

CONCEPT: ATOMIC STRUCTURE

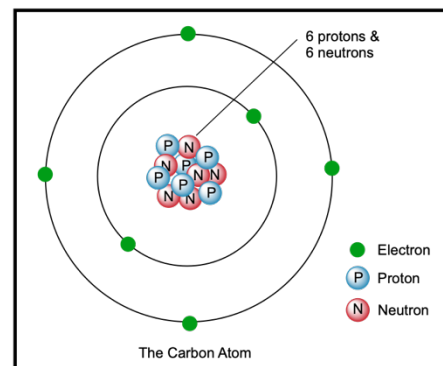
The atom is the basic unit of matter.

• The atomic number of an atom is equal to the number of _____

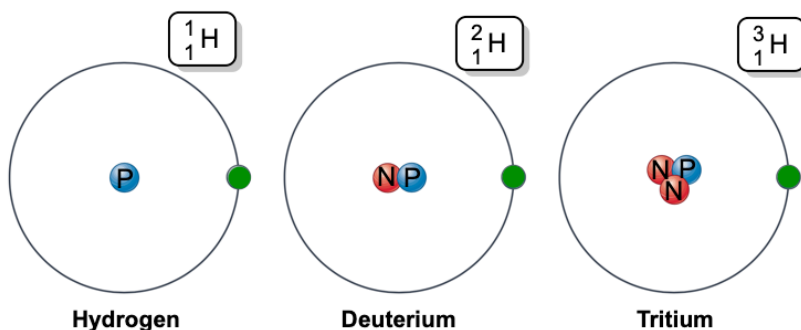
• The mass number of an atom is equal to

_____ + _____

• Isotopes have the same atomic number but have differing _____



EXAMPLE: Hydrogen Isotopes



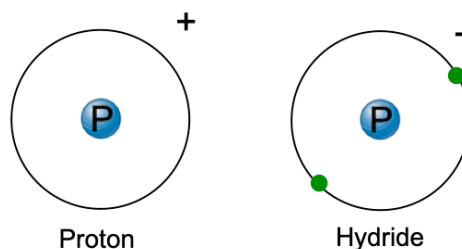
• Electrons orbit the nucleus in a region of space that is called a _____

• The region of space within a shell with exactly enough space for a pair of electrons (up/down spin) is called an _____

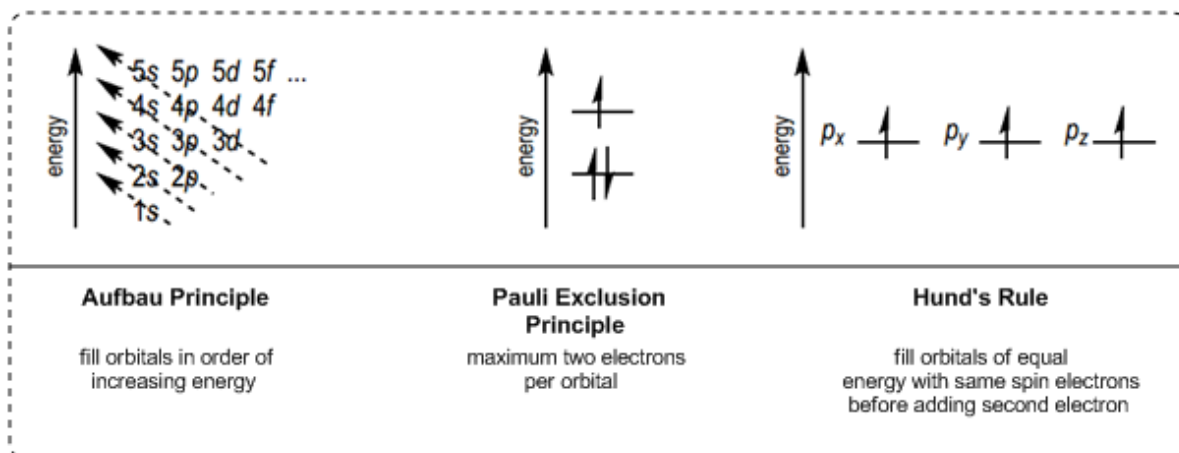
• When atoms possess a different number of electrons than protons, they are called _____

• Positively charged atoms are called _____ • Negatively charged atoms are called _____

EXAMPLE: Hydrogen Ions



Three Principles of Electron Configuration



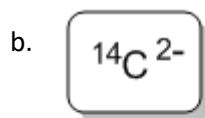
PRACTICE: Determine the number of protons, neutrons and electrons in the following atoms.



Protons:

Neutrons:

Electrons:



Protons:

Neutrons:

Electrons:

PRACTICE: Determine which of the three principles of electron configuration is being broken in the electron diagrams below.

