{array}$$



|     |     |
|-----|-----|
| 1x  | 6   |
| 2x  | 12  |
| 4x  | 24  |
| 5x  | 30  |
| 10x | 60  |
| 20x | 120 |

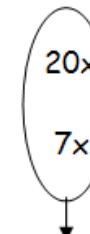
The key facts in the menu box should be extended to include 4x and 20x.

Answer: 32 remainder 4 or 32 r 4

**Stage 7 continued**

$$972 \div 36$$

$$\begin{array}{r} 27 \\ 36 \overline{) 972} \\ - 720 \\ \hline 252 \\ - 252 \\ \hline 0 \end{array}$$



Answer: 27

Children should not be made to go onto the next stage if:

- 1) they are not ready.
- 2) they are not confident.

Children should be encouraged to consider if a mental calculation would be appropriate before using written methods.