Chemistry Revision C1

C1.1

Atoms consist of electrons surrounding a nucleus that contains protons and neutrons. Neutrons are neutral, but protons and electrons are electrically charged: protons have a relative charge of +1 and electrons have a relative charge of -1.

Atoms and Elements

All substances are made of tiny particles called atoms. An element is a substance that is made of only one sort of atom. There are about 100 different elements. These are shown in the periodic table, which is a chart with all the elements arranged in a particular way. The horizontal rows in the periodic table are called periods and the vertical columns are called groups. The elements in a group have similar properties to each other.

Metals and Non-Metals

The metals are shown on the left of the periodic table, and the non-metals are shown on the

right. Most of the elements are metals. <u>Chemical Symbols</u> The atoms of each element are represented the Demical symbol. This usually consists of one or two different letters, but sometime, three letters are used or newly discovered elements. kygen atom, and Na represents a sodium atom. Example: O represent

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The atomic number of an atom is the number of protons it contains. All of the atoms of a particular element have the same atomic number (number of protons). The atoms of different elements have a different numbers of protons. For example, all oxygen atoms have 8 protons and all sodium atoms have 11 protons.

The mass number of an atom is the total number of protons and neutrons it contains. The mass number of an atom is never smaller than the atomic number. It can be the same, but is usually bigger.

Full chemical symbols

You need to be able to calculate the number of each sub-atomic particle in an atom if you are given its atomic number and its mass number. The full chemical symbol for an element shows its mass number at the top, and its atomic number at the bottom.

This symbol tells you that the chlorine atom has 17 protons. It will also have 17 electrons, because the number of protons and electrons in an atom is the same.