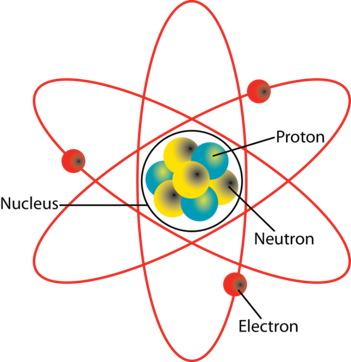
**Year 9 Chemistry**

**Structure of an Atom- Revision**

* Atoms are made of three subatomic particles: \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.
* Protons and neutrons are found in the centre of an atom, which is called the \_\_\_\_\_\_\_\_\_\_\_\_.
* Electrons orbit the nucleus at very high speeds.
* Some subatomic particles have electrical   
  charges:
  + - **Protons** have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(+)   
      charge
    - **Electrons** have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (-) charge
    - Neutrons are neutral and have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The number of protons in the nucleus of an atom determines which \_\_\_\_\_\_\_\_\_\_\_\_\_ the atom is.
* All atoms of an element have the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* For example, all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ atoms have 6 protons.

This is referred to as the **atomic number** of the element.



A neutral atom has the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

This means that the number of \_\_\_\_\_\_\_\_\_\_\_\_ charges equals the number of \_\_\_\_\_\_\_\_\_\_\_\_\_ charges.

The charges \_\_\_\_\_\_\_\_\_\_ each other, so the entire atom has \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

For example, the atom in the picture has three positive protons and three negative electrons, so it has no overall charge.

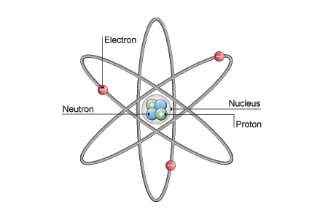
|  |
| --- |
| Describing the Structure of an Atom |
| 1. State the number of protons and neutrons in the nucleus. 2. State the number of electrons orbiting the nucleus. 3. State whether the atom is neutral or charged.   neutral = number of protons and electrons is **equal**  charged = number of protons and electrons is **not equal** |

Describe the structure of the lithium atom (pictured above):

There are \_\_\_\_\_ protons and \_\_\_\_\_ neutrons in the nucleus.

There are \_\_\_\_\_\_\_ electrons orbiting the nucleus.

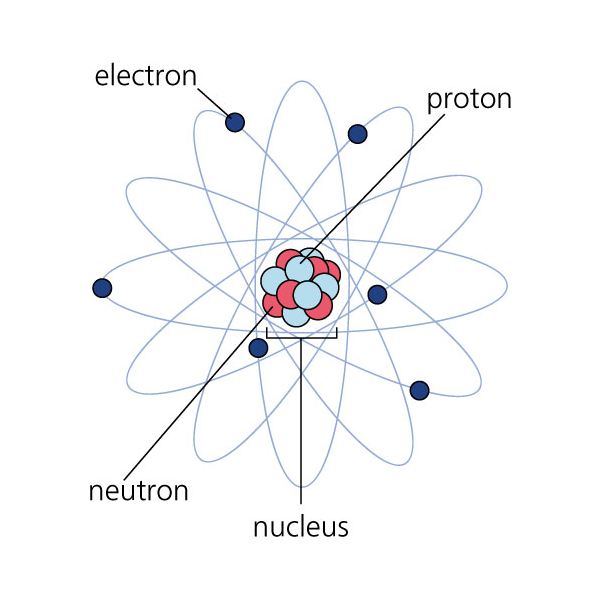
The atom is \_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe the structure of the Helium atom

There are \_\_\_\_\_ protons and \_\_\_\_\_ neutrons in the nucleus.

There are \_\_\_\_\_\_\_ electrons orbiting the nucleus.

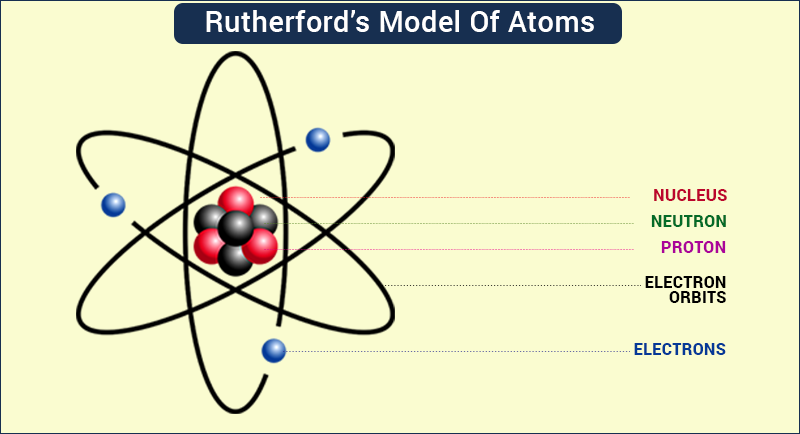
The atom is \_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe the structure of the Carbon atom.

There are \_\_\_\_\_\_ protons and \_\_\_\_\_\_\_ neutrons in the nucleus.

There are \_\_\_\_\_\_\_\_ electrons orbiting the nucleus.

The atom is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Describe the structure of the Beryllium atom.

There are \_\_\_\_\_\_ protons and \_\_\_\_\_\_\_ neutrons in the nucleus.

There are \_\_\_\_\_\_\_\_ electrons orbiting the nucleus.

The atom is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Draw the and describe atomic structure of three different elements below