

Bell-Ringer

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Dalton (1766 - 1844)

1. All matter is made of tiny particles called atoms.
2. All atoms of a given element are identical in mass and properties.
3. Atoms of different elements combine in whole number ratios
4. Chemical reactions is the rearranging of atoms, but atoms cannot be created or destroyed.

J. J. Thomson (1856-1940)

In 1897 Thomson conducted the cathode ray experiment.

(leave room for a drawing, probably 5-6 lines)

<https://www.youtube.com/watch?v=UUpD62r2wq8>

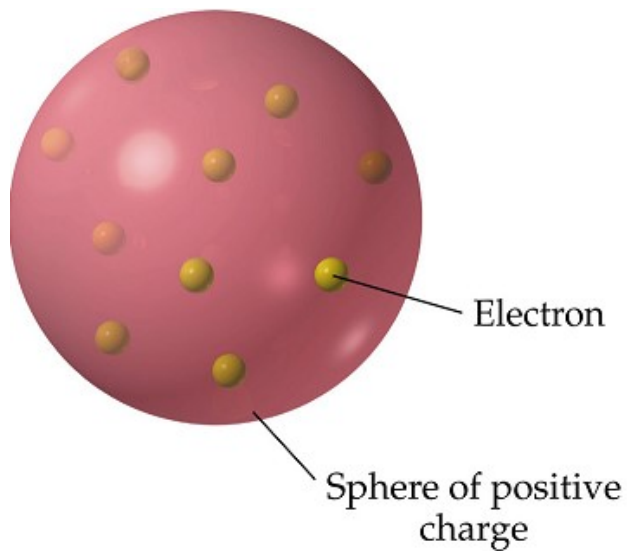
Two important discoveries from the cathode ray experiment.

1) electrons exist and they have a negative charge

2) ALL elements have electrons

Thomson's Model of the Atom

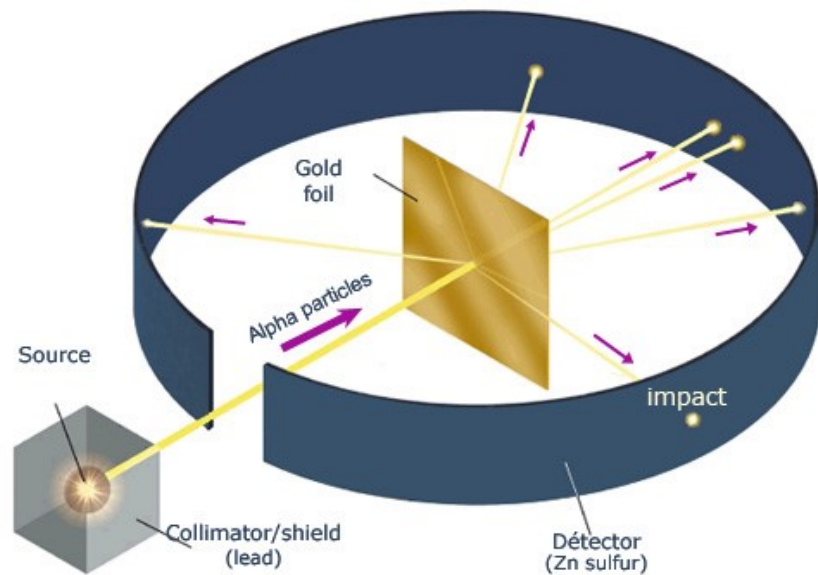
Plum Pudding



Rutherford (1871-1937)

Gold Foil Experiment - 1899

(leave room
for a
drawing in
your notes)



Things to know about the gold foil experiment

Alpha Particle

Atoms are mostly empty space

-marble on a football field

Atoms contain nucleus

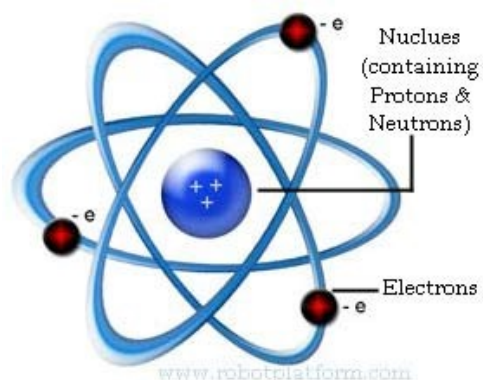
"marble"

contain protons (and neutrons, not yet

discovered)

Rutherford's Model of the Atom

<https://youtu.be/wzALbzTdnc8>

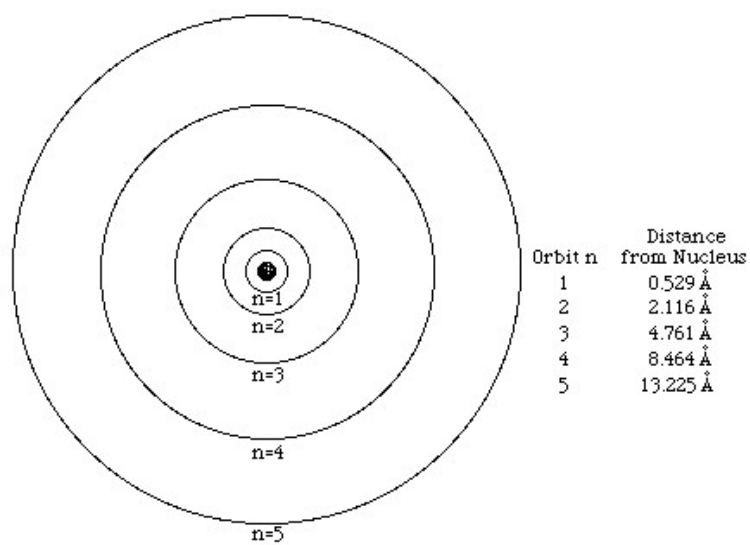


Niels Bohr (1885 - 1962)

In 1922 Bohr gets Nobel Prize in Physics for his work in atomic structure.

Quantized energy levels

Bohr's Quantized Energy Levels



The Bohr Model

- Like the rungs of the strange ladder, the energy levels in an atom are not equally spaced.
- The higher the energy level occupied by an electron, the less energy it takes to move from that energy level to the next higher energy level.

