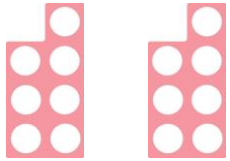
Key Stage 1 – Multiplication

Y1

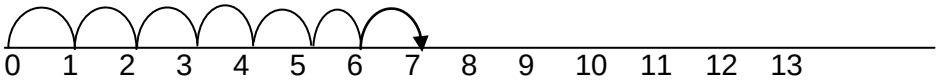
Through practical activities and meaningful contexts using concrete objects, pictorial representations and arrays with the support of the teacher.

- Doubles.



7 + 7 = 14

- Make connections between arrays, number patterns and counting in 2's, 5's to 50 and 10's to 100.
- Use of number lines.



- "100 Square" to count in 2's, 5's and 10's.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

- There are 2 sweets in one bag. How many sweets are there in 5 bags?

- Counting multiples of coins: 2p, 5p, 10p.

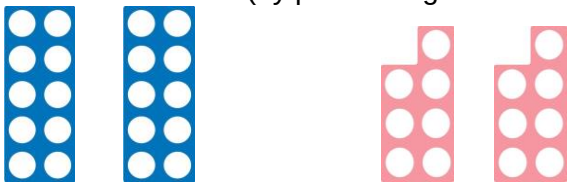
2p + 2p + 2p

National Curriculum requirements:
Solve one step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Y2

Through practical activities and meaningful contexts using concrete objects, pictorial representations and arrays.

- Double numbers (by partitioning and recombining) 17 + 17.



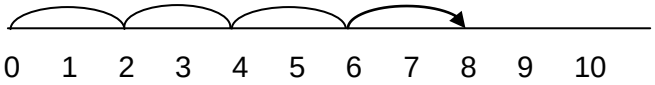
10 + 10 7 + 7

- Understand multiplication as repeated addition/groups/lots.
- Read arrays.

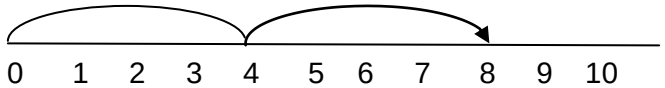
2x4 (2, 4 times)

- Repeated addition on a number line.

2 + 2 + 2 + 2 (4 groups of 2, 2 four times, 2 x 4)



4 + 4 (2 groups of 4, 4 two times, 4x2)



- Know the multiplication tables for 2, 5 and 10.
- Calculate mathematical statements within the multiplication tables using the multiplication (x) and equals (=) signs.
- Show that the multiplication of two numbers can be done in any order (commutative).

Video clips: Teaching for understanding of multiplication facts
Practical multiplication and the commutative law

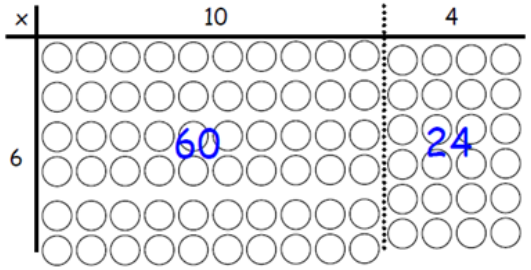
National Curriculum requirements:
Solve problems involving multiplication using materials, arrays, mental methods and multiplication facts.

Key Stage 2 – Multiplication

Y3

- Recall and use multiplication tables for 3, 4 and 8.
- Continue to use arrays and number lines/Cuisenaire rods for 3, 4 and 8 multiplication tables.
- Write and calculate mathematical statements for multiplication. Statements to include the multiplication tables that they know and 2 digit numbers x 1 digit numbers. Pupils use mental methods and progress to formal written methods.
- Introduce grid model.

X	10	4
6	60 + 24	= 84



- Progressing to expanded method of multiplication.

```
  T O
  1 4
x   5
  2 0  (5x4)
+ 5 0  (10x5)
  7 0
```

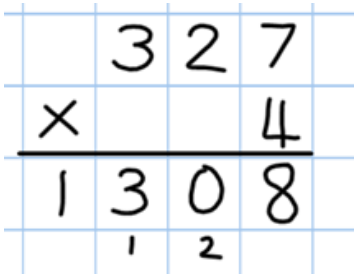
Video clips: [Teaching the grid method as an interim step]
(Partitioning and counters to introduce grid).

