

# Monday

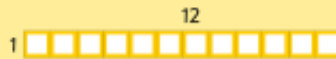
A factor is a number that when multiplied with another, produces a given number - look at the example of factors of 12 on the sheet.

## Factors & Multiples

Find the different factors of a number by working out which numbers divide into it evenly.

What are all the factors of 12?

$$12 \div 1 = 12$$



$$12 \div 2 = 6$$



$$12 \div 3 = 4$$



The factors of 12 are:  
1, 2, 3, 4, 6, 12

Remember:

A factor is a number that when multiplied with another, produces a given number.

Multiples appear in the number's multiplication table. You can calculate them by counting on by that number.

What are all the multiples of 12?

$$12 \times 1 = 12$$



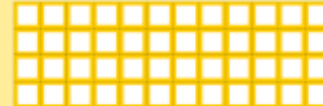
$$12 \times 2 = 24$$



$$12 \times 3 = 36$$



$$12 \times 4 = 48$$



The multiples of 12 include:  
12, 24, 36, 48...

Remember:

A multiple is a number that may be divided by another, a certain number of times, without a remainder.



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A multiple is a number that appears in a given number's times tables.

# Tuesday

A prime number is a number that can only be divided by 1 and itself (it goes into no other times tables, other than its own and the 1s)

The number 1 is NOT a prime number

## Prime Numbers

A natural number greater than 1 with no divisors other than 1 and itself.

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

Remember these facts about Prime Numbers!

There are no even numbers except 2.

There are no prime numbers ending in 5, except 5.

The digits can't add up to 3 except 3 (digital root).

A prime factor is a factor (see Monday's slide) that is a prime number - for example the number 15 has 2 prime factors; 3 and 5 which multiply to make 15 and are prime numbers.

# Wednesday

A prime number (which can also be called non-composite number) is a number that can only be divided by 1 and itself (it goes into no other times tables, other than its own and the 1s)

## Prime Numbers

A natural number greater than 1 with no divisors other than 1 and itself.

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

Remember these facts about Prime Numbers!

There are no even numbers except 2.

There are no prime numbers ending in 5, except 5.

The digits can't add up to 3 except 3 (digital root).

A Composite Number is every other number that is not prime.

# Thursday & Friday

## Square Numbers

$1^2$	$1 \times 1 =$	<b>1</b>
$2^2$	$2 \times 2 =$	<b>4</b>
$3^2$	$3 \times 3 =$	<b>9</b>
$4^2$	$4 \times 4 =$	<b>16</b>
$5^2$	$5 \times 5 =$	<b>25</b>
$6^2$	$6 \times 6 =$	<b>36</b>
$7^2$	$7 \times 7 =$	<b>49</b>
$8^2$	$8 \times 8 =$	<b>64</b>
$9^2$	$9 \times 9 =$	<b>81</b>
$10^2$	$10 \times 10 =$	<b>100</b>
$11^2$	$11 \times 11 =$	<b>121</b>
$12^2$	$12 \times 12 =$	<b>144</b>
$13^2$	$13 \times 13 =$	<b>169</b>
$14^2$	$14 \times 14 =$	<b>196</b>
$15^2$	$15 \times 15 =$	<b>225</b>

The product of a number multiplied by itself.

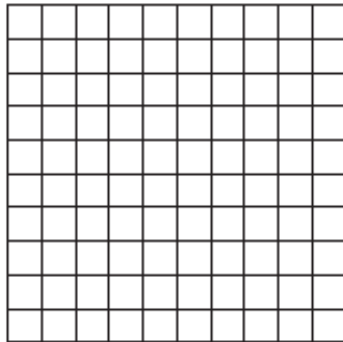
e.g.  $10 \times 10 = 100$

which can be shown as:

$10^2 = 100$

10 squared = 100

$10 \times 10 = 100$



A square number is the product (answer) when a number is multiplied by itself -  $2 \times 2 = 4$  so 4 is a square number.

A cube number is the product (answer) when a number is multiplied by itself 3 times -  $2 \times 2 \times 2 = 8$  so 8 is a cube number.

## Cube Numbers

$1^3$	$1 \times 1 \times 1 =$	<b>1</b>
$2^3$	$2 \times 2 \times 2 =$	<b>8</b>
$3^3$	$3 \times 3 \times 3 =$	<b>27</b>
$4^3$	$4 \times 4 \times 4 =$	<b>64</b>
$5^3$	$5 \times 5 \times 5 =$	<b>125</b>
$6^3$	$6 \times 6 \times 6 =$	<b>216</b>
$7^3$	$7 \times 7 \times 7 =$	<b>343</b>
$8^3$	$8 \times 8 \times 8 =$	<b>512</b>
$9^3$	$9 \times 9 \times 9 =$	<b>729</b>
$10^3$	$10 \times 10 \times 10 =$	<b>1000</b>
$11^3$	$11 \times 11 \times 11 =$	<b>1331</b>
$12^3$	$12 \times 12 \times 12 =$	<b>1728</b>
$13^3$	$13 \times 13 \times 13 =$	<b>2197</b>
$14^3$	$14 \times 14 \times 14 =$	<b>2744</b>
$15^3$	$15 \times 15 \times 15 =$	<b>3375</b>

Formed by multiplying a digit by itself 3 times.

e.g.  $10 \times 10 \times 10 = 1000$   
which can be shown as:

$10^3 = 1000$

10 cubed = 1000

10x10x10 cube

