

TERM THREE
WEEKLY LESSON NOTES
WEEK 11

Week Ending: 25 TH NOV, 2022		DAY:	Subject: Science
Duration: 100mins		Strand: Humans & The Environment	
Class: B7	Class Size:		Sub Strand: Climate Change & Green Economy
Content Standard: B7.5.4.1 Demonstrate understanding of sustainable energy choices and their impact on the environment		Indicator: B7.5.4.1.1 Search for information on ways sustainable energy choices and scientific ideas are used to protect the environment.	Lesson: 1 of 2
Performance Indicator: Learners can search for information on ways sustainable energy choices and scientific ideas are used to protect the environment			Core Competencies: DL 5.3: CI 6.8: DL 5.1: CI 6.6:
References: Science Curriculum Pg. 48			
Phase/Duration	Learners Activities	Resources	
PHASE 1: STARTER	Review the previous lesson with learners through questions and answers. Share learning indicators and introduce the lesson.		
PHASE 2: NEW LEARNING	Drill learners on the correct pronunciation and meaning of key terms. <i>Weather: Weather describes the condition of the atmosphere over a short period of time. It describes the state of the atmosphere for example the degree to which it is hot or cold, wet or dry, calm or stormy, clear or cloudy.</i> <i>Climate: Climate is the condition of the atmosphere at a particular location over a long period of time. It is the long-term summation of the atmospheric elements and their variations.</i> <i>Climate change: The term climate change refers to significant changes in average weather patterns (i.e. precipitation, temperature, wind and other indicators) that persist within a climate system, caused directly or indirectly by human activities.</i> In groups, let learners discuss the effects of climate change on the Environment. 1. Direct physical harm on humans 2. Crop failure and farmland loss 3. Sea level rises and coastal submersion 4. Freshwater loss and desertification Brainstorm learners for the meaning of greenhouse effect. <i>The greenhouse effect is a natural process that warms the Earth's surface.</i> <i>The major greenhouse gases are</i> i. water vapor (H ₂ O) ii. carbon dioxide (CO ₂) iii. methane (CH ₄) iv. chlorofluorocarbons(CFCs) v. Hydrogenated chlorofluorocarbons (HCFCs) vi. Tropospheric ozone (O ₃) vii. Dinitrogen oxide (N ₂ O).	Pictures of plants and animals depicting how they survive Pictures and videos depicting greenhouse effect	

	<p>Have learners research on the meaning of green economy. <i>Green economy is one whose growth of income and jobs is driven by investments that reduce carbon emissions and pollution, enhance efficiency and sustain biodiversity and ecosystem service.</i></p> <p>Guide learners to discuss the advantages of green economy.</p> <ol style="list-style-type: none"> <i>1. Green economy potentially works towards decreasing environmental pollution, and thus improves the quality of soil, water and air and also protects environmental well-being.</i> <i>2. Global warming, loss of biodiversity, deforestation, desertification, resource depletion can gradually be obstructed by implementing green economy which will automatically save the earth and its animals from destruction as far as possible.</i> <i>3. Economic growth is also enhanced due to the establishment of new markets for biofuels and renewable energy resources.</i> <i>4. Establishment of new markets have potential to support international advantages when these new markets will invite funds through exports and also increase domestic sales.</i> <i>5. Agricultural industries will be able to achieve a dignified place due to the emphasis on green technologies.</i> 	
<p>PHASE 3: REFLECTION</p>	<p>Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.</p> <p>Take feedback from learners and summarize the lesson.</p>	

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Performance Indicator: Learners can search for information on ways sustainable energy choices and scientific ideas are used to protect the environment		Core Competencies: DL 5.3: CI 6.8: DL 5.1: CI 6.6:	
References: Science Curriculum Pg. 48			
Phase/Duration	Learners Activities		Resources
PHASE 1: STARTER	Review the previous lesson with learners through questions and answers. Share learning indicators and introduce the lesson.		
PHASE 2: NEW LEARNING	<p>Describe how people use sustainable energy choices and scientific ideas to protect the environment.</p> <p>Sustainable Energy: Energy is sustainable if it meets the need of the present without compromising the ability of the future generation to meet their own needs.</p> <p>Guide learners to identify sustainable energy choices as; solar energy, wind energy, hydropower, geothermal energy and ocean energy.</p> <p>1. Solar Energy: Solar energy is derived by capturing radiant energy from the sun and convert it into electricity. Photovoltaic (PV) systems can convert direct sunlight into electricity through the use of solar cells. Benefits: One of the benefits of solar energy is that sunlight is always available. It improves public health and environmental conditions because there no release of greenhouse gases in the environment.</p> <p>2. Wind Energy: Wind farms capture the energy of the wind by using turbines and converting it into electricity. Benefits: Wind energy is clean energy source which means that it does not pollute the air like other forms of energy.</p> <p>3. Geothermal Energy: Geothermal energy allows us to fetch energy from beneath the earth.</p> <p>4. Ocean Energy: The waves or tides of the ocean have great power which can tapped can generate a lot of energy to power millions of homes.</p> <p>5. Biomass Energy: Bioenergy is a renewable energy derived from biomass. Biomass is organic matter that comes from living plants and organisms.</p> <p>6. Hydroelectric Power: There are the rivers or waterfalls whose energy of the moving water when captured that can turn turbines to generate power.</p> <p>In groups, let learners discuss the need for Sustainable Energy. 1. Sustainable energy fights against climate change. 2. Renewable energy will never deplete or run out.</p>		Pictures and videos depicting greenhouse effect

	<p>3. Sustainable energy does not harm the environment and can help improve public health.</p> <p>4. Renewable energy resources emit little or no greenhouse gases, which is better for the environment and our health.</p> <p>5. Sustainable energy can reduce or eliminate our reliance on fossil fuels.</p> <p>Guide learners to discuss the Impact of sustainable energy choices on the environment.</p> <p><u>Assessment</u> Explain the following terms:</p> <ul style="list-style-type: none"> • Sustainable energy choice • Greenhouse effects • Climate change 	
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