**EMERALD ROYAL INT’L SCHOOL**

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

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| **Term** | 3rd |
| **Week** | 3 |
| **Date** | 15/05/2023 |
| **Class** | SSS 1 |
| **Subject** | Physics |
| **Topic** | Elastic properties of solids. |
| **Sub-topic** | Hooke’s law |
| **Period** | 1 and 2 |
| **Time** | 11:50-1:00 |
| **Duration** | 80minutes |
| **Number in class** | 8 |
| **Average age** | 13years |
| **Sex** | Mixed |
| **Specific objectives** | By the end of the lesson, the students should be able to:   1. Explain the elastic properties of solids 2. Define elasticity and elastic material. |
| **Rationale** | To enable the students understand the elastic properties of solids |
| **Previous knowledge** | Students should have been taught the properties of solids |
| **Instructional aid** | One guide sheet for each student, rubber band, springs, strings, science notebook and a science textbook. |
| **Reference** | * M.W. Anyakoha. New school physics for secondary schools. Africana first publishers PLC. page 95-100 * P.N. Okeke. Macmillan Senior Secondary Physics. Pearson. Page 62-65 |

**LESSON DEVELOPMENT**

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| **STEPS** | **TEACHER’S ACTIVITIES** | **STUDENTS’ ACTIVITIES** | **LEARNING POINTS** |
| **Introduction** | The teacher introduces the elastic properties of solids. The molecules are closely packed together and held in relatively fixed position by strong intermolecular forces. As a result of this, it is relatively difficult to displace these molecules because any external force applied on the solid is resisted by these intermolecular forces. If the external force applied to a solid is strong enough to change or distort the shape of a solid, the solid tends to regain this shape as soon as the applied force is removed. | The students listen attentively. | To give the students a proper understanding of the elastic properties of solids. |
| **Step I** | *Elastic properties of solids*  When you stretch a piece of rubber band, it quickly snaps back to its former shape once it is released. When some load is suspended from the end of a coil spring of wire, the spring stretches a certain length. When the load is removed, the spring returns to its former length. Such objects which regain their shape and size after the force causing the change is removed are said to be elastic, and this property of solids is known as elasticity | The students begin to develop an understanding of the elastic properties of matter. | To ensure proper understanding of the lesson. |
| **Step II** | *Elasticity*  Elasticity is the ability of a substance to regain its original shape and size after being distorted by an external force. | The students listen attentively to the teacher’s explanation. | To ensure that all the students are carried along. |
| **Step III** | *Elastic material*  An elastic material is one that regains its original shape and shape after the distorting force has been removed. | The students listen attentively to the teacher’s explanation. | To ensure that all the students are carried along. |
| **Summary** | **Elasticity** is the ability of a material to regain its original shape and size after the force causing the distortion is removed.  **Elastic limit** is the maximum stretching force beyond which the stretched material would not return to its original length when the force is removed.  Examples of elastic materials include springs, strings, rubber band etc.  **Yield point** is the point at which the elastic material loses its elasticity permanently and become plastic. | The students listen attentively to the teacher’s explanation. | For reference purpose. |
| **Evaluation** | The teacher evaluates the students by giving the students the following class work.   1. When is a body said to be an elastic material? 2. Give two examples of an elastic material. | The students answer the question in their science notebook. | To ascertain the students level of understanding of the lesson. |
| **Conclusion** | The teacher makes correction of the classwork. | The students copy the correction in their exercise books. | For reference purpose |
| **Assignment** | The teacher gives the students the following assignment.  Explain the following terms;   1. Stress 2. Strain 3. The elastic properties of solid. | The students copy the questions into their exercise books and take home for solving. | To encourage critical thinking of the students at home. |



12/7/2023

Principal Head Instuctor