

The Periodic Table Of Elements

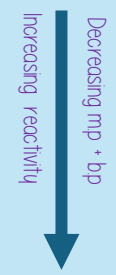
PERIODIC table because similar properties occur at regular intervals.

Periods
(Rows):
Show the
number of
electron
shells in the
atoms of the
elements.

Group 1		Group 2		Key																Group 7		Group 8	
				relative atomic mass atomic symbol name atomic (proton) number																			
7 Li lithium 3	9 Be beryllium 4																	19 F fluorine 9	20 Ne neon 10				
23 Na sodium 11	24 Mg magnesium 12																	35.5 Cl chlorine 17	40 Ar argon 18				
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36						
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54						
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86						

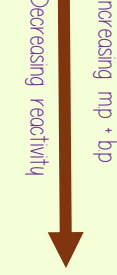
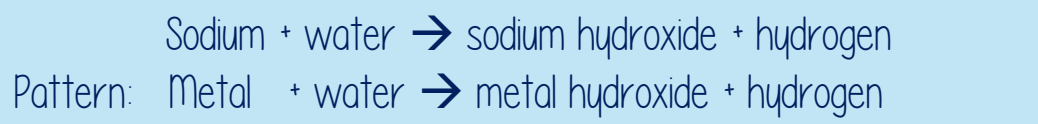
Group 0: Noble Gases
(Full outer shell,
very unreactive:
INERT).

The elements in a group **all react in a similar way** and sometimes show a **pattern in reactivity**. As you go down a group and across a period the elements show patterns in physical properties.



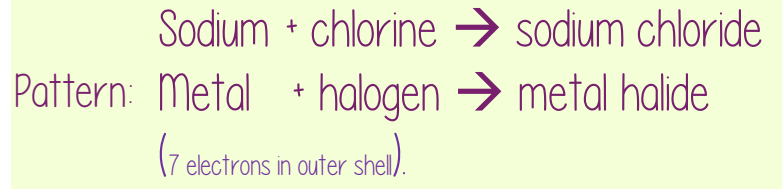
Group 1: Alkali Metals
(1 electron in outer shell, highly reactive — kept in oil). Will react with water to make an alkali solution of a metal hydroxide.

mp — melting point
bp — boiling point



Group 7: Halogens
DIATOMIC (2 atoms in each molecule)
More reactive element will displace less reactive!

Kill microorganisms (NOT clean).
React with Sodium to make a sodium halide.



Metals:
Found on the left side (and most of) the periodic table.
Good conductors of heat and electricity.
Malleable, ductile, sonorous and shiny (lustrous).

Non-Metals:
Found on the right of the periodic table.
Poor conductors (insulators), brittle, and dull.

Alkali Metals



Sodium



Lithium



Potassium



Rubidium



Cesium



Francium

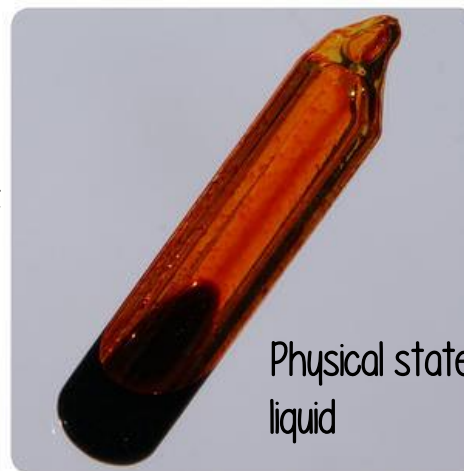
Physical state: solid

Chlorine



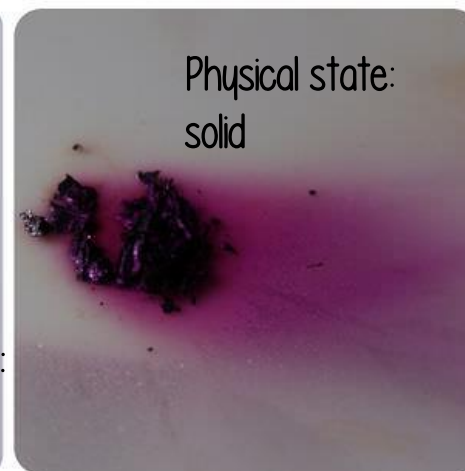
Physical state:
gas

Bromine



Physical state:
liquid

Iodine



Physical state:
solid

Keywords

Groups: Columns of the periodic table.

Periods: Rows of the periodic table.

Periodic table: Shows all the **elements** arranged in rows and columns.

Physical properties: Features of a substance that can be observed without changing the substance itself. Often referring to state (**solid, liquid, gas**).

Chemical properties: Features of the way a substance reacts with other substances.

Solution: when a **solute** is **dissolved** in a **solvent**.

Inert: Very unreactive.

Malleable: Can be hammered into shape.

Ductile: Can be drawn into wires.

Sonorous: Makes a 'ting' sound.

Brittle: breaks easily, even if it feels hard.

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