MULTIPLICATION and DIVISION KNOWLEDGE ORGANISER

Assisi Catholic Trust

Year 3

Love of Learning

Overview

MULTIPLICATION

DIVISION

In multiplication and division, we learn to:

-Consolidate 2, 4 and 8 Times Tables

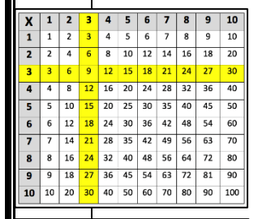
-Comparing Statements -Related Calculations

-Multiply 2 Digits by 1 Digit -Divide 2 Digits by 1 Digit

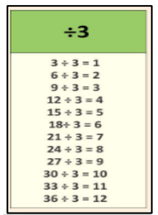
-Scaling -How Many Ways?

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.

3, 4 and 8 Times Tables

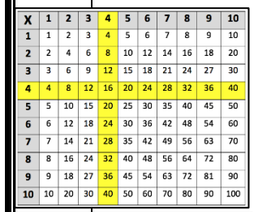


X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100



÷3

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



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1	1	2	3	4	5	6	7	8	9	10
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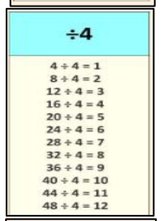
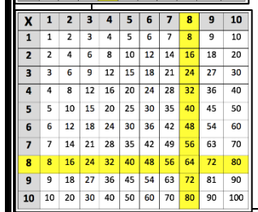
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100



÷4

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



X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
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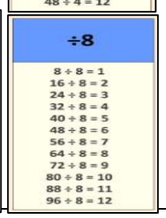


÷8

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

3 Times Table

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

4 Times Table

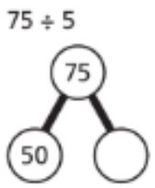
4 x 1 = 4	4 x 5 = 20	4 x 9 = 36
4 x 2 = 8	4 x 6 = 24	4 x 10 = 40
4 x 3 = 12	4 x 7 = 28	4 x 11 = 44
4 x 4 = 16	4 x 8 = 32	4 x 12 = 48

8 Times Table

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

Flexible Division

We can use flexible division including part-part whole.



10 x 5 = 50

5 x 5 = 25

Written Multiplication and Division Methods

Multiplication – No Regrouping

T	O
3	4
×	2
6	8

-Start by multiplying ones from the 2-digit number with the 1-digit number (4 x 2)

-Then, multiply the tens from the 2-digit number with the 1-digit number (3 x 2).

Division – No Regrouping

	Tens	Ones
	2	1
4	8	4

-Divide the tens by the number outside the bus stop (8÷4=2).

-Divide the ones by the number outside the bus stop (4÷4 = 1)

Multiplication – With Regrouping

	1	
T		O
2		5
×		3
7		5

-Here, the resulting number from the first calculation is 10 or more (e.g. 5 x 3 = 15).So, place the ones (5) in the ones column and the tens (1) above the tens column. Add the carried number to the next calculation (2x3=6, 6+1=7).

Division – With Regrouping

	Tens	Ones
	1	5
3	4	$^{1}5$

4÷3=1 with 1 remainder. This remainder is placed in the next column before the next number. The next sum therefore becomes 15÷3=5.

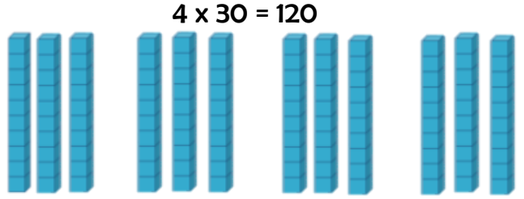
Related Calculations

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

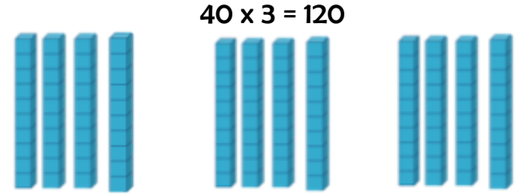
4 x 3 = 12

3 x 4 = 12

4 x 30 = 120



40 x 3 = 120



Key Vocabulary

Times Tables | Multiply | Divide | Fact Families | Regrouping | Arrays | 3 times tables | 4 times tables | 8 times tables