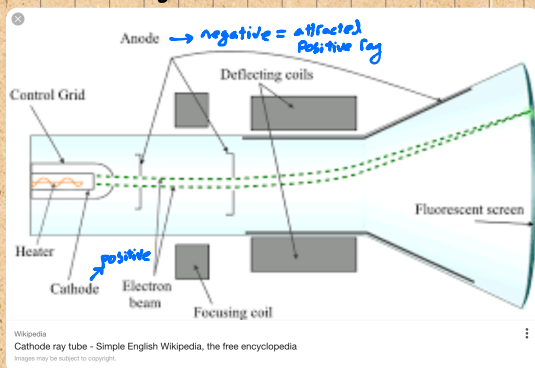


Warm-up → Take notes on passage that I read to you [Short History Pgs 1-4]
 - Initial Thoughts, What was surprising to you?, How small do you feel now? etc.

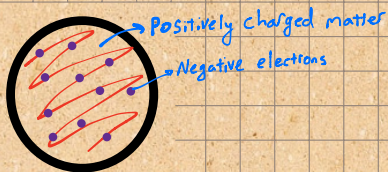
Atomic History:

- Democritus [Greek Philosopher]: born in 400 BCE
 ↳ convinced with the idea that matter is created with tiny indestructible particles
 ★ No evidence to prove it
- John Dalton: Early 1800's
 - 1) All elements composed of tiny particles → Atoms
 - 2) Atoms of same element = identical
 - 3) Elements combine in whole # ratios [H_2O]
 - 4) Chemical reactions occur when compounds separate and atoms form new compounds
- J.J. Thompson → discovered the electron in 1897

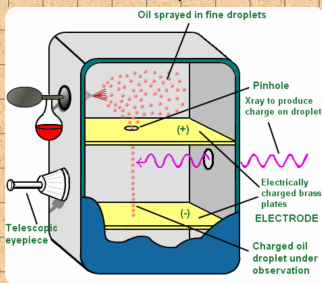
Cathode Ray Tube:



- J.J. Thompson came up w/ the Plum Pudding Model!

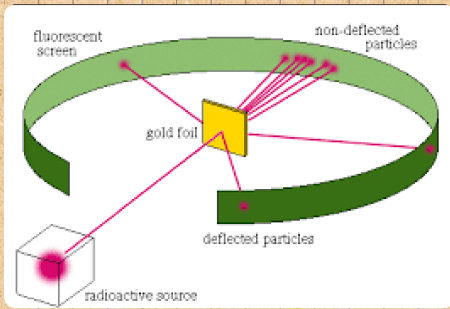


• Robert A. Millikan [1909]: ran an experiment to find the mass of an electron → "oil drop" experiment.



★ Mass of electrons are $\frac{1}{2000}$ the mass of a proton/neutron

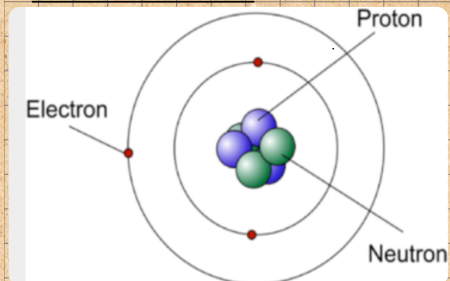
- Ernest Rutherford [1911]: Discovered the nucleus → "Gold Foil" Experiment



Conclusion:

- 1] Atoms are mostly empty space
- 2] Mass is concentrated in a tiny nucleus (positive charge)
- 3] Electrons surround nucleus

Niels Bohr [1930's]:



• What keeps the electrons from flying off into space or fly inward to the nucleus?

↳ Bohr Model: "planetary Model" states that electrons travel in well defined orbits → at fixed energy levels [more energy = larger orbit]