

Multiplication and Division

Knowledge Organiser

Key Vocabulary

Multiplication and Division Facts

Multiply and Divide by 0, 1, 10 and 100

multiply

groups of

lots of

times

divide

share

remainder

factor

multiple

product

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

$$0 \times 15 = 0$$

H	T	O
	●●	●●●

↓ × 10

H	T	O
●●	●●●	

$$45 \times 10 = 450$$

Th	H	T	O
		●●●	●●●

↓ × 100

Th	H	T	O
●●●	●●●		

$$63 \times 100 = 6300$$

$$1 \times 15 = 15$$

H	T	O
●●	●●●	

↓ ÷ 10

H	T	O
	●●	●●●

$$450 \div 10 = 45$$

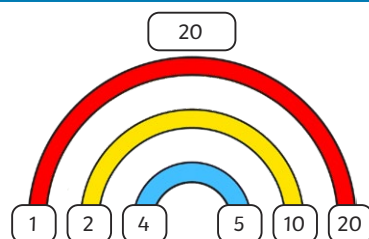
Th	H	T	O
●●●	●●●		

↓ ÷ 100

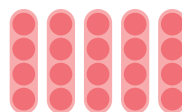
Th	H	T	O
		●●●	●●●

$$6300 \div 100 = 63$$

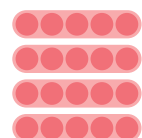
Factor pairs and Commutativity



$$5 \times 4 = 20$$



$$4 \times 5 = 20$$



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

Multiply Using Informal and Formal Methods

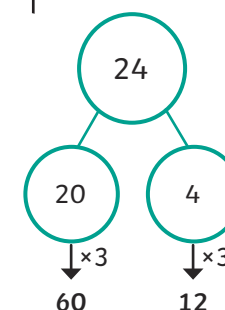
$$10 \times 3 = 30$$

$$10 \times 3 = 30$$

$$4 \times 3 = 12$$

$$24 \times 3 = 60 + 12 = 72$$

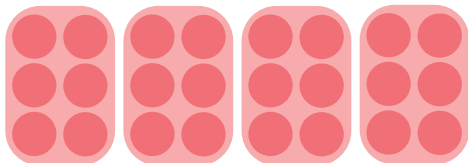
Tens	Ones
●●●●	●●●
●●●●	●●●
●●●●	●●●
●●●●	●●●



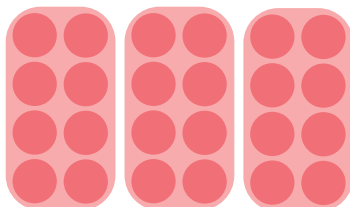
Th	H	T	O
	5	4	3
			4
2	1	7	2
	1	1	

Mental Calculations for Solving Problems

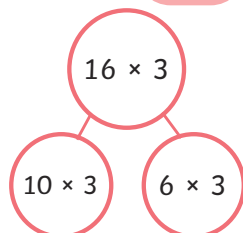
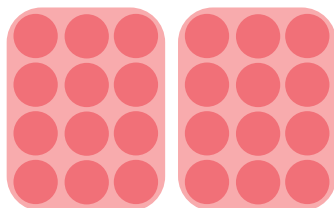
$$(2 \times 3) \times 4 = 24$$



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



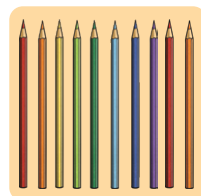
$$(3 \times 4) \times 2 = 24$$



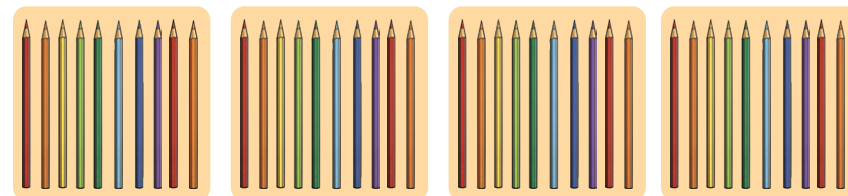
$$30 + 18 = 48$$

Integer Scaling

10 pencils



$10 \times 4 = 40$ pencils



75g

$$5 \times 7 = 35$$

$$5 \times 70 = 350$$

$75g \times 2 = 150g$

$$350 \div 5 = 70$$

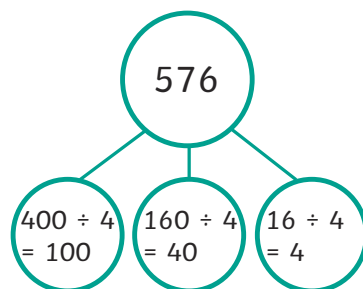
$$3500 \div 5 = 700$$

Short Division with Exact Answers

$$576 \div 4 = 144$$

Hundreds	Tens	Ones
100	10 10 10 10	1 1 1 1
100	10 10 10 10	1 1 1 1
100	10 10 10 10	1 1 1 1
100	10 10 10 10	1 1 1 1

There are 69 tennis balls packed in tubes of 3.



23

3 69

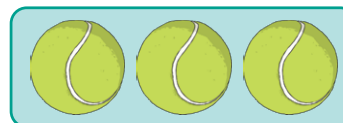
$$69 \div 3 = 23$$

69

23

23

23



Correspondence Problems

Hat	Scarf	Gloves
 	   	  

2

4

3

Number of different combinations is:

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