Overview

In our unit on multiplication and division we learn:

- Multiply by 10 and 100
- Divide by 10 and 100
- Multiply by 1 and 0
- Divide by 0 and itself
- Multiply and Divide by 6, 9 and 7
- 6, 9, 11 and 12 Times Tables and Division Facts.
- Multiply and Divide by 11 and 12.

Multiplication and Division is useful learning because it is used in many areas of everyday life – e.g. shopping, cooking, or playing games. It also forms the basis for lots of other maths ideas.

MULTIPLICATION
DIVISION

Times Tables up to 12 x 12

x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

7 times table
$0 \times 7 = 0$
$1 \times 7 = 7$
$2 \times 7 = 14$
$3 \times 7 = 21$
$4 \times 7 = 28$
$5 \times 7 = 35$
$6 \times 7 = 42$
$7 \times 7 = 49$
$8 \times 7 = 56$
$9 \times 7 = 63$
$10 \times 7 = 70$
$11 \times 7 = 77$
$12 \times 7 = 84$

8 times table
$0 \times 8 = 0$
$1 \times 8 = 8$
$2 \times 8 = 16$
$3 \times 8 = 24$
$4 \times 8 = 32$
$5 \times 8 = 40$
$6 \times 8 = 48$
$7 \times 8 = 56$
$8 \times 8 = 64$
$9 \times 8 = 72$
$10 \times 8 = 80$
$11 \times 8 = 88$
$12 \times 8 = 96$

9 times table
$0 \times 9 = 0$
$1 \times 9 = 9$
$2 \times 9 = 18$
$3 \times 9 = 27$
$4 \times 9 = 36$
$5 \times 9 = 45$
$6 \times 9 = 54$
$7 \times 9 = 63$
$8 \times 9 = 72$
$9 \times 9 = 81$
$10 \times 9 = 90$
$11 \times 9 = 99$
$12 \times 9 = 108$

10 times table
$0 \times 10 = 0$
$1 \times 10 = 10$
$2 \times 10 = 20$
$3 \times 10 = 30$
$4 \times 10 = 40$
$5 \times 10 = 50$
$6 \times 10 = 60$
$7 \times 10 = 70$
$8 \times 10 = 80$
$9 \times 10 = 90$
$10 \times 10 = 100$
$11 \times 10 = 110$
$12 \times 10 = 120$

11 times table
$0 \times 11 = 0$
$1 \times 11 = 11$
$2 \times 11 = 22$
$3 \times 11 = 33$
$4 \times 11 = 44$
$5 \times 11 = 55$
$6 \times 11 = 66$
$7 \times 11 = 77$
$8 \times 11 = 88$
$9 \times 11 = 99$
$10 \times 11 = 110$
$11 \times 11 = 121$
$12 \times 11 = 132$

12 times table
$0 \times 12 = 0$
$1 \times 12 = 12$
$2 \times 12 = 24$
$3 \times 12 = 36$
$4 \times 12 = 48$
$5 \times 12 = 60$
$6 \times 12 = 72$
$7 \times 12 = 84$
$8 \times 12 = 96$
$9 \times 12 = 108$
$10 \times 12 = 120$
$11 \times 12 = 132$
$12 \times 12 = 144$

Written Multiplication and Division Methods

Multiplication – Formal Methods

Th	H	T	O
		2³	1
	4	5	3
×			6
2	7	1	8

Method 1
- Move regrouped numbers to the next column.
- After the next multiplication, add the regrouped number.

```
    2 3 7
  ×     5
    3 5
  1 5 0
+ 1 0 0 0
  1 1 8 5
```

Method 2
- Multiply ones
- Multiply tens
- Multiply hundreds
- Add together.

Division – No Regrouping

	Tens	Ones
	2	1
4	8	4

- Divide the tens by the number outside the bus stop ($8 \div 4 = 2$).
- Divide the ones by the number outside the bus stop ($4 \div 4 = 1$).

Division – With Regrouping

	Tens	Ones
	1	5
3	4	¹5

$4 \div 3 = 1$ with 1 remainder. This remainder is placed in the next column before the next number. The next sum therefore becomes $15 \div 3 = 5$.
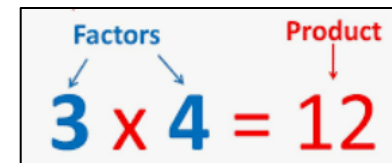
Factors, Products and Mental Calculations

Factors: A factor is a number that you multiply with another number to get a product. A **product** is the solution to a multiplication problem.
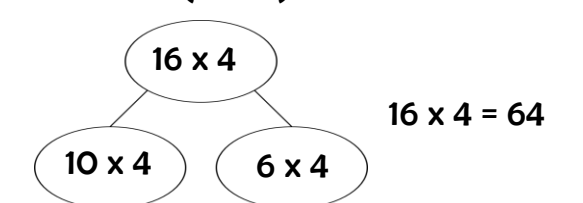
Factors → **3 x 4** = **12** ← Product

Factor Rainbow for 24
1 2 3 4 6 8 12 24

Mental Calculations: We can use our understanding of times tables and number relationships to work out other multiplication sums.

$(3 \times 10) \times 3 = 90$

16 x 4
10 x 4 — 6 x 4

$16 \times 4 = 64$

Key Vocabulary

Times Tables | Multiply | Divide | Share | Remainder | Factor | Multiple | Product | Formal Methods