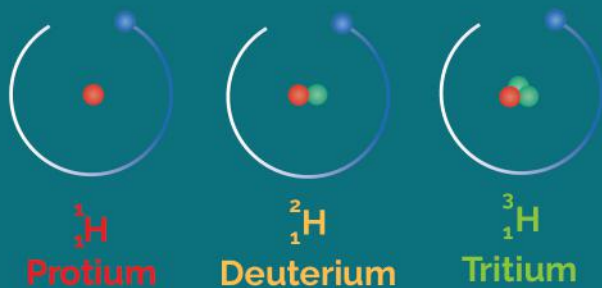


ATOMS

Isotopes

Same atomic number different mass number and number of protons are same



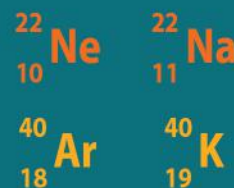
Isotones

Same number of neutrons with different mass number and atomic number



Isobars

Different atomic number same mass number and number of protons are different



Isodiaphers

Different atomic and mass number but have same difference



Mass Number

Mass Number of an atom = number of protons + number of neutrons



Atomic Number(Z)

Total number of protons present in nucleus of an atom

Quantum Number

- Principle Quantum Number
- Azimuthal Quantum Number
- Magnetic Quantum Number
- Spin Quantum Number

Quantum Number	Symbol	Possible values
Principal Quantum Number	n	1, 2, 3, 4,...
Azimuthal Quantum Number	l	0, 1, 2, 3, ..., (n-1)
Magnetic Quantum Number	m_l	$l, \dots, -1, 0, 1, \dots, l$
Spin Quantum Number	m_s	$+\frac{1}{2}, -\frac{1}{2}$

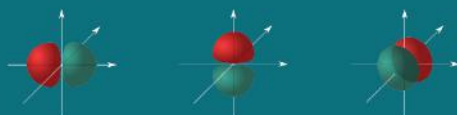
ATOMIC ORBITALS

Shapes of Atomic Orbitals

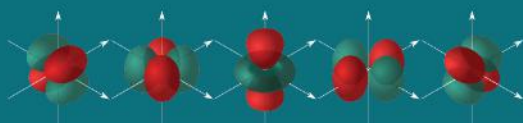
s
The s orbitals has only one shape, which is spherical



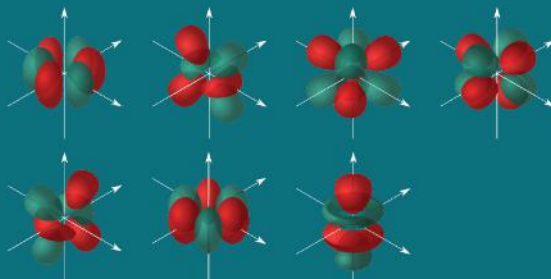
p
There are three p orbitals. They differ by orientation.



d
There are five d orbitals.



f
There are seven f orbitals.



Energies of Atomic Orbitals

Negatively charged and have their own energies Energy defines in which orbit electron will be there

