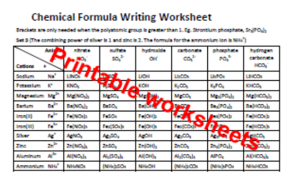
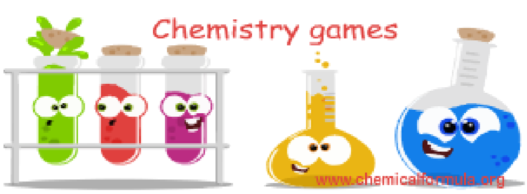
Common acids
  - Mnemonics
- Periodic table
  - Bingo worksheets
  - Periodic Table Songs
  - 20 Elements Grid
  - Periodic table worksheets
- Worksheets
  - Basic Chemistry
  - Periodic table worksheets
  - Chemical formula worksheets
  - Balancing chemical equations
  - Chemistry Bingo worksheets
  - Chemical Bingo Generator
  - Chemistry Word Puzzles
  - Chemistry worksheet directory
- About
  - Contact

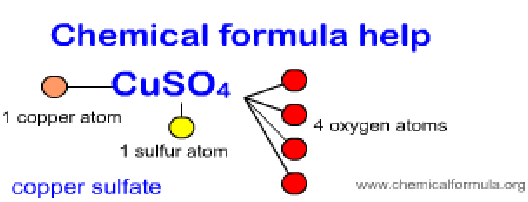
Interactive Chemistry Worksheets for Students

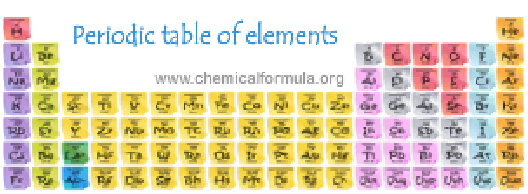
Periodic table	Ionic compounds 1	Hydrocarbons - Alkanes	Common compounds
Naming compounds	Ionic compounds 2	Alkanes, alkenes & alkynes	Common formula quiz
Basic formula	Chemical suffixes	Alkanols to alkanoic acids	Acids, bases and salts
Simple compounds	Old chemical names		Covalent compounds



Acids and Bases
Chemistry Formula
Chemical Compound





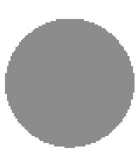


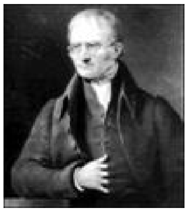
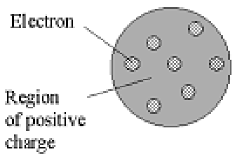
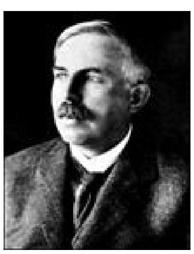
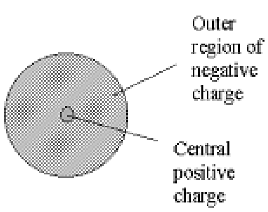
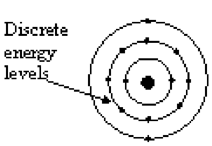
You are here

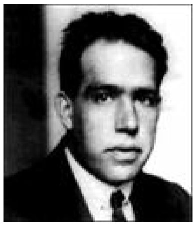
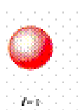
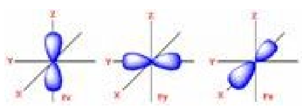
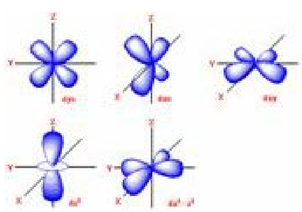
Home | Basic chemistry | Atoms

Models of the atom

MODELS OF THE ATOM - SUMMARY

Scientists	***Model***	**Description**	**Evidence**
		The atom is the **smallest** particle of an element. The atom is a solid,	Law of Constant Proportions. (% mass composition) Law of Multiple

		indestructible unit. Atoms of different elements have **different masses.**	Proportions. E.g. Two compounds of nitrogen oxide. The ratio of oxygen between both compounds is 2:3.
J. Dalton	***The Billiard Ball model (1808)***		
		The ‘pudding’ is the positive material of an atom. The embedded ‘raisins’ are negative **electrons**.	Cathode rays (negative particles or electrons) Canal rays (positive particles with large masses)
J. J. Thomson	***The Plum Pudding model (1903)***		
		The mass and positive charge of an atom is concentrated in a small core called the **nucleus**. Negative electrons **orbit** the nucleus. The atom is mostly made up of **empty space.** (Ratio of nucleus diameter to outer electron orbit = 1 : 50,000)	The scattering of alpha particles through thin gold foil. A small percentage of particles were deflected at large angles, some even returning. ‘it is like a cannonball rebounding off a piece of paper’
Ernest Rutherford	***The Nuclear model (1911)***	**Protons** & later **neutrons** are identified.	
		Electrons are arranged around the nucleus in discrete **energy levels** or **shells**.	Explains emission spectra (flame test) Explains patterns in the

			successive ionisation energies of an element.
Neils Bohr	***The Shell model (1923)***		
 s-orbital	 p-orbitals	Electrons exist in **orbitals**. i.e. an area surrounding the nucleus that has a **90%** probability of containing an electron.	Better explains anomalies in successive ionisation energies and emission spectra. E.g. double yellow lines for sodium.
	 d-orbitals	Orbitals differ in **shape**(s, p, d, & f orbitals) and **size**(dependent upon energy level). No orbital may contain more than two electrons. The electrons in an orbital spin in **opposite** directions.	
Various Scientists Heisenburg, Schrodinger, de Broglie, Pauli	***The Quantum model (1935)***		

‹ Atoms up Balancing chemical equations ›
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