L**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 1 ENDING 13th JANUARY, 2023**

**TERM:** SECOND TERM

**WEEK:** WEEK 1

**DATE** : 9th - 13th January 2023

**SUBJECT:** chemistry

**CLASS : SS 1**

**TOPIC :**  chemical combination

**SUB - TOPIC: 1**. periodic Table

1. Electronic configuration
2. Types of bond (strong bond)

**PERIOD : 5th**

**TIME :** 11:10 - 11: 50

**DURATION** : 40 minutes

**AVERAGE AGE** : 14 years

**SEX:** mixed

**LEARNING OBJECTIVES:** by the end of the lesson,the students, should be able to;

1. Explain the periodic table
2. Write the electronic configuration of the first twenty element.
3. State and give examples of strong bond

**RATIONALE:** the students should understand (To ensure the students understand) the electronic configuration of the first twenty element and examples of strong bond.

**PREVIOUS KNOWLEDGE:** The students can state the first twenty element.

**INSTRUCTIONAL MATERIALS:** chart showing the first twenty element.

**Reference Material:** new school chemistry for senior secondary schools by Osei- Yaw Ababio.

**LESSON DEVELOPMENT**

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| **STAGES** | **TEACHER’S ACTIVITIES** | **PUPILS (Students’) ACTIVITIES** | **LEARNING POINT** |  |
| **INTRODUCTION** | The teacher introduces the lesson by asking the students to state the first twenty element. | The students state the first twenty element. | To arouse the students interest. |  |
| **PRESENTATION**  **STEP 1** | The teacher write the first twenty elements of the periodic table. | The students pay attention. | To keep them focus. |  |
| **STEP 2** | The teacher configures the first ten twenty element and ask the students to configure the last ten elements. | The students configure the last ten element. | To encourage critical thinking. |  |
| **STEP 3** | The teacher explains the types of bond and gives examples. | The students were active. | To keep them focus. |  |
| **BOARD SUMMARY** | **PERIODIC TABLE**  The most important classification in chemistry is the arrangement of elements in the periodic table. In 1869 Mendeleev, a Russian scientist was the first to construct a periodic table. The modern periodic law states that the properties of the elements are a periodic function of their atomic numbers. The key to the periodicity of elements lies in the electronic configuration of their atoms. An atom consist of a central positively charged nucleus with electrons revolving around it at great speed. The negatively charged electrons revolve round the nucleus in a spherical region called shells or energy level (K ,L,M,N,O……….  **Electronic configuration of the first twenty elements.**  The atomic number is the number of the protons in an atom. As an atom is neutral, the number of proton is equal to the number of electron. The maximum possible number of electrons in a shell is given by the formula 2n2 where n is the energy level number of the shell.  Maximum number of electrons for K,L,M,N shells.  Shell Energy level maximum no.  K 1 2(1)2 = 2  L 2 2(2)2 = 8  M 3 2(3)2 =18  N 4 2(4) 2 =32  **The electronic configuration of the first twenty element.**  **TYPES OF BOND**   1. **ELECTROVALENT OR IONIC BOND -**  In electrovalent combination, there is a transfer of electron from one atom usually non metallic. One atom act as donor while the other act as acceptor of electrons. The electrons involved reside in the outermost shell of the atoms and are known as valence electron.   In electrovalent bonding after donating their valence electron, metallic particles becomes negatively charged. These charged particles are known as ion. Electrovalent bonding results in the formation of positive and negative ion which are held together by strong electrostatic force of attraction. The op-positively charged ion do not pair up to form molecules because they exert their force of attraction equally in all directions.   1. **Formation of sodium chloride**   **Characteristics of electrovalent compounds**   1. High melting and boiling point.   Ii.Solubility - most ionic compounds readily dissolve in water and other polar solvent like ethanol.  Iii.Ionic compound can conduct electricity and are called electrolyte   1. Covalent bonding - it is the sharing of a pair of electrons between the two reacting atoms so that both can attain the stable octet structure. This pair of electrons are known as share pair. Molecules are formed in covalent bonding. Diatomic molecules of element are formed. The shared pair is represented by a stroke between the two atoms. Example H - H and cl - cl. 2. Formation of hydrogen molecule H2.   Characteristics of covalent compounds   1. Structure - covalent compounds consist of molecules which have a definite shape. 2. Solubility - covalent compound usually dissolve in non- polar solvent. 3. Most covalent compounds do not conduct electricity because covalent molecules do not contain charged particle. | The students ask questions for further clarification. | To create room for slow learners. |  |
| **Evaluation** | The teacher evaluates the students with the following questions:   1. state the modern periodic law. 2. State the formula to determine the maximum number of shells an element can have. 3. Configure the following; 4. Carbon 5. Neon 6. Calcium 7. State and explain electrovalent and covalent bond. 8. State at least 3 characteristics of electrovalent and covalent compounds. | The students attempt the questions. | To ascertain their level of understanding. |  |
| **Conclusion** | The teacher concludes by coping the note on the board. She checks and marks the note. | The students copy the note on the board. | For future use. |  |
| **Assignment** | 1. Configure the following compounds; 2. Silicon 3. Phosporus 4. Sulphur 5. Argon 6. Potassium. | The students did and submit their assignment for marking and correction. | To encourage the students to study at home. |  |



4/3/2023

Principal Head Instructor

NOTE: Check all the highlighted items and make the necessary corrections.