

SI base units with prefixes in front of them.	<i>Prefix tells you how much bigger or smaller a unit is than the base unit</i>	e.g. kilogram is one thousand grams.
---	---	--------------------------------------

Scaling prefixes	<i>Used for large or small quantities</i>	Makes the size of the number more manageable.
------------------	---	---

Prefix	<i>Symbol</i>	Multiple of Unit	Standard form
terra	<b>T</b>	1,000,000,000,000	$10^{12}$
giga	<b>G</b>	1,000,000,000	$10^9$
mega	<b>M</b>	1,000,000	$10^6$
kilo	<b>k</b>	1000	$10^3$
deci	<b>d</b>	0.1	$10^{-1}$
centi	<b>c</b>	0.01	$10^{-2}$
milli	<b>m</b>	0.001	$10^{-3}$
micro	<b><math>\mu</math></b>	0.000001	$10^{-6}$
nano	<b>n</b>	0.000000001	$10^{-9}$

Number	Standard form
1000	$1 \times 10^3$
1,000,000	$1 \times 10^6$
0.00001	$1 \times 10^{-5}$

Standard form	<i>An easy way to write very large or very small numbers</i>
---------------	--

**Remember in any calculation you should round down to the lowest number of significant figures given.**

**Remember to write down how many significant figures you have rounded your answer to.**

e.g. 0.33566 to 2 s.f.  
= 0.34 (2 s.f.)

The second and third significant figures come straight after the first, even if they are zeros.

The first significant figure of a number is the first digit that is not a zero.

Significant figures (s.f.)	<i>Sometimes we do not need to give detailed answers to problems - we just want a rough idea. A long number, could be rounded off to the nearest thousand, or nearest million.</i>
	<i>Another method of giving an approximated answer is to round off using significant figures.</i>

Physical quantity	<i>Unit</i>
Mass	<i>Kilogram (Kg)</i>
Length	<i>Metre (m)</i>
Volume	<i>Metre cubed (m<sup>3</sup>)</i>
Time	<i>Second (s)</i>
Current	<i>Ampere (A)</i>
Temperature	<i>Kelvin (K)</i>

Physical quantity	<i>Unit and abbreviation</i>
Energy	<i>Joule (J)</i>
Frequency	<i>Hertz (Hz)</i>
Force	<i>Newton (N)</i>
Power	<i>Watt (W)</i>
Pressure	<i>Pascal (Pa)</i>
Electric charge	<i>Coulomb (C)</i>
Electric potential difference	<i>Volt (v)</i>
Electric resistance	<i>Ohm (<math>\Omega</math>)</i>
Magnetic flux density	<i>Tesla (T)</i>

**Common names**

**SI Units for physical quantities**

SI units are used all round the World.

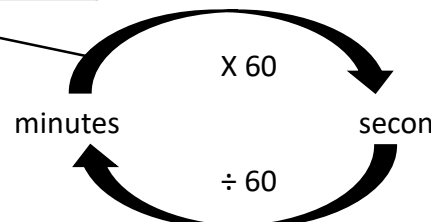
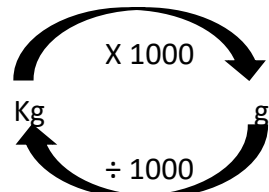
**Derived units with special names**

**Multiples and sub-multiples of units**

**EDEXCEL KEY CONCEPTS OF PHYSICS**

**Conversion between units**

From a smaller unit to a bigger unit	<i>Divide by the conversion factor</i>
From a bigger unit to a smaller unit	<i>Multiply by the conversion factor</i>



**Significant figures**

	<i>Prefix tells you how much bigger or smaller a unit is than the base unit</i>	e.g. kilogram is one thousand grams.
--	---	--------------------------------------

	<i>Used for large or small quantities</i>	Makes the size of the number more manageable.
--	---	---

Prefix	Symb ol	Multiple of Unit	Standard form
	T	1,000,000,000,000	$10^{12}$
	G	1,000,000,000	$10^9$
	M	1,000,000	$10^6$
	k	1000	$10^3$
	d	0.1	$10^{-1}$
	c	0.01	$10^{-2}$
	m	0.001	$10^{-3}$
	$\mu$	0.000001	$10^{-6}$
	n	0.000000001	$10^{-9}$

Number	Standard form
1000	$1 \times 10^3$
1,000,000	$1 \times 10^6$
0.00001	$1 \times 10^{-5}$

	<i>An easy way to write very large or very small numbers</i>
--	--

**Remember in any calculation you should round down to the lowest number of significant figures given.**

**Remember to write down how many significant figures you have rounded your answer to.**

e.g. 0.33566 to 2 s.f.  
= 0.34 (2 s.f.)

The second and third significant figures come straight after the first, even if they are zeros.

The first significant figure of a number is the first digit that is not a zero.

