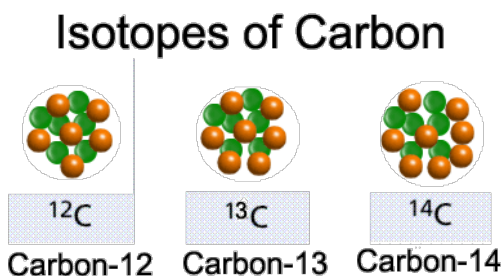


Isotopes

Two or more forms of the same element that have the same number of protons, but the neutron number varies.

Isotopes.mp4
Isotopes (2).mp4



- Since elements have different number of neutrons, their atomic mass does not go up at a constant rate.
- All isotopes of the same element will have the same chemical properties (cause a pop with a lighted splint), but may have different physical properties (colour or texture).
- Unit is atomic mass unit (amu) use u.

Representing models



A= mass number

Z= Atomic number

E= element symbol

N = Neutron

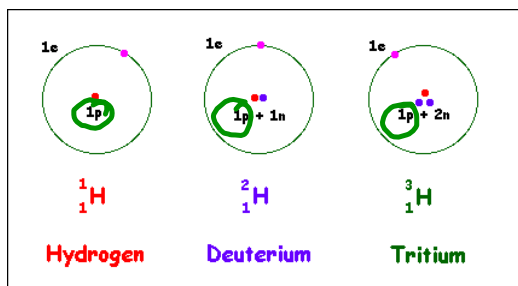
Examples: ${}^{24}_{12}\text{Mg}$

Atomic #

of protons + neutrons
Chemical symbol
A
E
Z
↑ atomic # (protons)



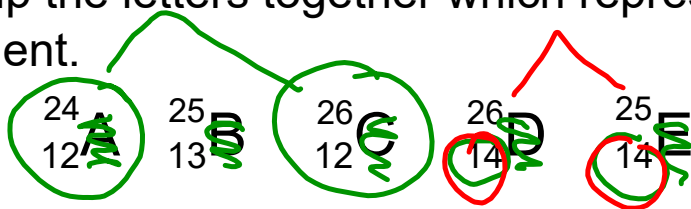
Elements with many isotopes



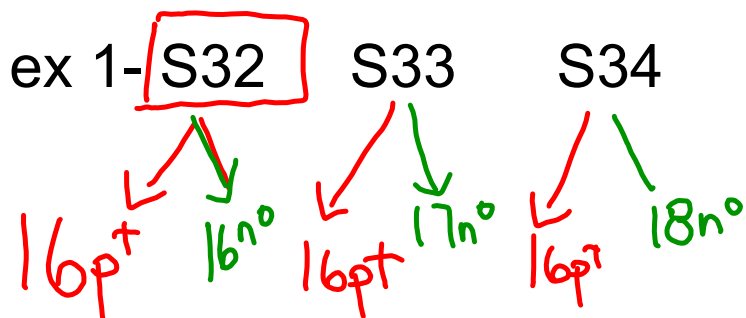
How do you know these are isotopes of the same element?

They all have the same # of PROTONS

Group the letters together which represent the same element.

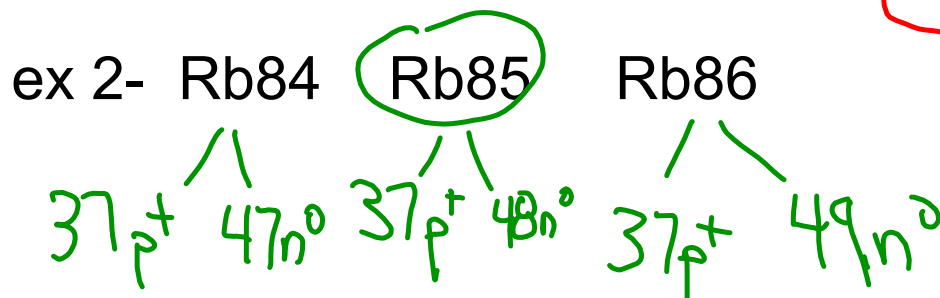


Calculating n° number and determining the most **abundant form** \rightarrow Round off atomic mass & choose matching



Round off atomic mass & choose matching

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Past exam questions

1. The atomic number of the element potassium (K) is 19 and its mass number is 40. Which combination of particles corresponds to the simplified atomic model of the potassium atom?

- A) 19 protons, 21 neutrons, 19 electrons
- B) 40 protons, 19 neutrons, 40 electrons
- C) 19 protons, 40 neutrons, 19 electrons
- D) 40 protons, 21 neutrons, 21 electrons

Attachments

 Isotopes_(2).mp4

 Isotopes.mp4

 Isotopes (2).mp4