Multiplication: Blue (Y4)

Mental Work

Derive and recall

- multiplication facts to 12 x 12
- doubles of numbers 1 to 100, e.g. double 58 (partition: double the tens and ones separately then recombine)
- doubles of multiples of 10 and 100
- factor pairs for known multiplication facts

Work mentally (with jottings if needed)

- Use place value to multiply mentally including multiplying by zero and one and multiplying three numbers together.
- double any 2-digit number, e.g. double 39
- double any multiple of 10 or 100, e.g. double 340, double 800
- multiply numbers to 1000 by 10 and then 100, e.g. 325 x 10, 42 x 100 (know that when a number is multiplied by 10 or 100, its digits move one or two places to the left and zero is used as a placeholder)
- multiply a multiple of 10 to 100 by a single-digit number, e.g. 40 x 3 (use knowledge of place value and multiplication facts, e.g. use 4 x 3 = 12 to work out 40 x 3 and 4 x 30)
- multiply numbers to 20 by a single-digit, e.g. 13 x 4 (use partitioning and the distributive law to multiply, e.g. 13 x 4 = (10 + 3) x 4 = (10 x 4) + (3 x 4) = 40 + 12 = 52)
- give the factor pair associated with each multiplication fact, e.g. identify that if 2 x 3 = 6 then 6 has the factor pair 2 and 3

Children should be encouraged to:

* **approximate** their answers before calculating

***consider if a mental calculation** would be appropriate **before** using written methods

***check their answers** after calculation using an appropriate strategy

Recording

Grid Method (TU x U and HTU x U) leading to **Column method** (recording the same steps as above)

1 **Grid method**

38 x 7 =

×	7
30	210
8	56
	266

2 **Expanded column method**

238
X 7
56
+ 210
1400
1666

3 **Short multiplication**

238
X 7
1666
2 5

Carried digits recorded below the line

Missing number calculations

Multiplying by 9 or 11, e.g.

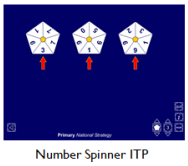
13 x 9
13 x 11
→ multiply by 10 and adjust

Multiplying by 4, 8, 40, 80 etc.

For example

Multiplying by 4 as double and double

→ x 2 → x 2 →



Number Spinner ITP

Set the spinners, e.g. **5 x 20**

5 x 2 x 10

x	?	8
7	210	?

7 x ? = ?

Use the **Multiplication Grid ITP** to create missing digit problems as well as demonstrate the grid method

Ensure that pupils can solve problems using all of these methods.