



SHS LEARNING ACTIVITY

CHEM1-02-07

Name: _____ Score/Mark: _____

Grade and Section: _____ Date: _____

Strand: STEM ABM HUMSS ICT (*TVL Track*)

Type of Activity : Concept Notes Skills: Exercise/Drill Illustration

Laboratory Report Essay/Task Report Other: _____

Activity Title: 02-07. Neutrons determine the isotope v03

Learning Target: To identify that isotopes are types of the same element

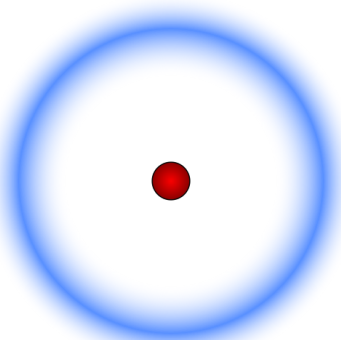
Authors/References: Victor Sojo

We've seen what happens when we change the number of protons (a different atom) and electrons (an ion). How about neutrons?

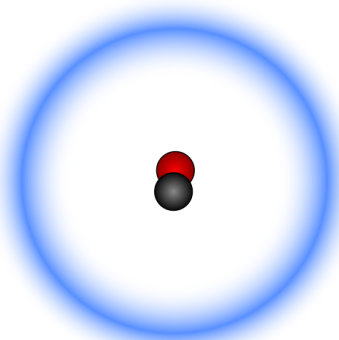
Changing the number of neutrons does not change the element, but it makes varieties of it called **isotopes**.

Neutrons and protons are sometimes called **nucleons** (can you guess why?). They have roughly the **same mass**, which is much larger than that of the electron. For this reason, and to distinguish between isotopes of the same element, the **number of nucleons** is sometimes written in the **top-left corner** of the element's symbol.

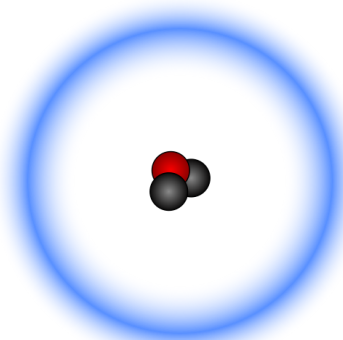
Hydrogen has three isotopes: protium ^1H , deuterium ^2H , and tritium ^3H . The first one has no neutrons, the second has one, and the third has two:



protium (^1H)



deuterium (^2H)



tritium (^3H)

Exercise

Carbon also has three natural isotopes, called simply carbon-12 (^{12}C), carbon-13 (^{13}C), and carbon-14 (^{14}C). The most common is ^{12}C , but everything with carbon (including us!) normally has a bit of the other two.

Choose one of the three carbon isotopes and draw its **nucleus**.

