


**WEEK ENDING.....16/90/2022.....**


**SUBJECT...INTEGRATED SCIENCE**

**REFERENCE...SYLLABUS(CRDD.2007), SCIENCE FOR JHS .....**

**FORM.....BASIC 8.....WEEK.....1.....**

<b><u>DAY/DURATION</u></b>	<b><u>TOPIC/SUB-TOPIC/ASPECT</u></b>	<b><u>OBJECTIVES/R.P. K</u></b>	<b><u>TEACHER-LEARNER ACTIVITIES</u></b>	<b><u>T/L MATERIALS</u></b>	<b><u>CORE POINTS</u></b>	<b><u>EVALUATION AND REMARKS</u></b>
<b>TUESDAY</b> <b>13-09-2022</b>  <b>1:20PM – 2:40PM</b> <b>80min</b>	<b>Topic;</b> Electrical Energy  <b>Sub-Topic;</b> Ways of generating Electrical Energy.	By the end of the lesson the Pupil will be able to;  describe ways of generating electrical energy.  <b>R.P.K</b> Pupils have been using Electricity for watching television, ironing their cloth and light studying.	<b>Introduction;</b> Pupils brainstorm to explain uses of electricity at home and at school.  <b>Activities;</b> <ol style="list-style-type: none"> <li>1. Pupils brainstorm to explain the meaning of Electrical Energy.</li> <li>2. Discuss 4 sources of Electrical Energy with the Pupils.</li> <li>3. Assist Pupils to explain each source of Electric Energy.</li> </ol> <b>Closure;</b>	<b>Battery, Switch, led bulb, Wire, Pictures.</b>	<b>Sources of Electrical Energy;</b> <ol style="list-style-type: none"> <li>1. fossil fuels (coal)</li> <li>2. natural gas and petroleum</li> <li>3. nuclear energy</li> <li>4. renewable energy sources</li> </ol>  <ul style="list-style-type: none"> <li>• <b>Natural Gas</b> Natural gas combustion alone, or as part of a furnace/boiler system, propels turbines to create energy.</li> <li>• <b>Coal</b> Most power plants use coal-fired steam turbines to generate power,</li> </ul>	<b>Exercise;</b> 1.State 5 sources of Electrical Energy.  2. Explain the following; i.Fossil ii. Renewable iii. Nuclear Energy iv. Natural Energy.

			Through questions and answers, conclude the lesson.		<p>though a few convert coal to a gas before using it in turbines.</p> <ul style="list-style-type: none"><li>• <b>Petroleum</b> Petroleum can also be burned to produce combustion gases or steam to power turbines.</li><li>• <b>Nuclear Power</b> With nuclear power, nuclear fission produces the energy-generating steam necessary to spin turbines and generate electricity.</li><li>• <b>Hydropower</b> Hydropower from dams and other setups power turbines via flowing water.</li><li>• <b>Wind</b> Like giant pinwheels, turbines capture energy from the wind for conversion into electricity.</li><li>• <b>Biomass</b> Derived from plant and animal waste, materials are burned directly and used as other fuels to power turbines or internal combustion generators.</li><li>• <b>Solar</b> Energy from the sun is captured in photovoltaic solar cells, heating fluids to produce steam and drive turbines.</li><li>• <b>Geothermal</b> Heat from within the earth is harnessed to for heating water into steam to power turbines.</li></ul>	
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<b>THURSDAY</b> <b>15-09-2022</b>  <b>8:05AM – 9:15AM</b> <b>70min</b>	<b>Topic;</b> Electrical Energy  <b>Sub-Topic;</b> Electric Current	<b>Objective</b>  By the end of the lesson the Pupil will be able to; <ol style="list-style-type: none"> <li>1. Explain the meanings of electric current, potential difference and resistance</li> <li>2. Assign units to electric current, potential difference and resistance.</li> </ol> <b>R.P.K</b> Pupils were taught lessons on Electric current in basic 6.	<b>Introduction;</b> Pupils brainstorm to explain the meanings of electric current.  <b>Activities:</b> <ol style="list-style-type: none"> <li>1. Assist Learners to differentiate between Electric current, potential difference and resistance.</li> <li>2. Discuss the ohm's law with the Pupils.</li> <li>3. Assist Pupils to use the relationship between Voltage,</li> </ol>		<p>Ohm's Law is <math>V = IR</math>, where <math>V</math> = voltage, <math>I</math> = current, and <math>R</math> = resistance. Ohm's Law allows you to determine characteristics of a circuit, such as how much current is flowing through it, if you know the voltage of the battery in the circuit and how much resistance is in the circuit.</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>Ohm's Law: <math>V = IR</math></b>  Voltage = Current x Resistance  <span style="border: 2px solid red; padding: 2px;"><b><math>V = IR</math></b></span></p> <p><small>Ohm's Law can be used to find individual currents, voltages, and resistances, and it can also be used to find the total current, voltage, and resistance given the other two. As long as each variable applies to the same object in the circuit (or all 3 apply to the total circuit) the equation works.</small></p> <div style="display: flex; justify-content: space-around; align-items: center;">  <div style="text-align: right;"> <math>V_1 = I_1 R_1</math>  <math>V_2 = I_2 R_2</math>  <math>V_{tot} = I_{tot} R_{eq}</math> </div> </div> </div> <p>Resistance is measured in ohms, symbolized by the Greek letter omega (<math>\Omega</math>). Ohms are named after Georg Simon Ohm (1784-1854), a German physicist who studied the relationship between voltage, current and resistance. He is credited for formulating Ohm's Law.</p>	<b>Exercise;</b> 1.Explain the meaning of an Electric Current. 2. State and explain the Ohm's law. 3. Differentiate between Potential difference and Resistance.
						<b>REMARKS</b>

			<p>Current and resistance <math>V=IR</math> to perform simple calculations.</p> <p>4. Individual Pupils practice assigning units to electric current, potential difference and resistance.</p> <p><b>Closure;</b> Through questions and answers, conclude the lesson.</p>			
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