

# THE PERIODIC TABLE OF ELEMENTS

**THERE ARE 118 ELEMENTS.**

An element is a substance that cannot be broken down into simpler substances using chemical methods. Every element is made up of its own type of atom.

The elements are arranged in rows and columns. The horizontal rows (which go from left to right) are called *periods* and the vertical columns (from top to bottom) are called *groups*.

The smallest possible piece of an element is called an atom.

**ELEMENTS ARE THE MATERIALS THAT MAKE UP ALL THE MATTER IN THE UNIVERSE.**

The Periodic Table is a chart invented by a Russian chemist in the 1860s that arranges all of the elements, based on their properties. Dmitri Mendeleev left blank spaces for elements that hadn't been discovered yet — and he was right!

Chlorine comes from the Greek word 'khloros' which means yellow/green, the colour of chlorine gas.

**THE SYMBOLS OF THE ELEMENTS DON'T ALWAYS MATCH THEIR NAMES BECAUSE A LOT OF THEM COME FROM LATIN AND GREEK WORDS.**

Thorium (Th) is named after Thor, the Norse god of thunder (and the Marvel superhero)!

Hydrogen is the most abundant element in the universe. It is the lightest with just one proton and one electron. It makes up about 75% of the normal matter in the universe.

Gallium comes from the name that was used for the region of France hundreds of years ago: Gaul.

Helium makes your voice funny but it has such a small mass that Earth's gravity can't hold onto it forever. Over time, it floats into space!

Helium is named after the Greek word for Sun: Helios.

The final element on the Periodic Table, oganesson, was only officially named in 2016.

Uranium and Neptunium are named after the planets Uranus and Neptune.

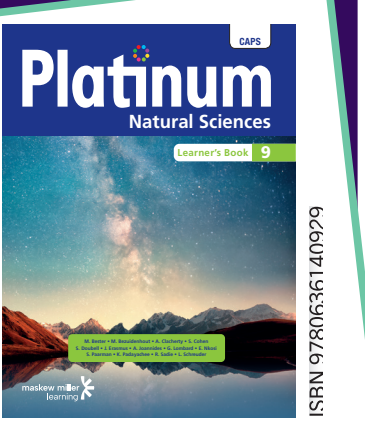
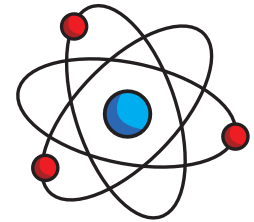
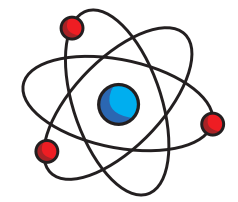
**NOBLE GASES** are chemically stable. They are called 'inert' because they do not react with other elements. They are Helium, Neon, Argon, Krypton, Xenon and Radon — and are colourless, odourless and tasteless.

Plutonium is radioactive and can heat up on its own. It produces so much heat that NASA uses it to power computers and other instruments on space probes sent to explore the solar system.

The Latin word for gold is aurum, which is why gold has the symbol Au on the chart.

The oxygen you breathe is colourless, but when cooled to  $-183^{\circ}\text{C}$ , it becomes a light blue liquid!

1 H Hydrogen																	2 He Helium
3 Li Lithium	4 Be Beryllium											5 B Boron	6 C Carbon	7 N Nitrogen	8 O Oxygen	9 F Fluorine	10 Ne Neon
11 Na Sodium	12 Mg Magnesium											13 Al Aluminium	14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon
19 K Potassium	20 Ca Calcium	21 Sc Scandium	22 Ti Titanium	23 V Vanadium	24 Cr Chromium	25 Mn Manganese	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	31 Ga Gallium	32 Ge Germanium	33 As Arsenic	34 Se Selenium	35 Br Bromine	36 Kr Krypton
37 Rb Rubidium	38 Sr Strontium	39 Y Yttrium	40 Zr Zirconium	41 Nb Niobium	42 Mo Molybdenum	43 Tc Technetium	44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver	48 Cd Cadmium	49 In Indium	50 Sn Tin	51 Sb Antimony	52 Te Tellurium	53 I Iodine	54 Xe Xenon
55 Cs Caesium	56 Ba Barium	57 La Lanthanum	72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	86 Rn Radon
87 Fr Francium	88 Ra Radium	89 Ac Actinium	104 Rf Rutherfordium	105 Db Dubnium	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 Ds Darmstadtium	111 Rg Roentgenium	112 Cn Copernicium	113 Nh Nihonium	114 Fl Flerovium	115 Mc Moscovium	116 Lv Livermorium	117 Ts Tennessine	118 Og Oganesson
		58 Ce Cerium	59 Pr Praseodymium	60 Nd Neodymium	61 Pm Promethium	62 Sm Samarium	63 Eu Europium										
		90 Th Thorium	91 Pa Protactinium	92 U Uranium	93 Np Neptunium	94 Pu Plutonium	95 Am Americium	64 Gd Gadolinium	65 Tb Terbium	66 Dy Dysprosium	67 Ho Holmium	68 Er Erbium	69 Tm Thulium	70 Yb Ytterbium	71 Lu Lutetium		
							96 Cm Curium	97 Bk Berkelium	98 Cf Californium	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium	103 Lr Lawrencium			



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