

Multiplication and Division

Knowledge Organiser

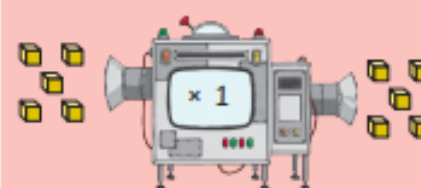
Key Vocabulary

Multiplication and Division Facts

Use Place Value to Multiply and Divide Mentally

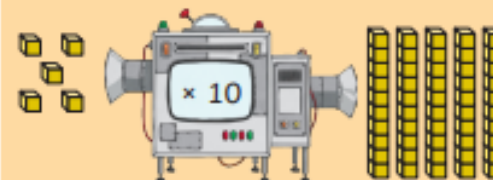
multiply

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



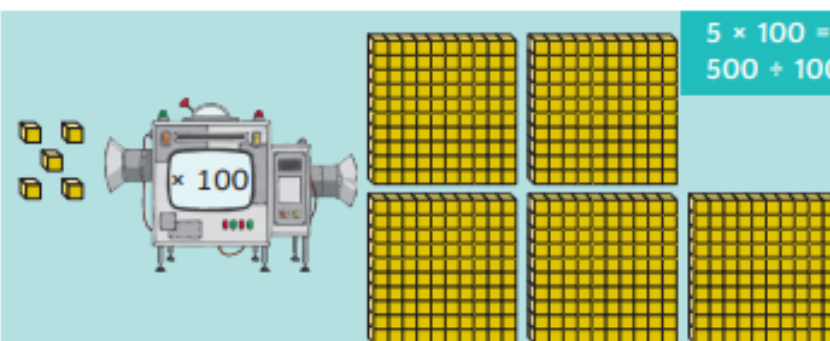
$$5 \times 1 = 5$$

$$5 \div 1 = 5$$



$$5 \times 10 = 50$$

$$50 \div 10 = 5$$



$$5 \times 100 = 500$$

$$500 \div 100 = 5$$

groups of

lots of

times

divide

share

remainder

factor

multiple

product

Factor pairs and Commutativity



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

$$5 \times 4 = 20$$



$$4 \times 5 = 20$$



Multiply Using Formal Written Methods

Th	H	T	O
	5	4	3
x			4
		1	2
	1	6	0
2	0	0	0
2	1	7	2

$$(4 \times 3)$$

$$(4 \times 40)$$

$$(4 \times 500)$$

Th	H	T	O
	5	4	3
x			4
			4
2	1	7	2
	1	1	

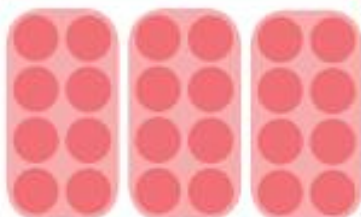
Remember to move any regrouped numbers into the next column. After the next multiplication, add the regrouped number to the answer.

Mental Calculations for Solving Problems

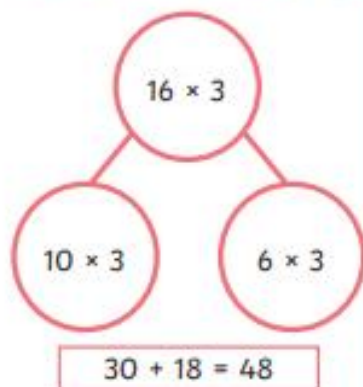
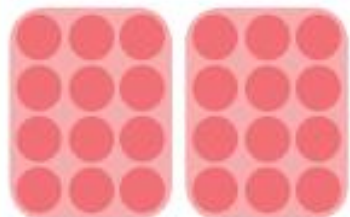
$$(2 \times 3) \times 4 = 24$$



$$(2 \times 4) \times 3 = 24$$



$$(3 \times 4) \times 2 = 24$$



Integer Scaling Problems

10 pencils



$10 \times 4 = 40$ pencils



75g



$75\text{g} \times 2 = 150\text{g}$



Short Division with Exact Answers

There are 69 tennis balls packed in tubes of 3.

There are 23 tubes altogether.

$$69 \div 3 = 23$$

$$\begin{array}{r} 23 \\ 3 \overline{) 69} \end{array}$$

69		
23	23	23