*Sometimes we do not need to give detailed answers to problems - we just want a rough idea. A long number, could be rounded off to the nearest thousand, or nearest million.*

*Another method of giving an approximated answer is to round off using significant figures.*

Physical quantity	Unit
	<i>Kilogram (Kg)</i>
	<i>Metre (m)</i>
	<i>Metre cubed (m<sup>3</sup>)</i>
	<i>Second (s)</i>
	<i>Ampere (A)</i>
	<i>Kelvin (K)</i>

Physical quantity	Unit and abbreviation
	<i>Joule (J)</i>
	<i>Hertz (Hz)</i>
	<i>Newton (N)</i>
	<i>Watt (W)</i>
	<i>Pascal (Pa)</i>
	<i>Coulomb (C)</i>
	<i>Volt (v)</i>
	<i>Ohm (<math>\Omega</math>)</i>
	<i>Tesla (T)</i>

**Common names**

**SI Units for physical quantities**

SI units are used all round the World.

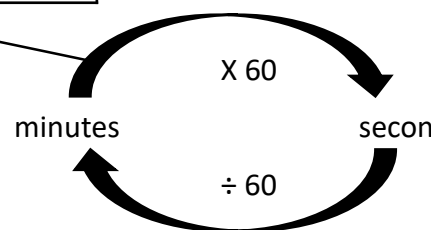
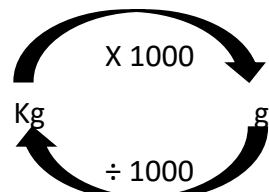
**Derived units with special names**

**Multiples and sub-multiples of units**

**EDEXCEL KEY CONCEPTS OF PHYSICS**

**Conversion between units**

	<i>Divide by the conversion factor</i>
	<i>Multiply by the conversion factor</i>



**Standard form**

**Significant figures**

SI base units with prefixes in front of them.		
---	--	--

Scaling prefixes		
------------------	--	--

Prefix	<i>Symbol</i>	Multiple of Unit	Standard form
terra			
giga			
mega			
kilo			
deci			
centi			
milli			
micro			
nano			

Number	Standard form
1000	$1 \times 10^3$
1,000,000	
0.00001	

Standard form	
---------------	--

Physical quantity	<i>Unit</i>
Mass	
Length	
Volume	
Time	
Current	
Temperature	

Physical quantity	<i>Unit and abbreviation</i>
Energy	
Frequency	
Force	
Power	
Pressure	
Electric charge	
Electric potential difference	
Electric resistance	
Magnetic flux density	

**Common names**

**SI Units for physical quantities**

SI units are used all round the World.

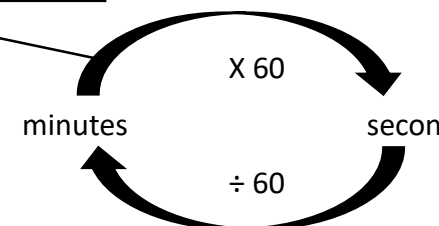
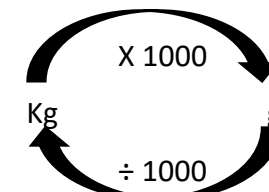
**Derived units with special names**

**Multiples and sub-multiples of units**

**EDEXCEL KEY CONCEPTS OF PHYSICS**

**Conversion between units**

From a smaller unit to a bigger unit	
From a bigger unit to a smaller unit	



**Standard form**

**Significant figures**

**Remember in any calculation you should round down to the lowest number of significant figures given.**

**Remember to write down how many significant figures you have rounded your answer to.**

e.g. 0.33566 to 2 s.f.  
= 0.34 (2 s.f.)

The second and third significant figures come straight after the first, even if they are zeros.

The first significant figure of a number is the first digit that is not a zero.

Significant figures (s.f.)	

SI base units with		
--------------------	--	--

--	--	--

Prefix	<i>Sym bol</i>	Multiple of Unit	Standard form

Number	Standard form
	$1 \times 10^3$
1,000,000	
0.00001	

--	--

Physical quantity	<i>Unit</i>

Physical quantity	<i>Unit and abbreviation</i>

Common names

SI Units for physical quantities

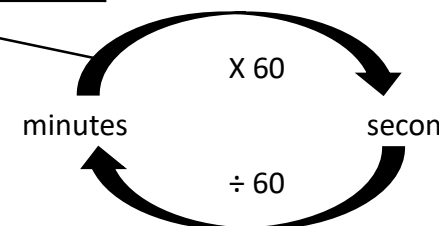
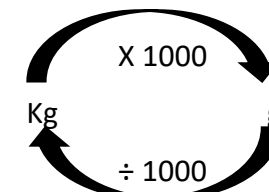
SI units

Derived units with special names

Multiples and sub-multiples of units

**EDEXCEL KEY CONCEPTS OF PHYSICS**

Conversion between units

Standard form

Significant figures

**Remember in any calculation you should round down to the lowest number of significant figures given.**

**Remember to write down how many significant figures you have rounded your answer to.**

e.g. 0.33566 to 2 s.f.  
= 0.34 (2 s.f.)

The second and third significant figures

The first significant figure
