**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 4 ENDING 26TH MAY, 2023**

**TERM: THIRD**

**WEEK : 4**

**DATE: 22ND - 26TH MAY, 2023**

**SUBJECT : CHEMISTRY**

**TOPIC : CARBON AND ITS COMPOUNDS**

**SUB- TOPIC : 1. oxide of carbon**

1. **Preparation of carbon(ii)oxide.**
2. **Test and uses of carbon(ii)oxide.**

**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. Explain the preparation of carbon(ii)oxide.
2. State the test for carbon(ii)oxide.
3. State the uses of carbon (ii) oxide.

**RATIONALE:** The students should understand the preparation and uses of carbon(ii)oxide.

**PREVIOUS KNOWLEGDE:** The student have been taught the carbon(ii)oxide.

**INSTRUCTIONAL MATERIALS:** A chart showing the preparation of carbon(ii)oxide.

**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 explains the preparation of carbon(ii) oxide. | The students pay attention. | To keep them focus for better understanding. |
| **STEP 2** | The teacher asks the students to state the test for carbon(ii)oxide. | The students state the test for carbon(ii)oxide. | To encourage critical thinking. |
| **STEP 3** | The teacher states the uses of carbon(ii)oxide. | The students pay attention. | To keep them focus for better understanding. |
| **BOARD SUMMARY** | **Carbon (II) Oxide (CO)**  Carbon II oxide is commonly produced generally from  incomplete combustion of fuel.  Laboratory Preparation  (i) It is also prepared by the dehydration of ethanedioic acid  (oxalic acid) or methanoic acid (formic acid), using conc.  H2SO4 as the dehydrating agent.  **DIAGRAM from you textbook**  HCOOH Conc H2 SO4 CO (g)  (HCOOH)2 Conc H2 SO4 CO (g) + CO2  The reaction in the flask are heated; effervescence occur and  a colourless, odourless is gas evolved. The gas evolved is  passed through conc NaOH or conc KOH to remove the  carbon iv oxide produced alongside with the carbon II oxide.  **DIAGRAM FROM YOUR TEXTBOOK Please.**  **Test of CO**  Bubble some of the unknown gas through a test-tube  containing some of the unknown gas, but does not turn lime-  water milky. However, if a lighted splint is applied to a test  tube containing the unknown gas, the lighted splint will burn  with a pale blue flame, and then if lime-water is added, the  lime-water turns milky because it the CO has been oxidized  to CO2 during the burning  conc. H2SO4  HCOOH(l)  CO(g)  -H2O  ***Draw the diagram for the preparation from your textbook***  Note:  Tetraoxosulphate (VI) acid does not chemically take part in  the reaction but acts as a dehydrating agent.  (ii) By passing CO2 through red-hot carbon  CO2(g) + C(s) →2CO(g)  ***Draw the diagram for the preparation from your textbook***  **Physical Properties of Carbon (II) Oxide**  (1) Colorless tasteless, odorless gas.  (2) Neutral to litmus.  (3) Insoluble in water but dissolves in ammonical copper (I)  chloride.  (4) it is slightly less dense than air  **Chemicals properties of Carbon (II) oxide**  (1) As a reducing agent, it reduces some metallic oxides to  metals and itself oxidized carbon (IV) oxide.  ZnO (s) + CO (g) → Zn (s) + CO2 (g)  (2) It is a poisonous gas because it combines with the  haemoglobin of red blood cells in the human body to form  carboxyl haemoglobin, preventing oxygen from getting to  the cells.  **Uses:** Used to extract some metals from their ores because it  is a reducing agent.  **Test for Carbon (II) Oxide**  : It burns in air with a pale blue  flame to form carbon (IV) oxide, which turns lime water  milky i.e. 2CO (g) + O2 (g) → 2CO2 (g) | The students ask question for clarification. | To create room for slow learners. |
| **EVALUATION** | The teacher evaluates the students with the following questions;   1. Explain the preparation of carbon(ii)oxide. 2. State the test for carbon(ii)oxide. 3. State at least 2 physical and chemical properties of carbon(ii)oxide. 4. State at least 2 uses of carbon(ii)oxide. | 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** | Draw the apparatus for the preparation of carbon(ii)oxide. | The students did your assignment and submit for marking and correction. | To encourage the students to study at home. |



22/5/2023

Principal Head Instuctor