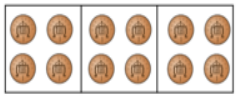
Year 3 Maths - Multiplication and Division B- Spring 1

Previously Learned Vocabulary	
Shared (y1)	Groups (y1)
Multiply (y2)	Array (y2)
Divide (y2)	Commutative (y2)
Division (y2)	times tables (y2)
skip counting (y1)	lots of (y2)
groups of (y2)	
New Vocabulary	
inverse operation	multiples

Commutativity of multiplication



Understanding multiplication as equal groups of and that multiplication is commutative.

There are 3 equal groups of 4.
3 x 4 = 12 or 4 x 3 = 12

There are 5 equal groups of 8.
5 x 8 = 40 or 8 x 5 = 40

Using known multiplication facts and partitioning to answer 2 digit by 1digit calculations :

Related calculations

If the calculation is ten times bigger, then the answer will also be ten times bigger.

5 x 1 = 5	5 x 10 = 50
5 x 2 = 10	5 x 20 = 100
3 x 4 = 12	3 x 40 = 120
4 x 4 = 16	4 x 40 = 160

Formal written methods of multiplication

32 x 3 = 96

We always begin with our ones column.
3 ones multiplied by 2 ones is 6 ones. Then, we multiply our 1 digit number by the tens. 3 ones multiplied by 3 tens is 9 tens.

	t	o
	3	2
x		3
	9	6

37 x 5 = 185

	3	7
x		5
1	8	5

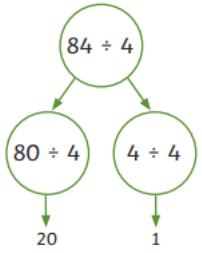
3

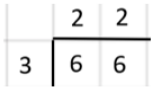
If our ones exceed 9, we need to exchange.
5 ones multiplied by 7 ones is 35. 35 is made up of 3 ten and 5 ones so we put the 5 in the one's column and the 3 ten in the ten's column.
5 ones multiplied by 3 tens is 150, add the extra 3 tens and it equals 180.

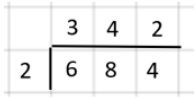
Informal and formal written methods of division

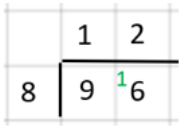
Tens	Ones

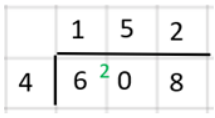
84 ÷ 4 = 21











Diagrams to help:

1 equal group of 8 and 1 remaining

1 equal group of 4 and 2 remaining

Link multiplication and division

Multiplication is the inverse of division. Division is the inverse of multiplication. The arrays below show the relationship between the two operations in the form of an array.