**Electron Configurations**

An atom is made up of three different parts – \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_ and\_\_\_\_\_\_\_\_\_\_\_.

* The \_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_are contained in the nucleus.
* The \_\_\_\_\_\_\_\_orbit outside the nucleus.

Helium (2 protons, 2 neutrons, 2 electrons) looks like this.

We can simplify this as…

X

X

…. if we just show the electrons as crosses.

There are some rules we need to remember when drawing electron configuration diagrams

1. The first circle (called a shell) can only contain up to \_\_\_\_electrons.
2. Every shell after that can contain up to \_\_\_\_\_electrons.
3. Electrons like to be as spaced out as possible.

Lithium has 3 electrons, so would look like this…

X

X

X

2 electrons in the first shell

1 electron in the second shell

Beryllium has 4 electrons, so would look like this…

2 electrons in the first shell

2 electrons in the second shell

The electrons are spaced out as far as possible

X

X

X

X

Sodium contains 11 electrons…

\_\_\_ electrons in the first shell

\_\_\_ electrons in the second shell

\_\_\_ electron in the third shell