

Recall of facts
 Recall and use multiplication and division facts for 3x,4x and 8x tables.

- Practice counting in order forwards and backwards
- Recall the multiplication and division facts in order
- Recall the facts in a random order and link them to fractions

Calculate using what you already know...

If I know $7 \times 3 = 21$ then
 $8 \times 3 = 24$ because it is one more group of 3 and
 $6 \times 3 = 18$ because it is 1 less group of 3

1x	2x	3x	4x	5x	6x	7x	8x	9x	10x
3	6	9	12	15	18	21	24	27	30

Multiplication and division can be represented in different ways...
 These structures show the relationship between multiplication and division.

Bar model

?						
3	3	3	3	3	3	3

21		
?	?	?

$7 \times 3 = \square$ $3 \times \square = 21$
 $21 \div 3 = \square$ $21 \div \square = 3$

Array

Number Lines

Table

	10	3
3	30	9

If I know one fact, what else can I derive?

If I know... $4 \times 8 = 32$
 Then I also know $8 \times 4 = 32$
 And $32 \div 4 = 8$ and $32 \div 8 = 4$

Division as grouping

$30 \div 6$

Put 30 into groups of 6

How many in each group?

Always Sometimes Never?
 Every times-table fact has two associated division facts. Explain your answer

Year 3
Multiplication and Division (including fractions)

Prove it
 Multiplying is the inverse (opposite) of dividing

Linking facts

$4 \times 5 = 20$ $20 \div 5 = 4$ $\frac{1}{5}$ of 20 = 4
 $5 \times 4 = 20$ $20 \div 4 = 5$ $\frac{1}{4}$ of 20 = 5

20				
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$
4	4	4	4	4

20			
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
5	5	5	5

Finding fractions of a given quantity
 We can find a fraction of an amount by following these simple steps.

Find $\frac{3}{4}$ of 28

- Draw a bar model.
- Look at the denominator and divide the bar into equal parts. 4
- Calculate the value of each part $28 \div 4 = 7$
- Look at the numerator and shade this number of parts. 3 parts
- Find the total of all the coloured parts. $3 \times 7 = 21$

Use the correct vocabulary
 multiple, multiply, array, multiplication tables, product, twice, double, repeated addition
 equal groups of, divide, divided by, divided into, quotient remainder, half, quarter, third, partition, inverse

Equivalent fractions

$\frac{2}{5} = \frac{4}{10}$

Count in tenths

What do the diagrams have in common?

Problems
 Sally has baked some buns. She counted her buns in 4's and had 3 left over. She counted them in fives and had four left. How many buns has Sally got?

Scaling – How many times greater or smaller?
 In a tube of Smarties, for every blue Smartie, there were 3 orange smarties

Blue	1	2	3	4	5	6	9
Orange	3	6	9	?	?	? ?