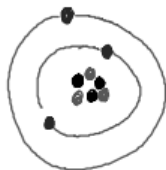


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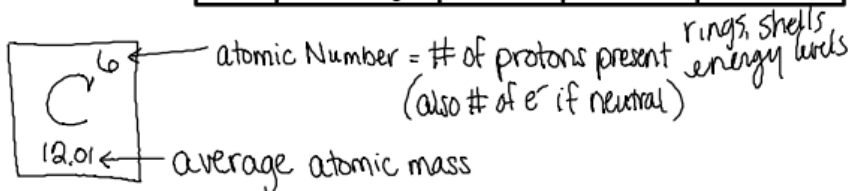
SWAT:

- ① List + describe the parts of the atom
- ② List + describe the atomic scientists
- ③ Define + determine ion + isotope
- ④ Determine average atomic mass.

The Atom



	Name	Mass	charge	where found
●	protons	1amu	⊕	nucleus
●	neutrons	1amu	neutral	nucleus
●	electrons e^-	$\frac{1}{1836}$ amu	⊖	electron cloud

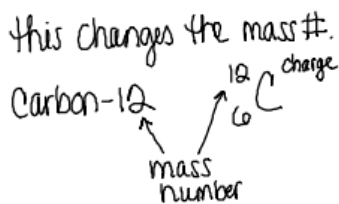


Mass Number = # protons + # neutrons



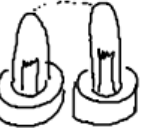

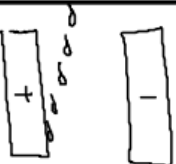

Ion = an atom that has lost or gained an e^- and now has a charge.

	<u>IA</u>	<u>IIA</u>	<u>Ⓟ</u>	<u>IIIA</u>	<u>IVA</u>	<u>VA</u>	<u>VI A</u>	<u>VII A</u>	<u>VIIIA</u>	<u>VIIIA</u>
# of valence e^-	1	2		3	4	5	6	7	8	8
lose or gain	lose $1e^-$	lose $2e^-$		lose $3e^-$	lose/gain $4e^-$	gain $3e^-$	gain $2e^-$	gain $1e^-$		Ⓜ
charge	1+	2+		3+	4+/4-	3-	2-	1-	0	

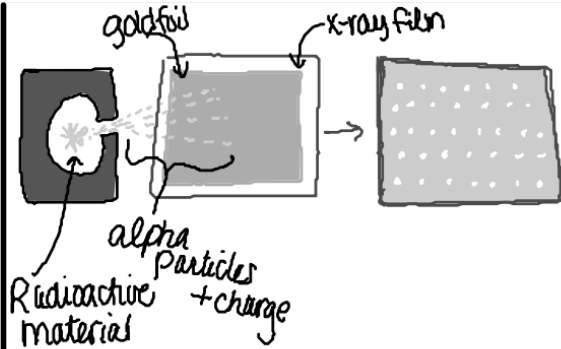
Isotopes - atoms of the same element that have different # of neutrons.



Atomic Scientists

Name	What they did/found	model	memory tool
Democritus	B.C. Democritus believed matter was made up of "atoms"		Demo of the atom Democracy-atom many parts
John Dalton	Father of the A.T.O.M. Atomic Theory of Matter 1. all matter is made of indivisible spheres called atoms 2. Atoms can neither be created or destroyed 3. Law of Constant Composition & Law of Multiple Proportions	 Solid sphere	Daddy Dalton
JJ Thomson 	Cathode Ray Tubes - found the electron (Named it)	 plum pudding	JJ Watt
Milikan	 oil drop experiment found negative charge & size of e^- (1 proton \approx 2000 e^-)		oil not milk got oil?

Rutherford



- ① atom is mostly empty space
- ② small, tightly packed, positive nucleus.



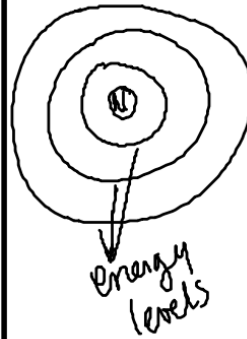
α, β, γ or
Radford

you can't
afford gold

Niels
Bohr



worked w/ electricity + gases.
discovered the excited state
of e^- and the energy levels.



Bohr-ring