MULTIPLICATION

Reception

Practical activities in meaningful contexts. Grouping objects in twos, fives and tens, counting in 2s, 5s and 10s.

Year 1

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

Doubles

7 + 7 = 14

Make connections between arrays, number patterns and counting in 2's, 5's to 50 + 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 in 5 bags?

Counting multiples of coins:2p, 5p + 10p

2p + 2p + 2p

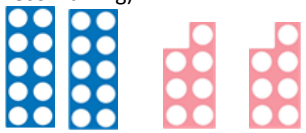
National Curriculum requirements:

Solve 1-step problems involving multiplication, by calculating concrete objects, pictorial representations and arrays with support of the teacher.

Year 2

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

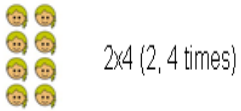
Double numbers (by partitioning and recombining) 17 + 17.



10 + 10 7 + 7

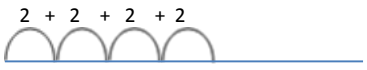
Understand multiplication as repeated addition/groups/lots.

Read arrays.



Repeated addition on a number line. 2 + 2 + 2 + 2

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



(2 groups of 4, 4 two times, 4 x 2)

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.

Year 3

Read and use multiplication tables for 3, 4 and 8.

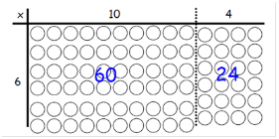
Continue to use arrays and number lines/Cuisenaire rods for 3, 4 and 8 multiplication tables.

Write and calculate mathematical statements for multiplication.

Statements to include the times tables that they know and 2 digit nos 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

T O
1 4
X 5
2 0 (5x4)
+5 0 (5 x10)
7 0

National Curriculum requirements:

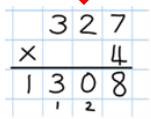
Multiply 2 digits by 1 digit, using mental methods and progressing to formal method.

Year 4

Recall and use multiplication tables up to 12 x 12 (including x by 0 and 1)

Continue using grid method and expanded method, progressing to short multiplication.

x	100	30	6
5	500	150	30



Short Multiplication

No carrying

T O
3 2
x 3
96

Extra digit

H T O
5 1
x 2
1 0 2

Followed by:

Carrying – HTO

Including Zeros HTO

Extension: H T O

□ 5 □
X 4
6 1 2
2 1

National Curriculum requirements:

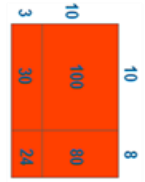
Multiply a 2 digit number, then a 3 digit number by 1 digit, using formal written layout.

Year 5

Recall and use multiplication tables up to 12 x 12 (including x by 0 and 1).

Continue to practise short multiplication.

Use Grid method to introduce long multiplication.



National Curriculum requirements:

Multiply 4 digits by a 1 digit number using formal short method.

Multiply 4 digits by a 2 digit number using formal long method.

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

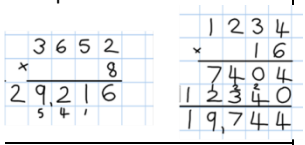
Year 6

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.