Wilkinson Multiplication Policy

Multiplication		
Year 1	**Year 2**	**Year 3**

| Year 1	Year 2	Year 3

Multiplication is related to doubling and counting groups of the same size.
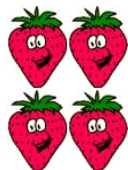 	
Looking at columns   Looking at rows
2+2   2+2
2 groups of 2   2 groups of 2
 	
Counting using a variety of practical resources.
Counting in 2s e.g. counting socks, shows animal's legs…
Counting in 5s e.g. counting fingers, fingers in gloves, toes…
Counting in tens e.g. fingers, toes…
 	
Pictures/marks
 	
There are three sweets in one bag.
How many sweets are there in four bags?
 	
	<u>X = signs and missing numbers</u>
	
	$6x2 =$ _ _ = $2x6$
	$6x$_ = 12 $12 =$ _$x6$
	_$x2 = 12$ $12 = 2x$_
	_x_ = 12 $12 =$ _x_
	
	Arrays and repeated addition
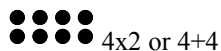	
	 $4x2$ or $4+4$ $2x4$ or $2+2+2+2$
	
	Doubling numbers of 5 up to 50
	$20 \times 2 = 40$
	
	Partition
	Children need to be secure with partitioning numbers into 10s and 1s and partitioning in different ways:
	$6 = 5+1$
	So e.g. Double 6 is the same as double 5 plus double 1.
	
	AND double 16
	10 + 6
	
	20 + 12 = 32
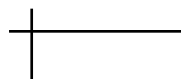	
	Or x 10 6
	        2 20 12 = 32
		<u>X = signs and missing numbers</u>
		Continue using a range of equations as in previous years but with appropriate numbers.
		
		Arrays and repeated addition
		Continue to understand multiplication as repeated addition and continue to use arrays.
		
		Doubling multiples of 5 up to 50
		$45x2 = 90$
		
		Partition
		   x 40 5
		   2
			80 10 = 90
			
			Use known facts and place value to carry out simple multiplications.
			
			Use the same method as above (partitioning) e.g.
			$42x3 = 126$
			
			   x 40 2
			   3 120 6 = 126

Multiplication

Year 4	Year 5	Year 6

X = signs and missing numbers
Continue using a range of equations as in previous years but with appropriate numbers.

Partition
Continue to use arrays

17 x 9 = 153

17 x 9 = (10 x 9) + (7 x 9) = 153

OR

Use the grid method of multiplication (as below)

Pencil and paper procedures

Grid method

36 x 9 is approximately 30 x 10 = 300

x	30	6	
9	270	54	= 324

X = signs and missing numbers
Continue using a range of equations as in previous years but with appropriate numbers.

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
   576 +
  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
```

X = signs and missing numbers
Continue using a range of equations as in previous years but with appropriate numbers.

Partition
89 x 8 = 712
89 x 8 = (80 x 8) + (9 x 8) = 712

OR   Use the grid method.

Pencil and paper procedures
Grid method
389 x 33 is approximately 400 x 30 = 12000

Extend to decimals with up to 2 decimal places.

Short Column Multiplication

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

```
    38
  x  7
   266
    5
```
Chil-   dren 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
```