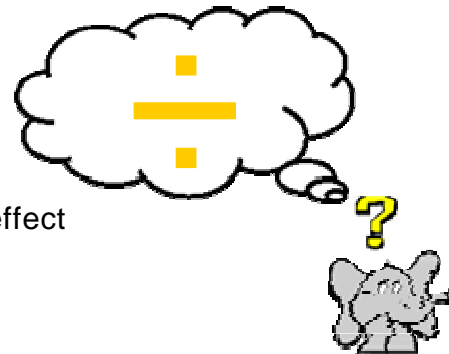


## Progression in Teaching Division

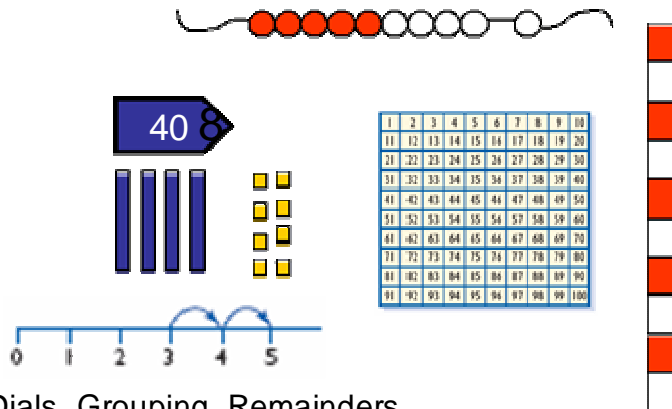
### Mental Skills

- Recognise the size and position of numbers
- Count back in different steps 2s, 5s, 10s
- Halve numbers to 20
- Recognise division as repeated subtraction
- Quick recall of division facts
- Use known facts to derive associated facts
- Divide by 10, 100, 1000 and understanding the effect
- Divide by multiples of 10



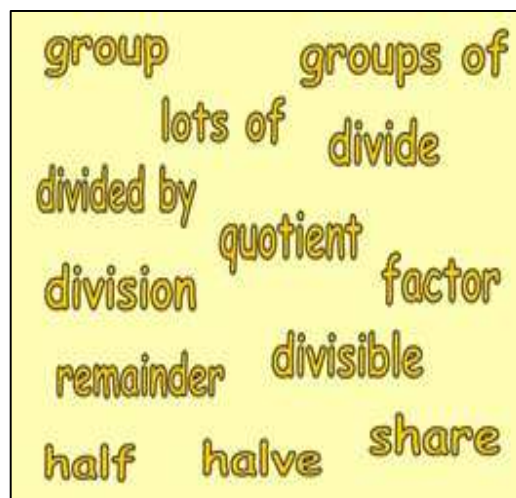
### Models and Images

- Counting apparatus
- Arrays
- 100 squares
- Number tracks
- Numbered number lines
- Marked but unnumbered lines
- Empty number lines.
- Multiplication squares
- Models and Images charts
- ITPs – Multiplication grid, Number Dials, Grouping, Remainders

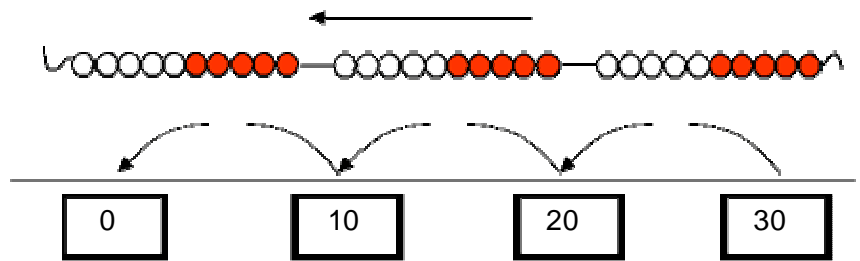


### Vocabulary

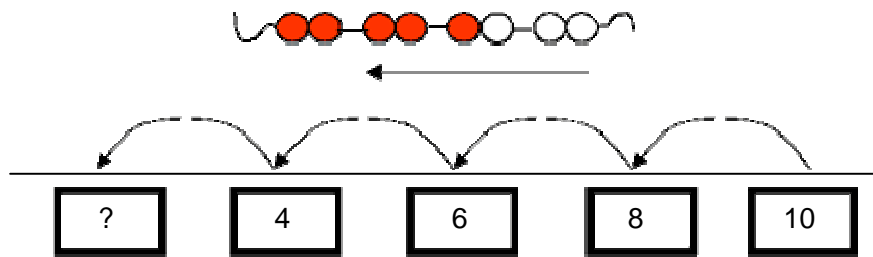
- lots of
- groups of
- share
- group
- halve
- half
- divide
- division
- divided by
- remainder
- factor
- quotient
- divisible



