Key Vocabulary:

times tables

multiply by

array

related facts

lots of

groups of

multiple

repeated

addition

factor

product

MENTAL METHOD
Key learning: multiply three 1-digit numbers

For example, in the calculation 5 x 7 x 4 you should think about the order for calculating based on the numbers involved
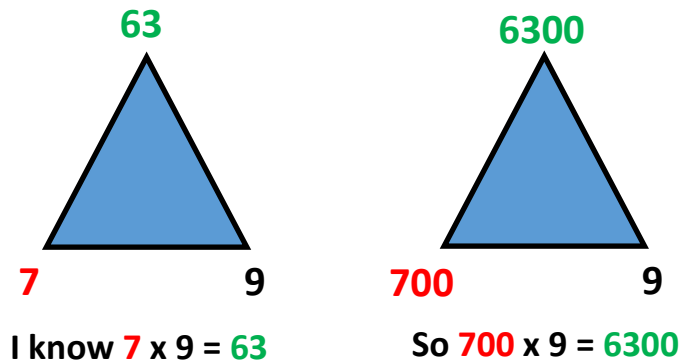
5 x 7 x 4 could be calculated as:

(5 x 7) x 4 =   (5 x 4) x 7 =   (4 x 7) x 5 =

35   20   28

35 x 4 = 140   20 x 7 = 140   28 x 5 = 140

The best option to choose would be **5 x 4** x 7
because 5 x 4 (=20) results in a multiple of 10

MENTAL METHOD
Key learning: use related facts to multiply a 3-digit number (hundreds number) by a 1-digit number

Example: 700 x 9

63
7   9

6300
700   9

I know **7** x 9 = **63**   So **700** x 9 = **6300**

RAPID RECALL- TIMES TABLES
Building on the times tables that you learned in Years 2 and 3 (2, 5, 10, 3, 4 and 8), you now have to know all your times tables by heart by the end of Year 4

6
1 x 6 = 6	
2 x 6 = 12	
3 x 6 = 18	
4 x 6 = 24	
5 x 6 = 30	
6 x 6 = 36	
7 x 6 = 42	
8 x 6 = 48	
9 x 6 = 54	
10 x 6 = 60	
11 x 6 = 66	
12 x 6 = 72	

7
1 x 7 = 7	
2 x 7 = 14	
3 x 7 = 21	
4 x 7 = 28	
5 x 7 = 35	
6 x 7 = 42	
7 x 7 = 49	
8 x 7 = 56	
9 x 7 = 63	
10 x 7 = 70	
11 x 7 = 77	
12 x 7 = 84	

9
1 x 9 = 9	
2 x 9 = 18	
3 x 9 = 27	
4 x 9 = 36	
5 x 9 = 45	
6 x 9 = 54	
7 x 9 = 63	
8 x 9 = 72	
9 x 9 = 81	
10 x 9 = 90	
11 x 9 = 99	
12 x 9 = 108	

When learning your times tables practise using different language:

"four times seven"

"four lots of seven"

"four sevens"

11
1 x 11 = 11	
2 x 11 = 22	
3 x 11 = 33	
4 x 11 = 44	
5 x 11 = 55	
6 x 11 = 66	
7 x 11 = 77	
8 x 11 = 88	
9 x 11 = 99	
10 x 11 = 110	
11 x 11 = 121	
12 x 11 = 132	

12
1 x 12 = 12	
2 x 12 = 24	
3 x 12 = 36	
4 x 12 = 48	
5 x 12 = 60	
6 x 12 = 72	
7 x 12 = 84	
8 x 12 = 96	
9 x 12 = 108	
10 x 12 = 120	
11 x 12 = 132	
12 x 12 = 144	

Remember, multiplication is *commutative* (can be completed in any order). For example, 3 x 9 and 9 x 3 both equal 27, so make sure you learn each times table in any order!

Key learning: multiply numbers by 10 and 100

For example,
36 x 10 =

H	T	U
	3	6
3	6	0

36 x 10 = 360

Each digit becomes 10 times larger (moves 1 place value column to the left)

For example,
42 x 100 =

Th	H	T	U
		4	2
4	2	0	0

42 x 100 = 4200

Each digit becomes 100 times larger (moves 2 place value columns to the left)
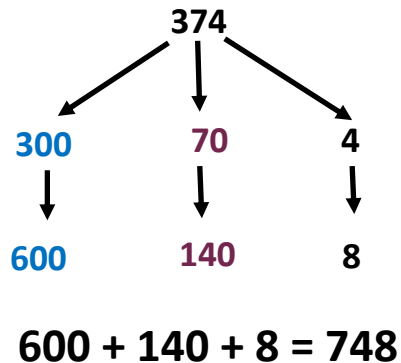

MENTAL METHOD
Key learning: Use partitioning to double any 3-digit number

Example: double 374

Partition 374 into hundreds, tens and ones 300, 70, 4

Use your related facts to double the multiples of 10 and 100

Recombine to find the answer

374
300   70   4
600   140   8

600 + 140 + 8 = 748

WRITTEN METHOD
Key learning: Multiply a 3-digit number by a 1-digit number using the grid method.

252 x 7=

X	200	50	2
7			

Partition the 3 digit number into hundreds, tens and ones.

252 x 7=

X	200	50	2
7	1400	350	

Using your related facts, mutliply the 100s digt and the 10s digit.
E.g
I know 2 x 7 = 14
So 200 x 7 = 1400.

252 x 7=

X	200	50	2
7	1400	350	14

Multiply the ones digit.

1400
350
+ 14
1764

Add the 3 numbers together

RAPID RECALL
Key learning: recognise and use factor pairs

Factor pairs are two numbers (factors) that when multiplied together make the product:
What are the factor pairs of 20?
1 x **20**=20
2 x **10**=20
4 x **5**=20

20
1 2 4   5 10 20

The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:

| 1 and 20 | 2 and 10 | 4 and 5 |