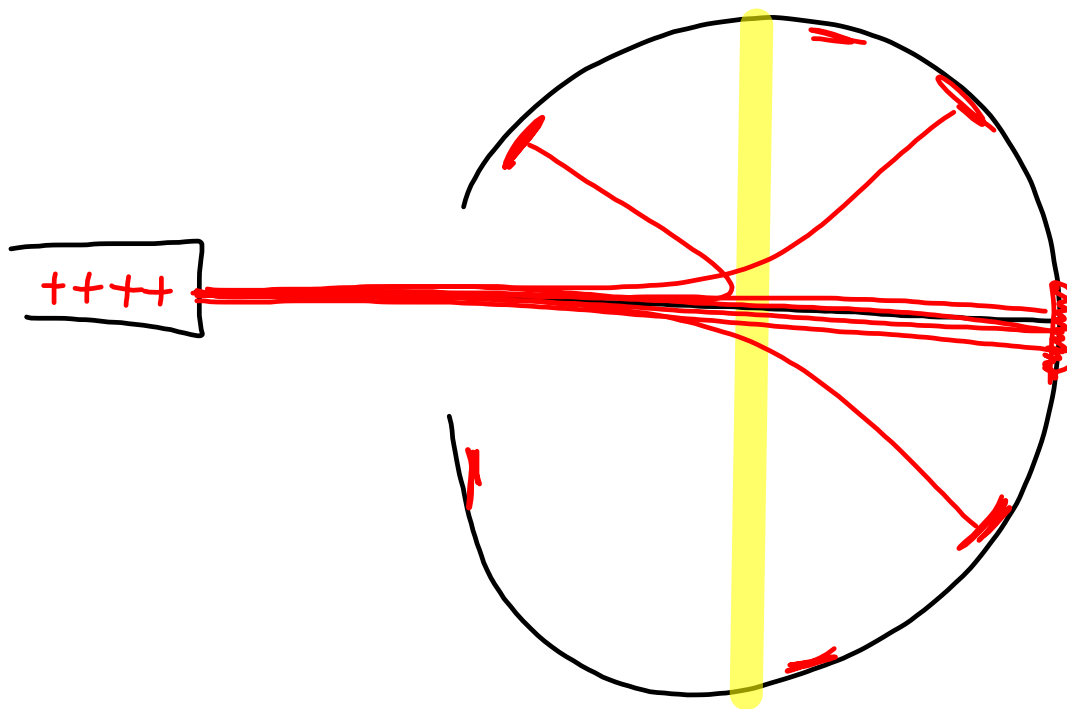
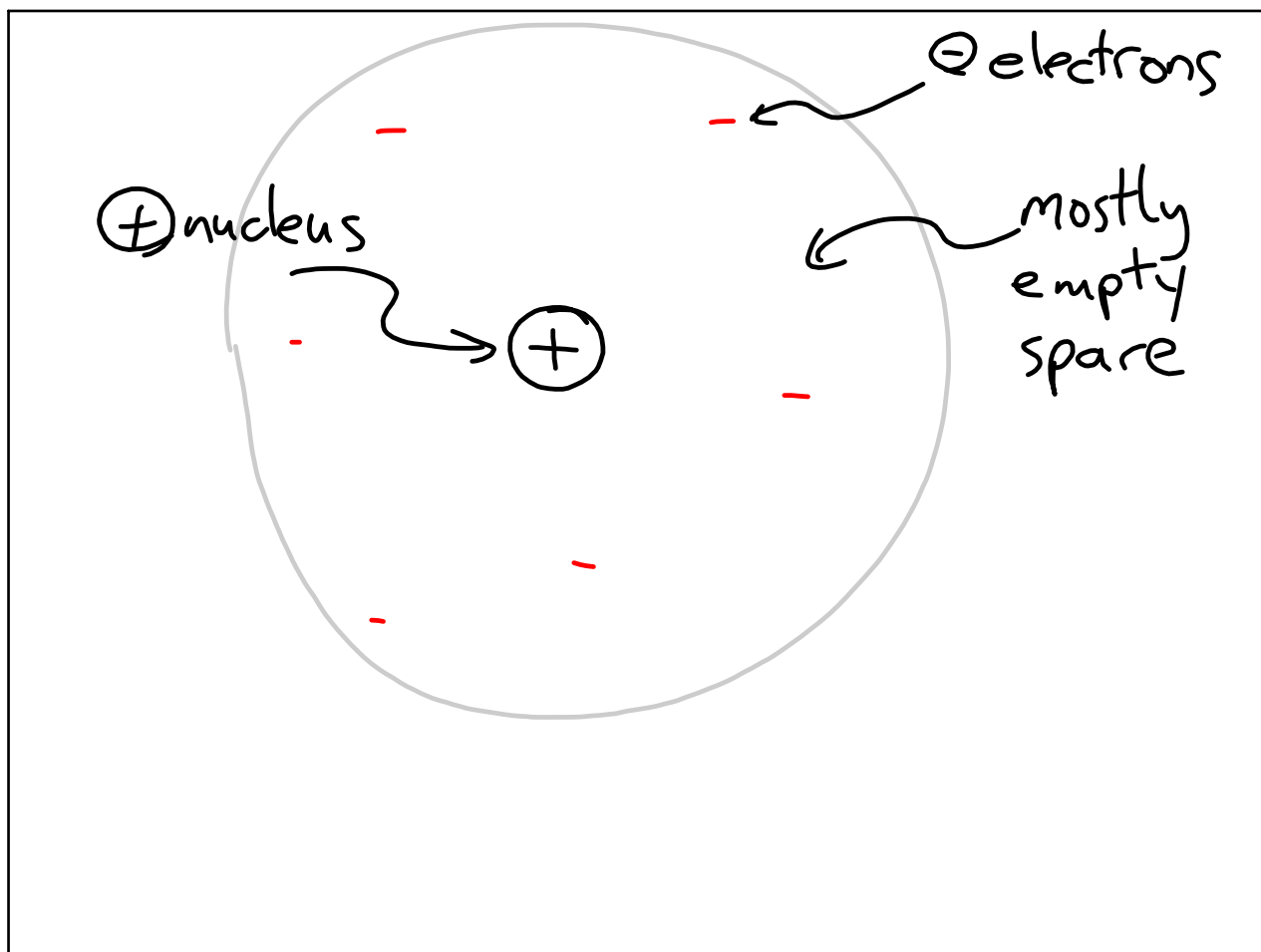


## Ernest Rutherford -1911

- gold foil experiment
- a tiny dense positive core called the nucleus
- surrounded by mostly empty space containing the rapidly moving negative electrons





## Charged Atoms

- normally # of protons = # of electrons
- # of protons NEVER changes
- gaining or losing electrons produces what is called an ion
- this is a charged particle

### EXAMPLE:

-sodium, Na, is atomic #11, therefore 11 protons and 11 electrons

-a sodium atom can lose 1 electron and therefore have 11 protons and 10 electrons

-this is one more + charge

-written as  $\longrightarrow$   $\text{Na}^{1+}$