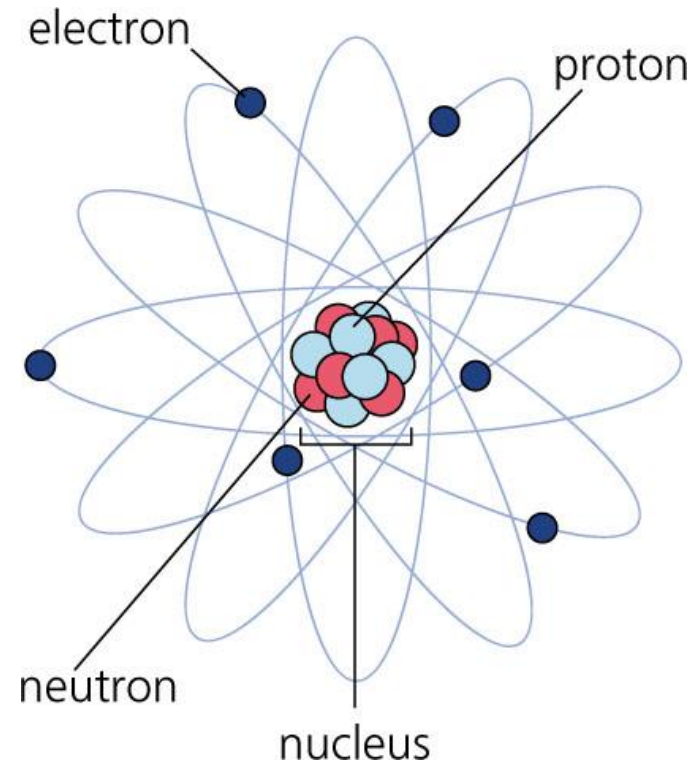


# Electron Arrangement

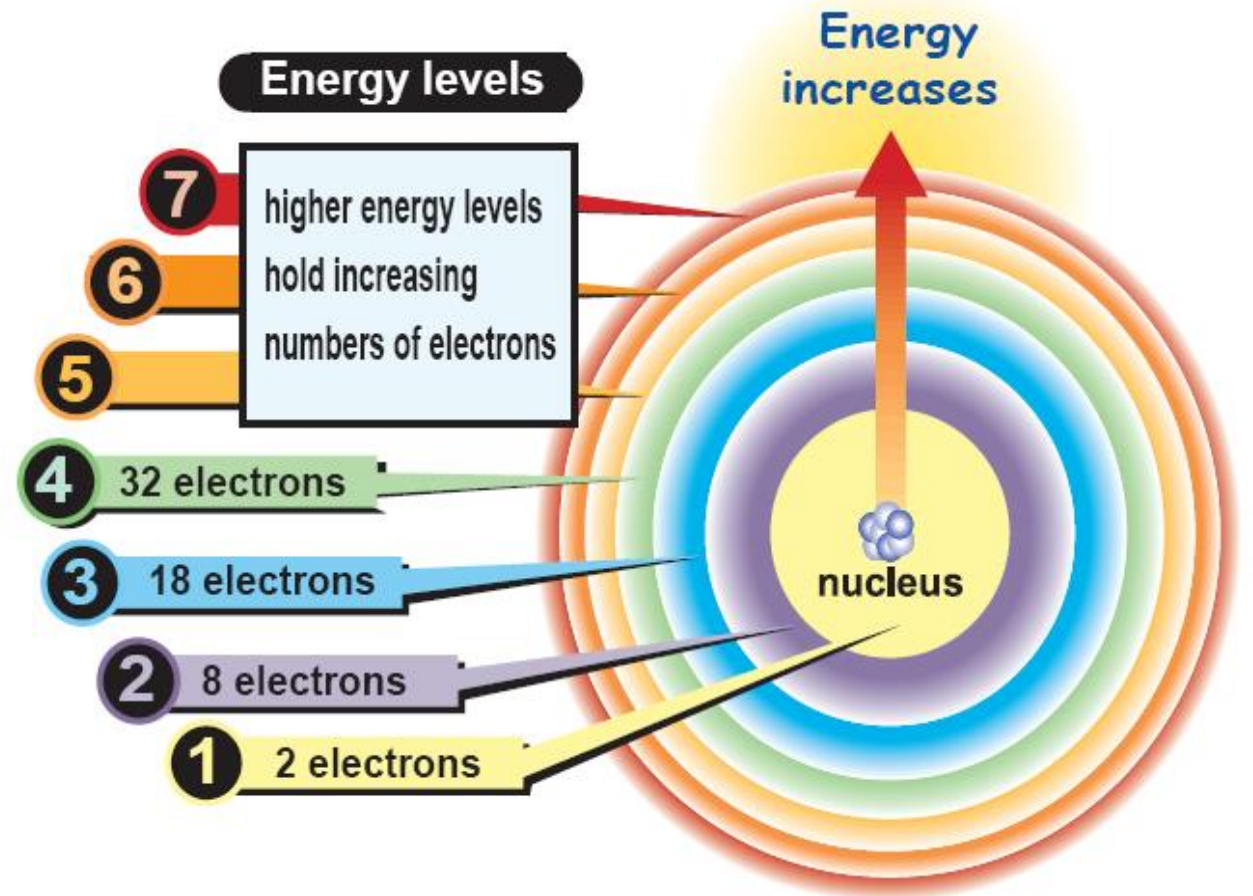
# Energy Levels

- Electrons that are closer to nucleus have lower energy
- Further away = Higher energy
  - So the further away from the nucleus an electron is, the more energy it has
- The electron cloud is organized into shells.
  - Each shell has a max. number of electrons it can hold



# # of Electrons in Each Energy Level

- 1<sup>st</sup> Level = 2 electrons
- 2<sup>nd</sup> = 8 e<sup>-</sup>
- 3<sup>rd</sup> = 18 e<sup>-</sup>
- 4<sup>th</sup> = 32 e<sup>-</sup>

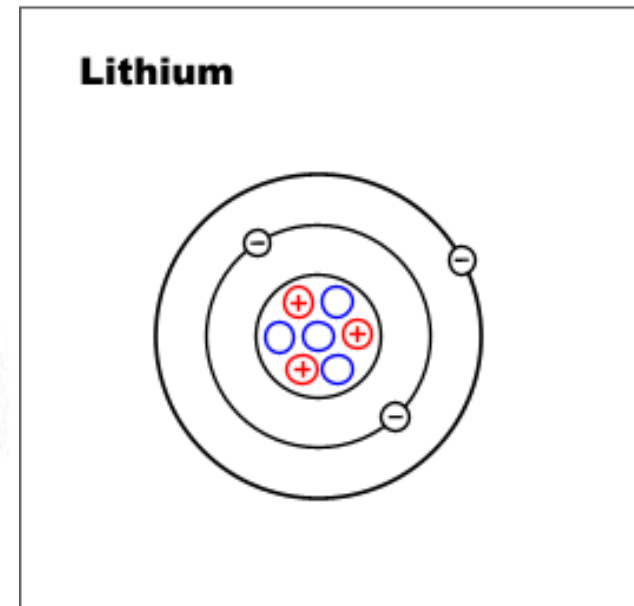
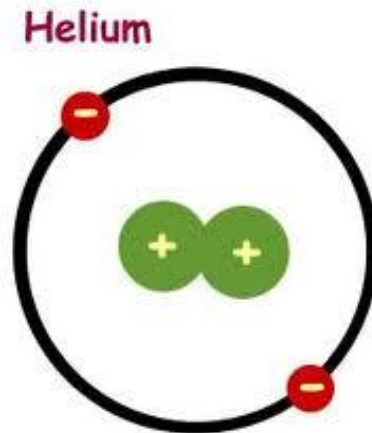


- Electrons must occupy the lowest energy level or orbital first

# Bohr Diagrams

- Bohr Diagrams show each of the energy levels of the atom
  - Show every electron that the atom has orbiting around it.
- These electrons are organized into the different shells or orbital levels
  - 1<sup>st</sup> level - 2 electrons
  - 2<sup>nd</sup> level - 8 electrons
  - 3<sup>rd</sup> level - 8 electrons

Examples:



# Bohr Diagrams: You Try

- Draw me the Bohr Diagram of each of the following:

H

B

F

Si



# Valence Electrons

- Electrons in outermost shell = **valence electrons**
- Determine the properties of the element
  - *Will it bond with other elements? Which ones? Valence electrons tell us the answers.*

