**EMERALD ROYAL INTERNATIONAL SCHOOL, MPAPE ABUJA**

**LESSON PLAN AND NOTE FOR WEEK 3 ENDING 19TH MAY, 2023**

**TERM: THIRD**

**WEEK : 3**

**DATE: 15TH - 19TH MAY, 2023**

**SUBJECT : CHEMISTRY**

**TOPIC : OXIDATION( REDOX REACTION)**

**SUB- TOPIC : 1. oxidizing agent.**

1. **Reducing agent.**
2. **Examples of oxidizing and reducing agents.**

**PERIOD: 1ST**

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

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

**CLASS: SS2**

**NUMBER IN CLASS:**  **3**

**AVERAGE AGE: 14 years**

**SEX: mixed**

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

1. define oxidizing agents.
2. Define reducing agents.
3. State the examples of oxidizing and reducing agents.

**RATIONALE:** The students should understand the oxidizing and reducing agents.

**PREVIOUS KNOWLEGDE:** The student have been taught meaning of oxidizing and reducing agents.

**INSTRUCTIONAL MATERIALS:** A chart showing examples of reducing and oxidizing agents.

**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 defines oxidizing agents. | The students pay attention. | To keep them focus for better understanding. |
| **STEP 2** | The teacher defines reducing agents and asks the students to repeats after her. | The students repeat after her. | To encourage retention ability. |
| **STEP 3** | The teacher states the examples of oxidizing and reducing agents. | The students pay attention. | To keep them focus for better understanding. |
| **BOARD SUMMARY** | **Reducing Agent and oxidation Agent**  An **oxidizing agent** (also called an **oxidant**,  **oxidizer** or **oxidizer**) can be defined as a  substance that removes electrons from another  reactant in a **redox chemical reaction**. The  oxidizing agent is "**reduced**" by taking electrons  onto itself and the reactant is "oxidized" by  having its electrons taken away. Oxygen is the  prime example of an oxidizing agent, but it is  only one among many.  In simple terms:  - The oxidizing agent is *reduced*.  • The reducing agent is *oxidized*.  • Redox reactions occur when *oxidation*  *states* of the reactants change  Oxidation Agents are:  i.  electron acceptors  ii.  substance which is reduced  iii.  substances in which the  oxidation number decreases.  **Example**  The formation of iron (III)oxide from iron and  oxygen.  4Fe + 3O2 → 2Fe2O3  In the above equation, the iron (Fe) has an  oxidation number of 0 before and 3+ after the  reaction. For oxygen (O) the oxidation number  began as 0 and decreased to 2−.  **Oxidation half reaction**: Fe0 → Fe3+ + 3e−  **Reduction half reaction**: O2 + 4e− → 2 O2−  Iron (Fe) has become oxidized because its  oxidation number increased after giving out  three electrons to oxygen. Oxygen (O) has been  reduced because the oxidation number has  decreased and was the oxidizing agent because it  took electrons from iron (Fe).  **Examples of oxidizing agent are:**  - acidified KMnO4 (acidified tetraoxomanganate VII)  - acidified K2Cr2O7 (acidified potassium  tetraoxochromate (VI)  - hydrogen peroxide, H2O2  - conc. hydrogen tetraoxosulphate VI, H2SO4  - conc. hydrogen trioxonitrate V, HNO3  - potassium trioxoiodate (V), KIO3  **Examples of Reducing Agent are:**  - hydrogen sulphide, H2S  - carbon (II) oxide, CO  - ammonia, NH3  - iron (II) tetraoxosulphate VI, FeSO4  - potassium iodide, KI  - sulphur IV oxide, SO2  NOTE: All metals are reducing agent because  they give out (donate) electrons. However, it is  not suitable to mention any metal as an example  of reducing agent because they are note strong  reducing agents. | The students ask question for clarification. | To create room for slow learners. |
| **EVALUATION** | The teacher evaluates the students with the following questions;   1. Define oxidizing agents. 2. Define reducing agents. 3. State 3 examples each of oxidizing and reducing agents. | 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 note. | The students copy the note into their note books. | For future use. |
| **HOME WORK** | 1. State the rules governing oxidation reaction. 2. What are the test for oxidizing and reducing agents. | The students did their assignment and submit for marking and correction. | To encourage the students to study at home. |



10/5/2023

Principal Head Instuctor