**What is an Atom ?**

***Read text pages 32 and 33 individually – Inside the Atom then complete sections below using text and internet where required!***

Draw the atom of carbon and label the three subatomic particles (refer to text p. 32 fig 1.20)

**Copy table 1.2 Subatomic particles**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Symbol** | **Relative Mass** | **Electric Charge** | **Location in Atom** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

***Building blocks of Subatomic Particles – Use the internet for the following!***

Who discovered the existence of neutrons in 1932?

More recently particle accelerators have been used to prove that smaller particles make up protons and neutrons. These particles are called \_\_\_\_\_\_\_\_\_\_\_. Electrons are a type of \_\_\_\_\_\_\_\_\_\_\_\_\_.

***Complete Text Questions page 37, 7-9 and 13***

**The Atomic Theory Summarized:**

***Use the following Words to complete the statements:*** *electrons, mass, empty, energy, mass, positively, negative(ly), protons, neutral, atoms, element, zero, shells*

* All matter is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Atoms are the smallest particle of an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that retains the properties of the element.
* Elements combine to form compounds. The atoms are held together by electrical attractions.
* The nucleus is composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_charged protons and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ neutrons.
* All the atoms of an element have the same unique number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The nucleus contains most of the \_\_\_\_\_\_\_\_\_\_\_\_\_ of the atom and is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charged.
* There is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ space between the nucleus and the electrons.
* Electrons have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge and very little \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_orbit the nucleus only in specific, allowed shells.
* Electrons absorb or emit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as they jump between shells.
* The modern view of an atom does not limit electrons to shells. Instead electrons exist in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ sometimes called electron clouds, volumes of space in which there is likely to be an electron.

 **Atoms of an Element**

**Electrical Charge**

#of protons = # of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In an atom charges cancel to give an overall charge of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The nucleus is positively charged because of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Electrons occupy energy levels called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that surround the nucleus