









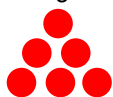



Key Vocabulary	
Multiple Multiples of 8: 8, 16, 24...	The times table of the number
Factor Factors of 8: 1, 2, 4, 8	Divides exactly into the given number
Highest Common Factor (HCF)	Largest factor common to two given numbers
Lowest Common Multiple (LCM)	Smallest multiple common to two given numbers
Prime Number	Has exactly two different factors (1 and itself)
Square Number $3^2 = 3 \times 3 = 9$	A number times by itself equals a square number
Cube Number $2^3 = 2 \times 2 \times 2 = 8$	A number times by itself three times equals a cube number
Triangular Number	The pattern of numbers that form triangles
Powers / Exponents $7^4 = 7 \times 7 \times 7 \times 7$	The number times itself that many times is the power
Square Root $\sqrt{9} = 3$	Opposite operation to squaring
Cube Root $\sqrt[3]{8} = 2$	Opposite operation to cubing
Arithmetic Progression	A number sequence that goes up by the same number each time. E.g a) 1, 2, 3, 4, 5... b) 10, 12, 14, 16... c) 5, 10, 15, 20...

Key facts / Diagrams									
First 15 Square numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225									
1 	4 	9 	16 						
First 5 Cube numbers: 1, 8, 27, 64, 125									
1 	8 	27 	64 						
First 10 triangular numbers: 1, 3, 6, 10, 15, 21, 28, 36, 45, 55									
1 	3 	6 	10 						
Prime numbers up to 50:									
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

Common misconceptions
<ul style="list-style-type: none"> <li>1 is not a prime number</li> <li><math>5^3 = 5 \times 5 \times 5</math> <b>NOT</b> <math>5 \times 3</math></li> </ul>
Worked examples
<p>1. Choose 3 numbers from the below that are common factors of 72 and 48.</p> <p style="text-align: center;"><b>2, 9, 5, 8, 6</b></p> <p>Factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72</p> <p>Factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48</p> <p>Answer: 2, 6, 8</p> <p>2. Find the LCM of 12 and 20.</p> <p>Multiples of 12: 12, 24, 36, 48, 60, 72, 84, 96</p> <p>Multiples of 20: 20, 40, 60, 80</p> <p>Lowest Common Multiple: 60</p> <p>3. Which is the greatest <math>\sqrt{100}</math> or <math>\sqrt[3]{125}</math>?</p> <p><math>\sqrt{100} = 10</math></p> <p><math>\sqrt[3]{125} = 5</math></p> <p>Answer: <math>\sqrt{100}</math> is the greatest</p>