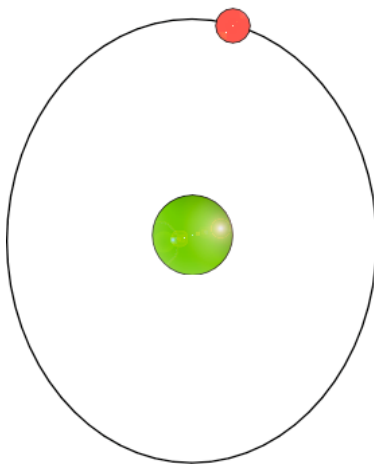
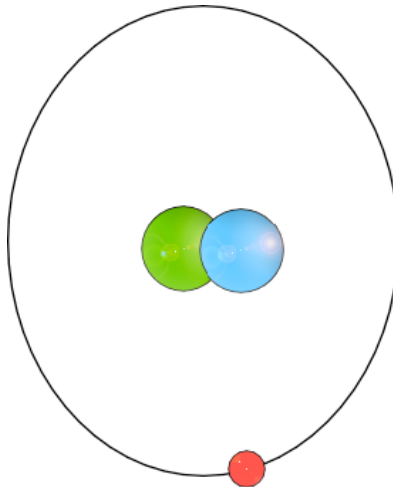


Isotopes

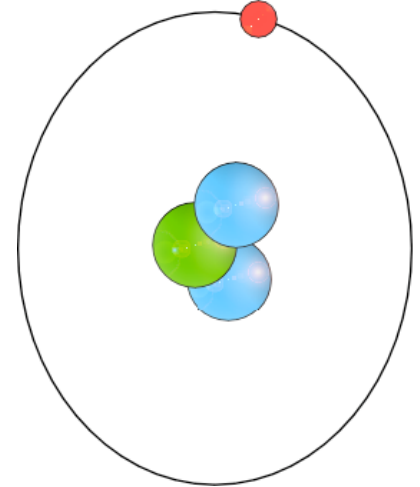
1. Many elements can have more than one given number of neutrons in their nucleus.
2. These other forms of the same element are called isotopes. Isotopes of the same element have the same chemical properties, but have slightly different physical properties. Many of the heavier isotopes of an element are radioactive, such as Carbon-14 and Oxygen-18, making them useful in science and medicine.
3. The atomic mass listed on the periodic table is the average atomic mass of all the isotopes for a particular element found in nature.
 - A. Carbon for example has an atomic mass of 12.0111.
 - B. Since the atomic mass is very close to 12.0, this means that most carbon has a mass of 12.
 - C. Since the mass is just a little more than 12.0, a small amount of a heavier isotope of carbon must exist, raising the average atomic mass to just more than 12.0
4. The three isotopes of Hydrogen are shown below.



Normal hydrogen
(protium)



Deuterium



Tritium

