



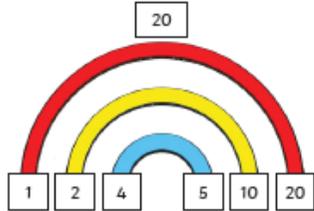
Maths Knowledge Organiser - Year 5

Multiplication and Division

Key Knowledge:

Factors

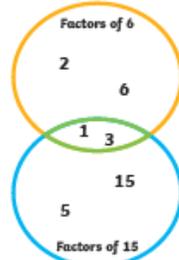
A factor is a number that divides into another number exactly, without leaving a remainder.



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

A common factor is a factor of 2 or more numbers.



Prime Numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Squared² and Cubed³ Numbers



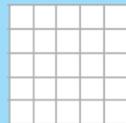
$$2^2 = 4$$

$$2 \times 2 = 4$$



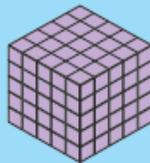
$$2^3 = 8$$

$$2 \times 2 \times 2 = 8$$



$$5^2 = 25$$

$$5 \times 5 = 25$$



$$5^3 = 125$$

$$5 \times 5 \times 5 = 125$$

Related Calculations

$8 \times 9 = 72$	$9 \times 8 = 72$
$80 \times 9 = 720$	$90 \times 8 = 720$
$72 \div 9 = 8$	$72 \div 8 = 9$
$720 \div 9 = 80$	$720 \div 8 = 90$

Division

$$136 \div 4 = 34$$

		3	4
4	1	3	6
-	1	2	0
		1	6
		-	1
			6
			0

$\rightarrow 30 \times 4$

$\rightarrow 4 \times 4$

Short Multiplication

$$2543 \times 7 = 17801$$

	2	5	4	3
x				7
	1	7	8	0
	1	3	3	2

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

Long Multiplication

$$2543 \times 67 = 170381$$

		2	5	4	3
	x			6	7
		1	7	8	0
		1	3	3	2
1	5	2	5	8	0
1	3	2	1		
1	7	0	3	8	1
	1	1			

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

Short Division

		3	8
4	1	5	2

$15 \div 4 = 3$ remainder 3
Remember to regroup any remainders and move them into the next column.

		4	5	5	r	3
5	2	2	7	8		

$28 \div 5 = 5$ remainder 3
If your calculation has a remainder, remember to record it in the answer using the letter r.

Key Vocabulary:

- Equal group
- Add
- Share
- Equally
- Multiply
- Groups of
- Divide
- Share
- Altogether
- Array
- Repeated addition
- Times tables
- Regrouping
- Fact family
- Remainder
- Product
- Multiple
- Factor