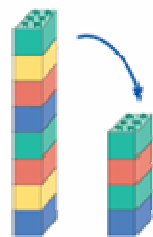
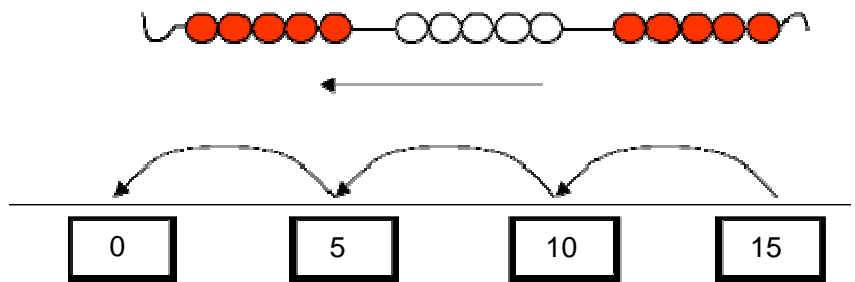
Count back in tens



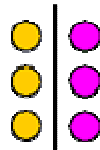
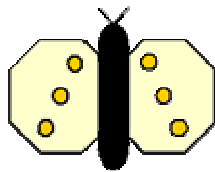
Count back in twos



Count back in fives



half of 8 is 4  
 $8 \div 2 = 4$



Half of 6 is 3

$$\frac{1}{2} \text{ of } 6 = 3$$

Know halves

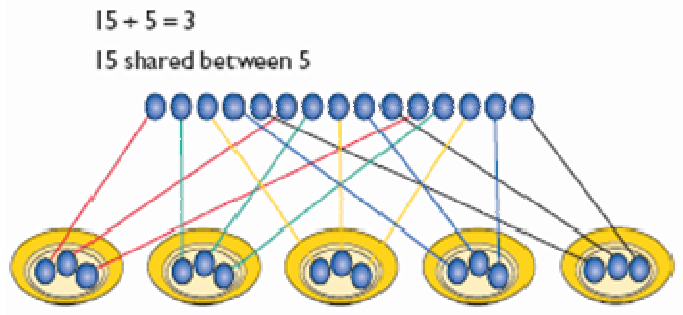
Use known multiplication facts to work out corresponding division facts

$$\text{If } 2 \times 10 = 20$$

then

$$20 \div 10 = 2$$

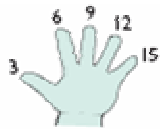
$$20 \div 2 = 10$$



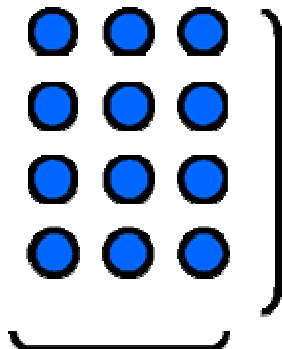
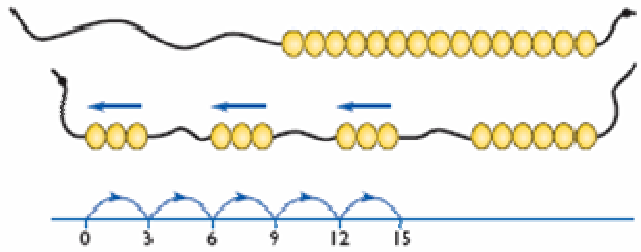
Understand division as sharing

Understand division as grouping

How many 3s in 15?



$15 \div 3 = 5$



12 divided into groups of 3 gives 4 groups

$12 \div 3 = 4$

12 divided into groups of 4 gives 3 groups

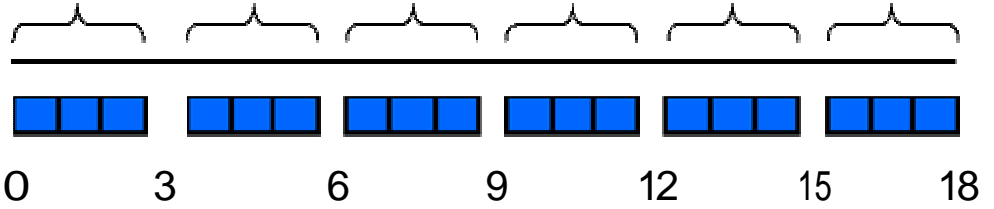
$12 \div 4 = 3$

Reinforce division as grouping through the use of arrays

Represent 'groups' for division on a number line using apparatus alongside the line

