**2.4 The Periodic Table**

**Questions:**

1. **Explain why beryllium, magnesium and calcium are all in Group II of the Periodic Table.**

Beryllium Be (2,2),

Magnesium Mg (2,8,2) and

Calcium Ca (2,8,8,2)

All these elements have 2 electrons each in the outer shell of their atoms. So, they are placed in the Group II of the Periodic Table.

1. **Copy and complete:**
2. In Group IV, the atoms have 4 \_\_\_\_
3. In Group \_\_\_\_, the atoms have 6 \_\_\_\_\_
4. In Group O, the atoms have \_\_\_\_\_\_
5. In Group IV, the atoms have 4 ***outer-shell electrons***.
6. In Group ***VI***, the atoms have 6 ***outer-shell electrons***.
7. In Group O, the atoms have ***full outer shells***.
8. **What are the rows in the Table called?**

The horizontal rows in the Table are called periods. There are 7 periods in the Table.

1. **What is the special name for the elements in**
2. **Group I b) Group II c) Group VII d) Group O?**

Special names:

Group I - the alkali metals

Group II - the alkaline earth metals

Group VII - the halogens

Group O - the noble gases

**Extra Questions:**

1. **How are the elements arranged in groups in the Periodic Table?**

Scientists have divided all the elements into groups. First, the elements are listed in order of increasing atomic number. Hydrogen comes at the top as its atomic number is 1. Then the list is sub-divided according to their number of outer-shell electrons. Group I contains the elements having 1 outer shell electrons, Group II contains the elements having 2 outer shell electrons and so on. Finally 8 groups are formed and arranged side by side to give the Periodic Table.

1. **What are transition metals?**

The atoms that have more complicated electron configurations are called transition metals.

Ex – Iron (Fe), Nickel (Ni), Copper (Cu) etc.