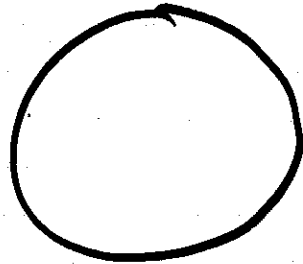


Dalton -
"Cue Ball"

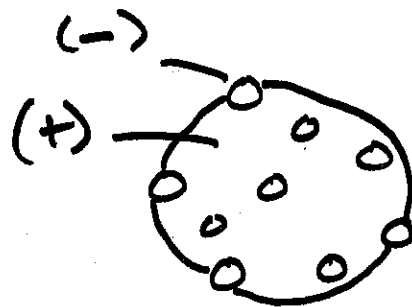
Experimented w/
atoms → 3 main
ideas



THE ATOM is a
Solid particle made
of a single
substance

Thomson

"choc chip ice cream"

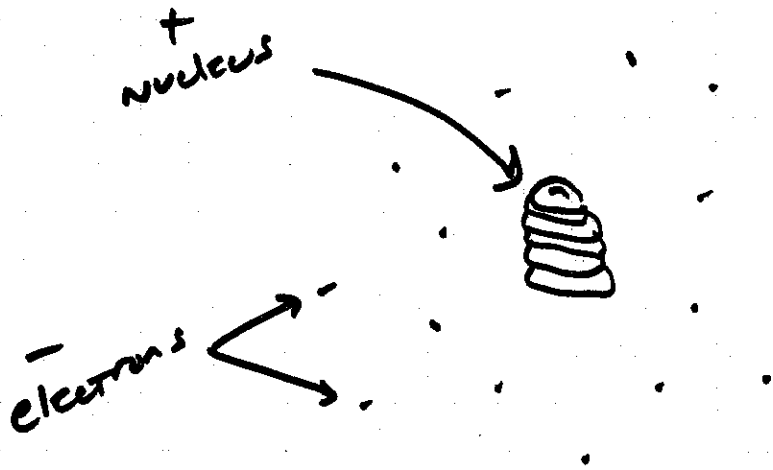


THE ATOM is a
Solid particle
made of negatives
and positives.

"Cathode-Ray Experiment"

Rutherford

"Bee hive"

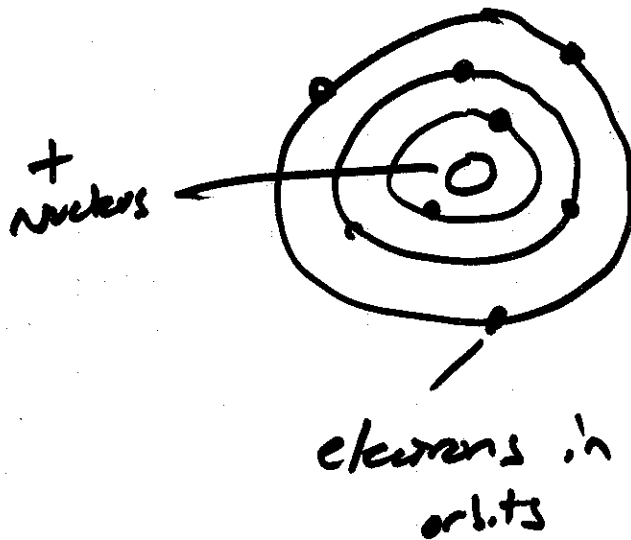


Gold Foil Exp.

THE ATOM IS MOSTLY EMPTY SPACE. THERE IS A SMALL, DENSE + CHARGE NUCLEUS w/ electrons "buzzing" around randomly

~~Rutherford~~ Bohr

"Solar System"

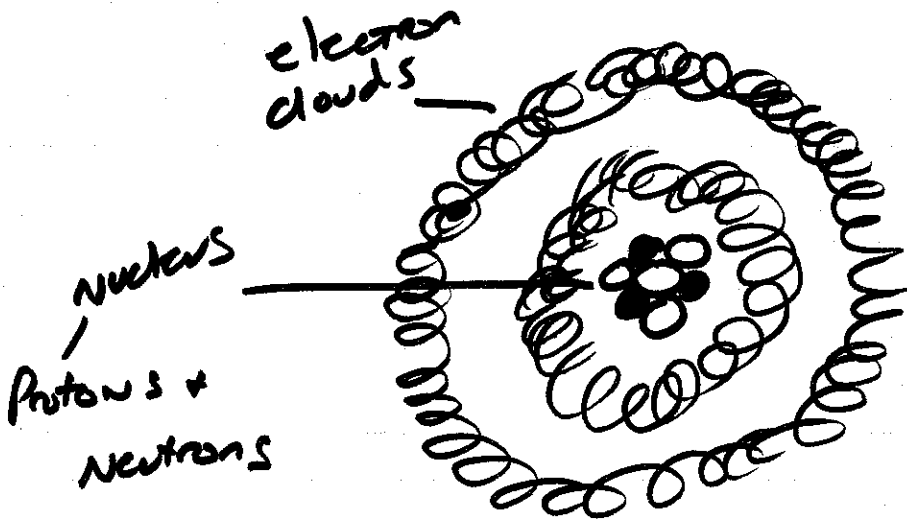


Atom is mostly empty space. + nucleus in the middle. Electrons exist in specific orbits around the nucleus. Each orbit is associated with a certain energy.

Bohr experimented on the location of e^-

"Modern" Model

Electron Cloud Model



Atom is mostly empty space.
+ charged nucleus w/ neutrons.
electrons exist in electron clouds. Each e^- cloud is associated w/ a specific amount of energy.

Sub-atomic Particles

Neutrons: located in nucleus
(n^0)
Neutral charge
mass: 1 amu
function: provide mass + stability

Protons: location: nucleus
(p^+)
mass: 1 amu
charge: +
function: established the identity of an atom
atomic # = # p^+

Electrons: location: e^- clouds
(e^-)
mass: 0 amu *
charge: -
function: participate in chemical bonding

$$\text{Mass} \approx \approx p^+ + \approx n^0$$

↳ used to identify isotopes

Some atoms of diff. # n^0 → atoms of the same element of different masses

ISOTOPES

C-12

C-13

mass # ($\#p^+ + \#n^0$)

	C-12	C-13	C-14
$\#p^+$	6	6	6
$\#n^0$	6	7	8

mass # - $\#p^+$

atomic #