18 divided into groups of 3

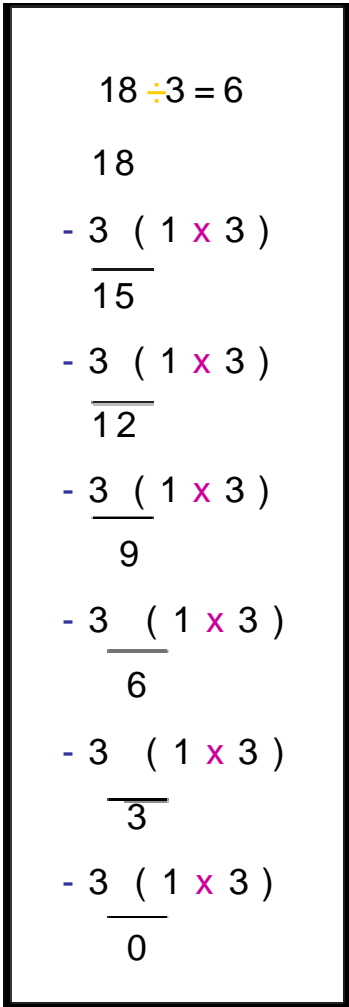
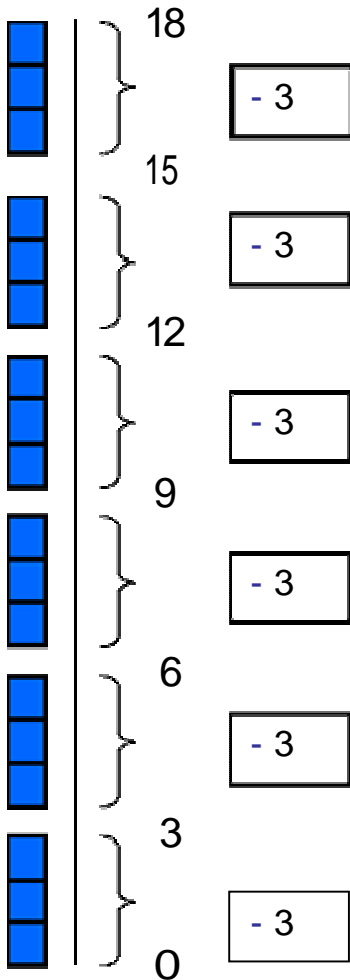
$$18 \div 3 =$$



$$18 \div 3 = 6$$

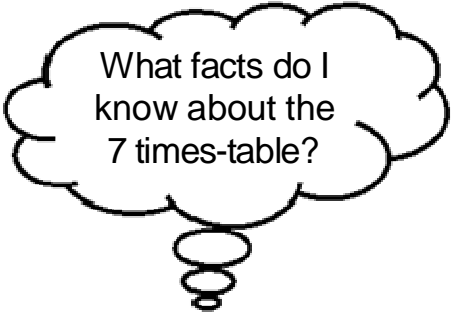


$$18 \div 6 = 3$$



Understand division as repeated subtraction using a vertical line and apparatus to make the links

Children need to see that as the numbers get larger, large chunk subtraction is the more efficient method. Multiples of the divisor (large chunks) are taken away. Multiplication facts are needed to see the size of the 'chunk'.



$$100 \div 7 = 14 \text{ r } 2$$

$$\begin{array}{r} 100 \\ - 70 \quad (10 \times 7) \\ \hline 30 \\ - 28 \quad (4 \times 7) \\ \hline 2 \end{array}$$

$$518 \div 7 = 74$$

$$\begin{array}{r} 518 \\ - 350 \quad (50 \times 7) \\ \hline 168 \\ - 140 \quad (20 \times 7) \\ \hline 28 \\ - 28 \quad (4 \times 7) \\ \hline 0 \end{array}$$

- Fact Box
- $1 \times 7 = 7$
  - $2 \times 7 = 14$
  - $5 \times 7 = 35$
  - $10 \times 7 = 70$
  - $20 \times 7 = 140$
  - $50 \times 7 = 350$
  - $100 \times 7 = 700$

$$560 \div 24$$

$$\begin{array}{r} 23 \text{ r } 8 \\ 24 \overline{) 560} \\ - 480 \\ \hline 80 \\ - 72 \\ \hline 8 \end{array}$$

Standard written method  
Links directly to large chunk subtraction