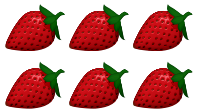
Horton CE VA MULTIPLICATION GUIDELINES

Year One

Multiplication is related to doubling and counting groups of the same size.



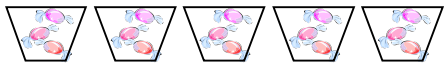
Looking at columns
2 + 2 + 2
3 groups of 2

Looking at rows
3 + 3
2 groups of 3

Counting using a variety of practical resources
Counting in 2s e.g. counting socks, shoes, animal's legs…
Counting in 5s e.g. counting fingers, fingers in gloves, toes…
Counting in 10s e.g. fingers, toes…

Pictures / marks

There are 3 sweets in one bag.
How many sweets are there in 5 bags?

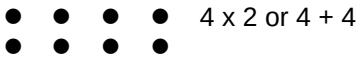


Year Two

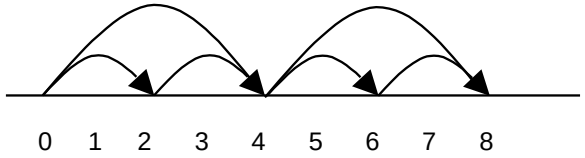
x = signs and missing numbers

7 x 2 = □ □ = 2 x 7
7 x □ = 14 14 = □ x 7
□ x 2 = 14 14 = 2 x □
□ x ∇ = 14 14 = □ x ∇

Arrays and repeated addition



4 x 2 or 4 + 4
2 x 4 or 2 + 2 + 2 + 2



Doubling multiples of 5 up to 50

15 x 2 = 30

Partition

Children need to be secure with partitioning numbers into 10s and 1s and partitioning in different ways: 6 = 5 + 1 so e.g. Double 6 is the same as double five add double one.

AND double 15
10 + 5
↓ ↓
20 + 10 = 30

OR

X	10	5
2	20	10

= 30

Year Three

x = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers.

Arrays and repeated addition

Continue to understand multiplication as repeated addition and continue to use arrays (as in Year 2).

Doubling multiples of 5 up to 50

35 x 2 = 70

Partition

X	30	5	
2	60	10	=70

Use known facts and place value to carry out simple multiplications

Use the same method as above (partitioning), e.g.

32 x 3 = 96

x	30	2
3	90	6

= 96

MULTIPLICATION GUIDELINES

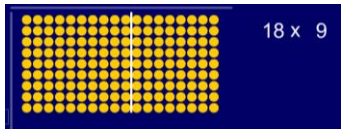
Year Four

x = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers

Partition

Continue to use arrays:



18 x 9 = 162

18 x 9 = (10 x 9) + (8 x 9) = 162

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method
23 x 7 is approximately 20 x 10 = 200

x	20	3	
7	140	21	= 161

Year Five

Partition

47 x 6 = 282

47 x 6 = (40 x 6) + (7 x 6) = 282

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method
72 x 38 is approximately 70 x 40 = 2800

x	70	2
30	2100	60
8	560	16

2100 + 60 = 2160
560 + 16 = 576

2160
560 +
2736

Expanded Column Multiplication

Children should describe what they do by referring to the actual values of the digits in the columns. For example, the first step in 38 × 7 is 'thirty multiplied by seven', not 'three times seven', although the relationship 3 × 7 should be stressed.

30 + 8
x 7
56 (8 x 7 = 56)
210 (30 x 7 = 210)
266

38
x 7
56
210
266

Year Six

Partition

87 x 6 = 522

87 x 6 = (80 x 6) + (7 x 6) = 522

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method
372 x 24 is approximately 400 x 20 = 8000

Extend to decimals with up to two decimal places.

Short Column Multiplication

The recording is reduced further, with carry digits recorded below the line.

38
x 7
266
5

Children who are already secure with multiplication for TU × U and TU × TU should have little difficulty in using the same method for HTU × TU or applying decimals.

286
x 29
2574 (9 x 286 = 2574)
5720 (20 x 286 = 5720)
8294
1