Year 3
Multiplication and Division (including fractions)

Recall of facts

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

1. Practice counting in order forwards and backwards
2. Recall the multiplication and division facts in order
3. Recall the facts in a random order and link them to fractions

Calculate using what you know…

If I know 7 x 3 = 21 then

8 x 3 = 24 because it is one more group of 3 and

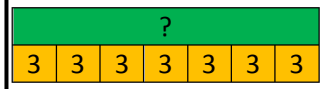
6 x 3 = 18 because it is 1 less group of 3

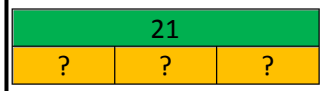
1x	2x	3x	4x	5x	6x	7x	8x	9x	10x
3	6	9	12	15	18	21	24	27	30

Multiplication and division can be represented in different ways…

These structures show the relationship between multiplication and division.

Bar model

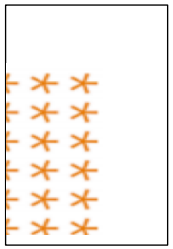


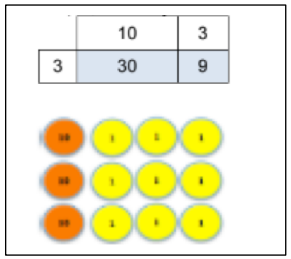


7 x 3 = ? 3 x ☐ = 21

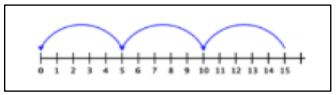
21 ÷ 3 = ? 21 ÷ ☐ = 3

Array





Number Lines



Always Sometimes Never?

Every times table fact has two associated division facts. Explain your answer

Prove it

Multiplying is the inverse (opposite) of dividing

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

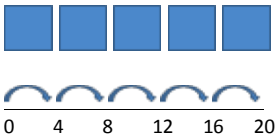
If I know… 4 x 8 = 32

Then I also know 8 x 4 = 32

And 32 ÷ 4 = 8 and 32 ÷ 8 = 4

Count on in multiples of 4

4 + 4 + 4 + 4 + 4 = 5 x 4



Division as grouping

30 ÷ 6

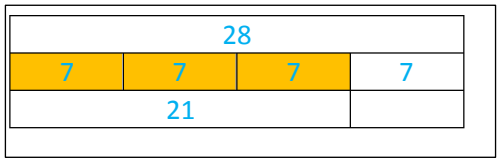
30 put into groups of 6 gives 5 groups

Finding fractions of a given quantity

We can find a fraction of an amount by following these simple steps.

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

Find ¾ of 28



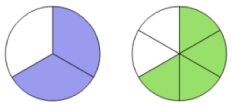
Use a variety of words

multiple, multiply, array, multiplication tables, product, twice, double, repeated addition

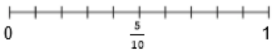
equal groups of, divide, divided by, divided into, quotient remainder, half, quarter, third, partition, inverse

Equivalent fractions

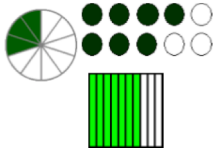
$\frac{2}{5} = \frac{4}{10}$



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