

2 Atomic Structure

1. John Dalton stated that
 - a. all matter is made of atoms, and atoms are indestructible and cannot be broken down into pieces
 - b. all the atoms of a particular element are identical to each other and different from the atoms of other elements
2. The discovery of subatomic particles led to a new atomic model
3. Recall the relative charge and relative mass of sub atomic particles

particle	Rel. charge	Rel. mass
Proton	+1	1
Neutron	0	1
Electron	-1	$\frac{1}{1837}$

4. Atoms contain equal numbers of protons and electrons
5. Most of the mass of an atom is concentrated in the nucleus
6. The mass number = total number of protons and neutrons in nucleus
7. Isotopes are different atoms of the same element containing the same number of protons but different numbers of neutrons in their nuclei
8. In the modern periodic table elements are arranged in order of increasing atomic number, in rows called periods
9. In the modern periodic table elements with similar properties are placed in the same vertical columns called groups