

History of Atomic Theory

~ 400 BC

Democritus

- greek philosopher

* theory - all matter is made up of tiny fundamental particles that can't be broken down any further.

He called these particles

"a-tomos"

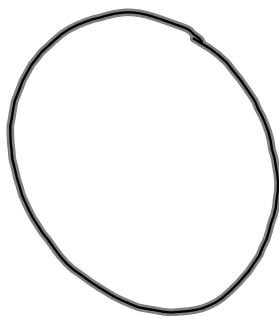
(greek for "indivisible")

~ early 1800's

John Dalton

- Theory:
- elements are made up of atoms that cannot be divided
 - atoms of the same element are exactly alike and have the same mass. Atoms of different elements are different
 - an atom of one element can't be changed into an atom of another element
 - atoms can't be created or destroyed in a chemical reaction, only rearranged
 - every compound is made up of atoms of different elements combined in specific ratios.

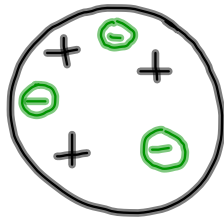
Billiard Ball Model of the atom



- Smooth
- Solid
- one particle
- indivisible

~1897 JJ Thomson

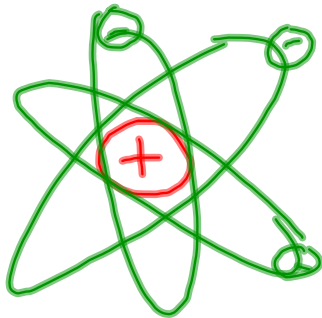
"Plum Pudding Model"
described the atom as:



- Solid
- having positively charged material with negatively charged particles (electrons) scattered throughout.

1901

Ernest Rutherford



- Atom is mostly empty space
- there is a \oplus charged nucleus made up of \oplus charged particles called PROTONS
- negatively charged particles called electrons moving around the nucleus.