Multiplication and Division

Knowledge Organiser

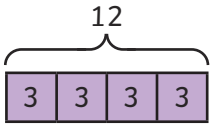
Key Vocabulary

- times tables
- sharing
- grouping
- equal groups
- multiple
- multiply by
- divide by
- array
- fact families
- regrouping

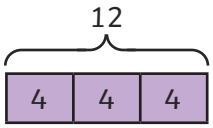
Sharing and Grouping

12 ÷ 4 = 3

12 counters are shared equally between 4 children.



12 counters are grouped into packs of 4.



Multiples of 2, 4 and 8

2	4	6	8	10	12	14	16	18	20	22	24
4	8	12	16	20	24	28	32	36	40	44	48
8	16	24	32	40	48	56	64	72	80	88	96

Doubling the 2 times table is equal to the 4 times table. Doubling the 4 times table is equal to the 8 times table.

Multiplication and Division Facts (3, 4 and 8 multiplication tables)

3 x Tables

1 × 3 = 3	3 ÷ 3 = 1
2 × 3 = 6	6 ÷ 3 = 2
3 × 3 = 9	9 ÷ 3 = 3
4 × 3 = 12	12 ÷ 3 = 4
5 × 3 = 15	15 ÷ 3 = 5
6 × 3 = 18	18 ÷ 3 = 6
7 × 3 = 21	21 ÷ 3 = 7
8 × 3 = 24	24 ÷ 3 = 8
9 × 3 = 27	27 ÷ 3 = 9
10 × 3 = 30	30 ÷ 3 = 10
11 × 3 = 33	33 ÷ 3 = 11
12 × 3 = 36	36 ÷ 3 = 12

4 x Tables

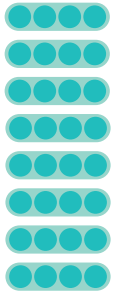
1 × 4 = 4	4 ÷ 4 = 1
2 × 4 = 8	8 ÷ 4 = 2
3 × 4 = 12	12 ÷ 4 = 3
4 × 4 = 16	16 ÷ 4 = 4
5 × 4 = 20	20 ÷ 4 = 5
6 × 4 = 24	24 ÷ 4 = 6
7 × 4 = 28	28 ÷ 4 = 7
8 × 4 = 32	32 ÷ 4 = 8
9 × 4 = 36	36 ÷ 4 = 9
10 × 4 = 40	40 ÷ 4 = 10
11 × 4 = 44	44 ÷ 4 = 11
12 × 4 = 48	48 ÷ 4 = 12

8 x Tables

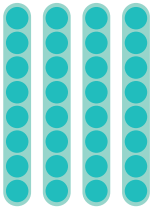
1 × 8 = 8	8 ÷ 8 = 1
2 × 8 = 16	16 ÷ 8 = 2
3 × 8 = 24	24 ÷ 8 = 3
4 × 8 = 32	32 ÷ 8 = 4
5 × 8 = 40	40 ÷ 8 = 5
6 × 8 = 48	48 ÷ 8 = 6
7 × 8 = 56	56 ÷ 8 = 7
8 × 8 = 64	64 ÷ 8 = 8
9 × 8 = 72	72 ÷ 8 = 9
10 × 8 = 80	80 ÷ 8 = 10
11 × 8 = 88	88 ÷ 8 = 11
12 × 8 = 96	96 ÷ 8 = 12

Fact Families

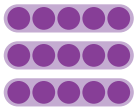
4 × 8 = 32
32 ÷ 8 = 4



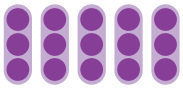
8 × 4 = 32
32 ÷ 4 = 8



5 × 3 = 15
15 ÷ 3 = 5



3 × 5 = 15
15 ÷ 5 = 3

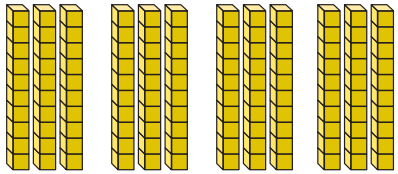


Related Calculations

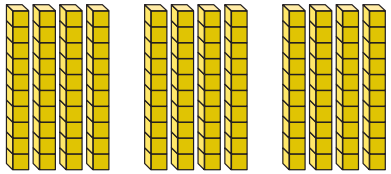
3 × 4 = 12

4 × 3 = 12

30 × 4 = 120



40 × 3 = 120



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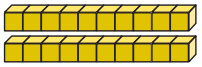
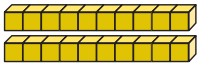
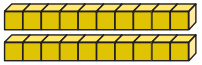
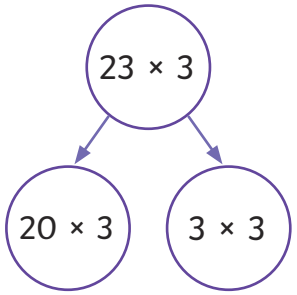
Multiplication Methods - No Regrouping

23 × 3 = 69

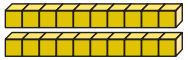
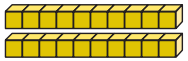
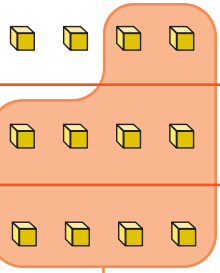
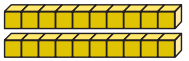
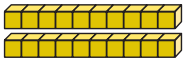
Tens	Ones
	
	
	

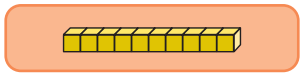
20 × 3 = 60
3 × 3 = 9
23 × 3 = 69



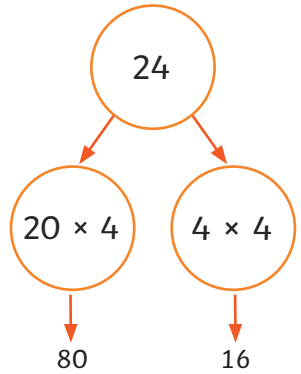
Multiplication Methods - With Regrouping

24 × 4 = 96

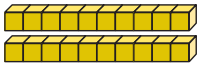
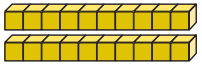
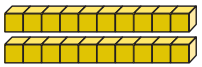
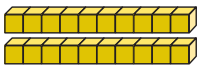
Tens	Ones
	
	
	
	



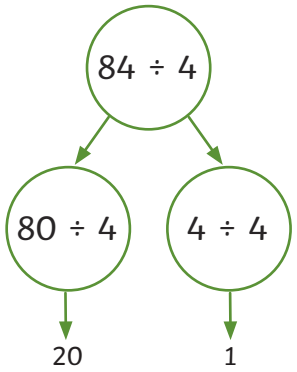
20 × 4 = 80
4 × 4 = 16
24 × 4 = 96



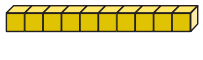
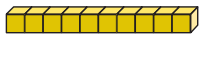
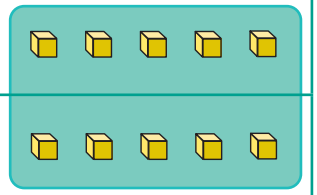
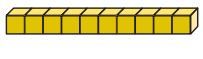
Division Methods - No Exchange

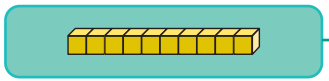
Tens	Ones
	
	
	
	

84 ÷ 4 = 21



Division Methods - With Regrouping

Tens	Ones
	
	
	



46 ÷ 3 = 15r1