**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 2 ENDING 12TH MAY, 2023**

**TERM: THIRD**

**WEEK : 2**

**DATE: 8TH - 12TH MAY, 2023**

**SUBJECT : CHEMISTRY**

**TOPIC : CARBON AND ITS COMPOUNDS**

**SUB- TOPIC : 1. properties of graphite.**

1. **Uses of graphite.**
2. **Amorphous carbon.**

**PERIOD: 1ST**

**TIME : 8: 10 - 8 :50**

**DURATION:**  **40 minutes**

**CLASS: SS1**

**NUMBER IN CLASS: 7**

**AVERAGE AGE: 14 years**

**SEX: mixed**

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

1. State the properties of graphite.
2. State the uses of graphite.
3. Explain amorphous carbon.

**RATIONALE:** The students should understand the properties, uses of graphite and amorphous carbon.

**PREVIOUS KNOWLEGDE:** The student have been taught the allotropy and diamond.

**INSTRUCTIONAL MATERIALS:** A chart showing the amorphous carbon.

**REFERENCE MATERIALS:** New school Chemistry for Senior Secondary Schools by Osei Yaw Ababio .

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| **STEPS** | **TEACHER’S ACTIVITIES** | **STUDENTS’ ACTIVITIES** | **LEARNING POINTS** |
| **INTRODUCTION** | The teacher introduces the lesson by reviewing the previous lesson. | The students were active. | To arouse the students interest. |
| **PRESENTATION**  **STEP 1** | The teacher states the properties of graphite. | The students pay attention. | To keep them focus for better understanding. |
| **STEP 2** | The teacher asks the students to state the uses of graphite. | The students state the uses of graphite. | To encourage critical thinking. |
| **STEP 3** | The teacher explains the amorphous carbon. | The students pay attention. | To keep them focus for better understanding. |
| **BOARD SUMMARY** | **PROPERTIES OF GRAPHITE**   1. It is a soft and flakes easily because of its layered crystalline structure. 2. It is a black opaque solid with metallic lustre. 3. It has a high melting point but less dense than diamond. 4. It is relatively inert chemically but can be oxidized to six carbon atom organic compound under stable condition. 5. It is a good conductor of electricity because of mobile electrons in the crystal lattice . 6. It is more reactive than diamond. It burns at about 700 degree celcius to form carbon(iv) oxide.   **Uses of Graphite**  1. It is a good conductor of electricity because of the  presence of mobile electrons  2. It is used as a lubricant because its layer structure can  slide over each other, since graphite is held together by  weak Van der wall forces.  3. It is used as electrodes in electroplating and in dry cells  because it’s a good conductor of electricity.  4. It is used as a coating agent to induce conductivity  5. It is used to line crucibles for making high grade steels  and other alloys, since graphite can withstand very high  temperatures.  6. It is used in making lead pencils when mixed with clay  7. It is used as a black pigment in paints  8. It is used as a neutron moderator in atomic pile  **AMORPHOUS CARBON**  **Uses of Coke**  • Used as fuel  • Used as a reducing agent/ in the extraction of metals  • For making water gas and producer gas  • Used in the preparation of carbides  **Uses of Coal**  • Used as fuel  • Used as a starting material for chemical  **Uses of Charcoal**  • Used as fuel  • Used in the purification of gases  • Used as an absorbent of gases  • Used in the recovery of industrial solvents  • For removing colouring matter from substances  **Uses of Lampblack/ soot/ carbon black**  • To colour rubber tyres  • To make boot/ shoe polish  • To make printers ink  • To make black paint  • Typewriting ribbons  • Carbon paper | The students ask question for clarification. | To create room for slow learners. |
| **EVALUATION** | The teacher evaluates the students with the following questions;   1. state at least 3 properties of graphite. 2. State 4 uses of graphite. 3. State the amorphous carbon and state at least 3 uses of each. | The students attempt the questions. | To ascertain their level of understanding. |
| **CONCLUSION** | The teacher concludes by copying note on the board. She checks and marks the notes. | The students copy the note into their note books. | For future use. |
| **HOME WORK** | 1. Draw the structure of graphite. 2. State the manufacture of coke.s | The students did your assignment and submit for marking and correction. | To encourage the students to study at home. |



9/5/2023

Principal Head Instuctor