

Atoms, Elements and Compounds		
1	Atom	the smallest part of a substance that can exist
2	Element	a substance made up of only one type of atom
3	Chemical symbol	one or two letters representing an element
4	Periodic table	a list of the names and symbols of approximately 100 elements
5	Compounds	substances that contain two or more elements chemically combined
6	Formula	the letters and numbers used to represent the atoms in a molecule
7	Equation	a representation of a reaction using words or symbols and formulae
8	Ion	a charged particle
Mixtures		
9	Mixture	two or more elements or compounds, not chemically combined together
10	Filtration	a method of separating a soluble solid from a liquid
11	Crystallisation	a process that produces solid crystals from a solution by evaporating the solvent
12	Distillation	a method of separating a solvent from a solution using evaporation and condensation
13	Fractional distillation	a method used to separate a mixture of different liquids that have different boiling points, using evaporation and condensation
14	Chromatography	a method of separating a mixture of soluble substances, such as inks
The development of the model of the atom		
15	Plum pudding model	the atom is a ball of positive charge with electrons embedded in it
16	Rutherford's Atomic theory	the mass of the atom is concentrated at the centre of the of the atom and this nucleus is charged
17	Alpha scattering experiment	alpha particles were fired at a sheet of gold foil and surprisingly some bounced back.
18	Niels Bohr	discovered that electrons orbit the nucleus at specific distances
19	James Chadwick	his evidence proved neutrons exist

Sub-atomic particles				
		Mass	Charge	
20	Proton	1	1+	
21	Neutron	1	0	
22	Electron	0.0005	1-	
23	Nucleus	the centre of the atom, made up of protons and neutrons		
24	Size of the atom	approximate radius of 0.1nm (1×10^{-10} m)		
25	Size of the nucleus	the radius is 1/10,000 of the atom		
26	Isotopes	atoms of the same element that have different numbers of neutrons		
27	Atomic number	the number of protons		
28	Atomic mass	the number of protons and neutrons		
29	Relative atomic mass	the average mass of an element, taking account of the abundance of the isotopes		
30	Electronic structure	the number of electrons found in each of the energy levels		
The periodic table				
31	Groups	the columns of elements in the periodic table		
32	Periods	the rows of elements within the periodic table		
33	Dmitri Mendeleev	produced the modern periodic table leaving gaps for elements that had not been discovered		
34	Metals	found on the left of the periodic table, form + ions		
35	Non-metals	found on the right of the periodic table, do not form + ions		
Groups in the periodic table				
	Group	Name	number of electrons	Reactivity
36	0	Noble gases	full outer shell	Unreactive
	1	Alkali metals	1 electron in outer shell	Very reactive, increasing down the group
37	7	Halogens	7 electrons in outer shell	Reactive, decreasing down the group
38				
39	Displacement reaction	a more reactive element pushes out a less reactive element from its compound		
40	Metals and water	Metal + Water \rightarrow Metal Hydroxide + Hydrogen		
41	Metals and halogens	Metal + Halogen \rightarrow Metal Halide		



