

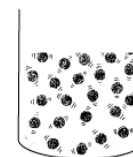
Atoms and Elements

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Year 8 Chemical Sciences

Kinetic Theory of Matter



Solid



Liquid

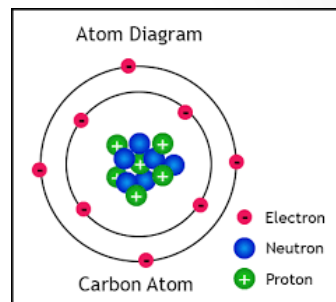
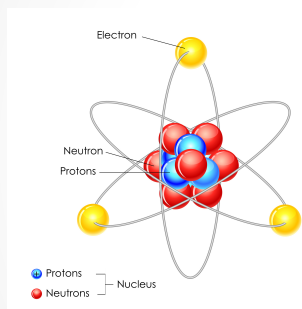


Gas

Substances are made up of particles

Particles are always moving

Particles = Atoms



Only 100 different types of atoms are used as the building blocks for everything

Elements

- Substances made up of ONE type of atom



Copper



Copper atoms



Copper atoms

Different types of Elements



Carbon (C)



Zinc



Uranium



Hydrogen (H)



Helium



Sulphur

- 94 naturally occurring on earth; 24 man made

Metal or Non-metal?

- Examples

- Aluminium
- Iron
- Mercury
- Gold
- Silver



- Properties

- Shiny
- Solid at room temp
- Conduct heat & electricity
- Malleable
 - Hammer into sheets
- Ductile
 - Stretched into wires

- Examples

- Helium
- Carbon
 - Burnt matches
- Bromine



Properties

- Solid or gas at room temp
- Dull (not shiny)
- Do not conduct heat & electricity
- Brittle
 - Break easily

Periodic Table

Group→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
↓Period																			
1	1 H																	2 He	
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne	
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr	
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe	
6	55 Cs	56 Ba	*	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	*	103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og
			*	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb		
			*	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No		

Symbols of Elements

Resources on Moodle

Interactive Periodic table of elements

<https://www.webelements.com>

The mystery elements

<http://www.scootle.edu.au/ec/viewing/L2553/index.html>

Precious metals-video

<http://splash.abc.net.au/home#!/media/85492/>

For next week

The Elements: Find the elements-Tests difference between a compound and an element

<http://www.scootle.edu.au/ec/viewing/L2550/index.html>