National Curriculum requirements: Multiply 2 digits by 1 digit, using mental and progressing to formal written methods.

Y4

- Recall and use multiplication tables up to 12x12 (Including multiplying by 0 and 1).
- Continue using grid method and expanded method as appropriate, progressing to short multiplication.

x	100	30	6
5	500	150	30



- Short Multiplication.

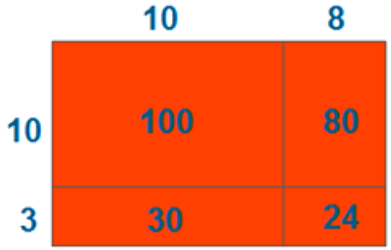
No carrying	Extra digit	Carrying	Zeros	Ext.
T O 3 2 x 3 9 6	**H T O** 5 1 x 2 1 0 2	**H T O** 3 8 x 7 2 6 6 5	**H T O** 2 0 2 x 4 8 0 8	**H T O** □ 5 □ x 4 6 1 2 2 1

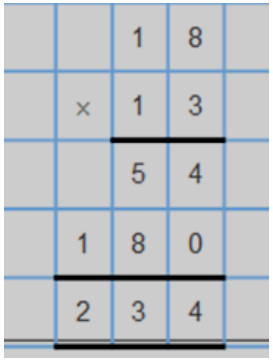
National Curriculum requirements:
Multiply 2 digits by 1 digit using formal written layout.
Multiply 3 digits by 1 digit using formal written layout.

Key Stage 2 – Multiplication

Y5

- Recall and use multiplication tables up to 12x12 (Including multiplying by 0 and 1).
- Continue to practise short multiplication.
- Use Grid Method to introduce long multiplication.





Video clips:
Moving from grid method to a compact method
Reinforcing rapid times table recall
Demonstration of long multiplication

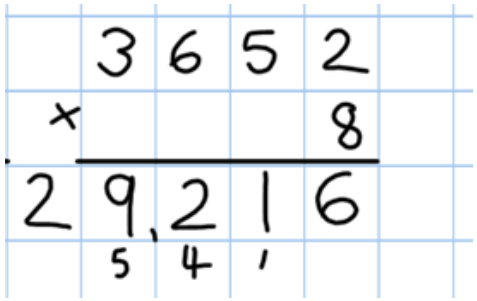
National Curriculum requirements:
Multiply numbers up to 4 digits by a 1 digit number using the formal written method of short multiplication.

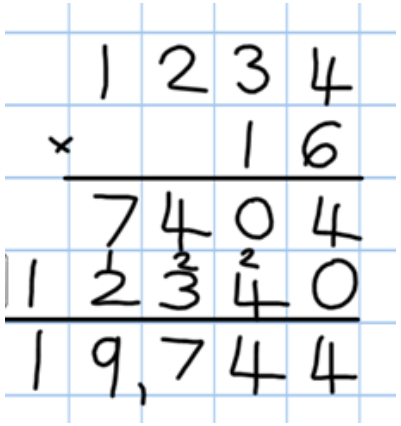
Multiply numbers up to 4 digits by a 2 digit number using the formal written method of long multiplication.

Multiple whole numbers and those involving decimals by 10, 100, 1000.

Y6

- Recall and use multiplication tables up to 12x12 (Including multiplying by 0 and 1).
- Continue to practise short multiplication.
- Continue to practise long multiplication.





- Multiply decimals using the grid method and progressing on to short multiplication.
- Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Video clips:
Moving from grid method to a compact method
Reinforcing rapid times table recall
Demonstration of long multiplication

National Curriculum requirements:
Multiply up to 4 digits by 2 digits using the formal written method of long multiplication.
Multiply numbers by 10,100, 1000 giving answers up to 3 decimal places.