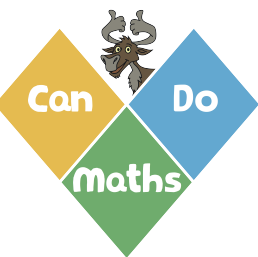


Multiplication



Year 1

Double 3 is 6
 $3 + 3 = 6$
 2 groups of 3 = 6

The groups are equal

3 groups of 4
 $4 + 4 + 4 = 12$

8 groups of 4

0 2 4 6 8 10 12 14 16 18 20 ...
 $+2$

0 5 10 15 20 25 30 35 40 45 50 ...
 $+5$

0 10 20 30 40 50 60 70 80 90 100 ...
 $+10$



Year 2

Three groups of four
 $4 + 4 + 4 = 12$

4 multiplied by 3
 $4 \times 3 = 12$

3 groups of 4
 $3 \times 4 = 12$

12 divided equally into 3 groups
 $12 \div 3 = 4$

12 divided equally into groups of 3
 $12 \div 3 = 4$

How many 3s in twelve?

Year 2

Factor, factor, product

There is a repeating pattern of 0, 2, 4, 6, 8

Even numbers are divisible by 2

Multiples of 10 all have a zero in the ones column.

The products of 10 are even numbers.

The product of an odd number and 5 is odd.

The product of an even number and 5 is even.



Year 3

If I know... then I also know...

The digit sum of multiples of 3 is 3, 6 or 9

An odd number multiplied by 3 gives an odd product.

All multiples of 4 are even numbers.

There is a repeating pattern in the ones column: 0, 4, 8, 2, 6

All multiples of 8 are even numbers.

All multiples of 8 are also multiples of 2 and 4



Year 6

2427
 $\times 38$
 19416
 72810
 92226

Year 5

23 x 14

When I multiply the multiplicand by the tens digit of the multiplier I put a zero in the ones column.

In my head? With jottings? Formal written method?

426 x 50 = $426 \times 100 \div 2$
 $= 42600 \div 2$
 $= 21300$

30 x 99 = $30 \times 100 - 30 \times 1$
 $= 3000 - 30$
 $= 2970$

0.4 x 7 = ?
 If I know $4 \times 7 = 28$ then I also know that $0.4 \times 7 = 2.8$ because it is ten times smaller.

2.4 x 3 = ?
 If I know $24 \times 3 = 72$ then I also know $2.4 \times 3 = 7.2$ because it is ten times smaller.



Year 4

60 x 4 = ?
 If I know $6 \times 4 = 24$ then I know $60 \times 4 = 240$ because it is ten times greater.

6 x 4 = 24
 $60 \times 4 = 240$
 $6 \times 40 = 240$

20 is ten times greater than 2
 30 multiplied by ten is 300

17 x 4

10 7
 $\times 4$
 40 28
 68

Year 4

70 x 6 = ?
 If I know $7 \times 6 = 42$ then I know $70 \times 6 = 420$ because it is ten times greater.

70 x 6 = 420
 $7 \times 10 \times 6 = 420$

3000 is one hundred times greater than 30
 2 multiplied by one hundred is 200

500 20 3
 $\times 3$
 1500 60 9

Year 5

If I know... then I also know...

The digit sum of multiples of 6 is 3, 6 or 9

All multiples of 6 are even numbers.

The digit sum of multiples of 9 is 9

An odd number multiplied by 9 gives an odd product.

An odd number multiplied by 7 gives an odd product.

An even number multiplied by 7 gives an even product.

$64 \times 0 = 0$
 The product of a number and zero is zero.

$64 \times 1 = 64$
 The product of a number and 1 is the number itself.

$64 \div 1 = 64$
 The quotient when dividing a number by 1 is the number itself.

Year 5

If I know... then I also know...

If the digits are the same then a 2-digit number is divisible by 11

An odd number multiplied by 11 gives an odd product.

A number is divisible by 12 if it is divisible by 3 and 4

All multiples of 12 are even numbers.

$12 \times 6 = 72$
 $72 \div 12 = 6$
 $6 \times 12 = 72$
 $72 \div 6 = 12$
 $6 \times 12 = 72$
 $72 \div 6 = 12$
 $6 \times 12 = 72$
 $72 \div 6 = 12$

If I know... then I also know...

$5 \times 2 \times 6 = 60$
 $60 \div 5 = 12$
 $60 \div 6 = 10$
 $60 \div 12 = 5$