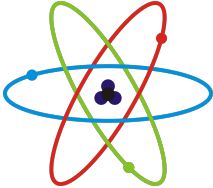



- **Matter** - anything that takes up space and has mass
- **Atoms** – basic unit of matter
- Atoms are the building blocks of matter, sort of how bricks are the building blocks of houses.

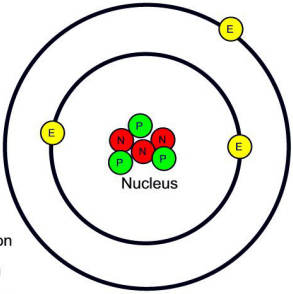
An atom has three parts:

1. **Proton** – positive
2. **Neutron** - no charge
3. **Electron** – negative

● Electron

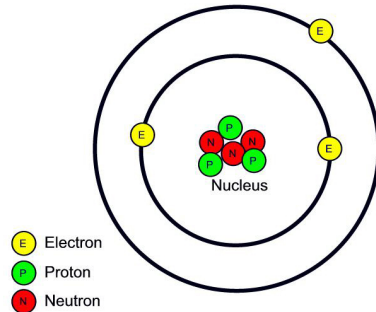
● Proton

● Neutron



The protons & neutrons are found in a place called the **nucleus**.

The electrons orbit the nucleus.

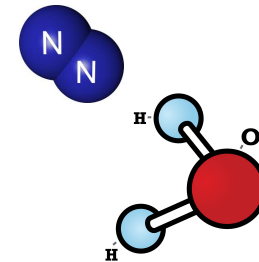


What are molecules?

- **Molecules** are made up of two or more atoms held together by chemical bonds

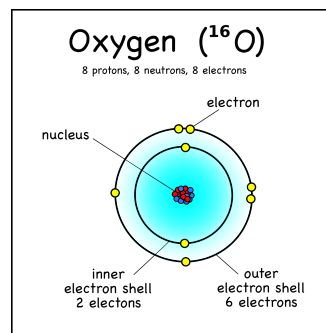
2 types of molecules:

1. Two of the same atom
2. Two different atoms

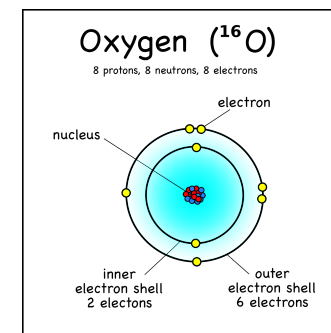


What are elements?

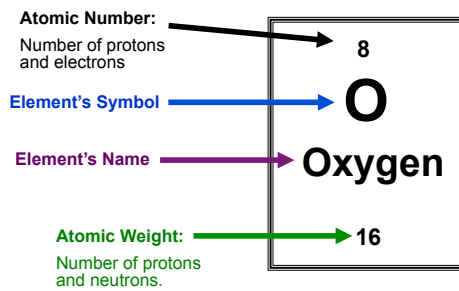
An **element** is made of one type of atom. While atoms may have different weights and structures, they are all built in the same way.



- Atoms always have as many electrons as protons
- They *usually* have as many neutrons as protons
- Each element has a unique number of protons
- Adding a proton makes a new element!

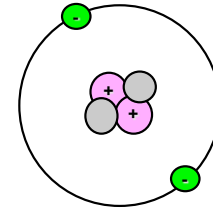


The Periodic Table



Bohr Model

- The Bohr Model shows all of the particles in an atom.
- Each circle represents a single proton, neutron, or electron. Protons should have a plus written on them. Neutrons should be blank. Electrons should have a minus sign.
- The electrons go in a circle around the nucleus.



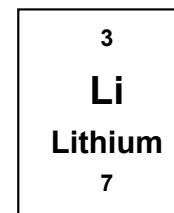
Electron Shells

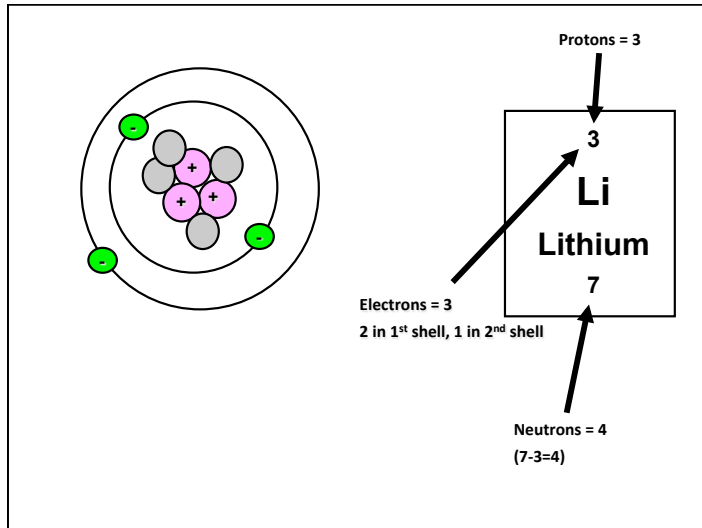
Electrons are located in something called **shells** or **energy levels**. Only so many electrons can be in any certain shell. The electrons in the outermost shell are called **valence electrons**.

Let's try it!

How to draw a Lithium atom:

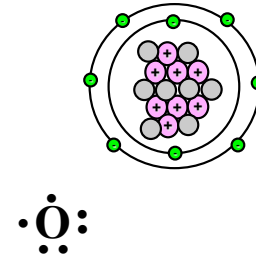
1. Determine the number of protons (atomic number)
2. Determine the number of neutrons (atomic weight minus atomic number)
3. Determine the number of electrons (atomic number)





Bohr Model vs. Lewis Dot Structure

- The Lewis Dot Structure is a bit different from the Bohr model.
- It only shows the element symbol and its outer most electron shell.



Lewis Dot Structure

1. Write the symbol.
2. Start on the right hand side, working your way clockwise around the symbol.
3. Try Lithium!