BASIC 8

WEEKLY LESSON PLAN – WEEK 4

Strand:	Forces and Energy		**Sub-Strand:**	Energy	
Content Standard:	B8.4.1.1Demonstrarte the skill to evaluate the conversion of energy from one form to another				
Indicator (s)	B8.4.1.1.1Describe energy conversion B8.4.1.1.2 Discuss the importance of conversion of energy		**Performance Indicator:** Learners can explain the importance of conversion of energy.		
Week Ending	02-02-2024				
Class	B.S.8	**Class Size:**		**Duration:**	
Subject	Science				
Reference	Science Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook.				
Teaching / Learning Resources	Bottle tops, salt, sugar, sand, gari, gravel, oil, water, Poster, Pictures.	**Core Competencies:**	• Critical Thinking and Problem Solving • Communication and Collaboration • Digital Literacy • Creativity and Innovation		

DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**	**PHASE 3: REFLECTION**
MONDAY	Review Learners knowledge on the previous lesson.	1. Assist Learners to identify the forms of Energy. 2. Discuss the meanings of the forms of energy with the Learners. 3. Learners in small groups to describe how energy is converted from one form to another and report to the class. **Different Forms of energy**  **Thermal (Heat) Energy** Thermal energy is created from the vibration of atoms and	Through questions and answers, conclude the lesson. **Exercise;** 1. What is Energy? 2. State 4 forms of Energy

molecules within substances. The faster they move, the more energy they possess and the hotter they become. Thermal energy is also called *heat* energy.

Chemical Energy

Chemical energy is stored in the bonds of atoms and molecules – it is the energy that holds these particles together. Stored chemical energy is found in food, biomass, petroleum, and natural gas.

Nuclear Energy

Nuclear energy is stored in the nucleus of atoms. This energy is released when the nuclei are combined (fusion) or split apart (fission). Nuclear power plants split the nuclei of uranium atoms to produce electricity.

Electrical Energy

Electrical energy is the movement of electrons (the tiny particles that makeup atoms, along with protons and neutrons). Electrons that move through a wire are called electricity. Lightning is another example of electrical energy.

Radiant Energy

Also known as light energy or electromagnetic energy, radiant energy is a type of kinetic energy that travels in waves. Examples include the energy from the sun, x-rays, and radio waves.

Light Energy

Light energy is a form of electromagnetic radiation. Light consists of photons, which are produced when an object's atoms heat up. Light travels in waves and is the only form of energy visible to the human eye.

Motion Energy

Motion energy – or mechanical energy – is the energy stored in objects; as objects move faster, more energy is stored. Examples of motion energy include wind, a flowing river, a moving car, or a person running.

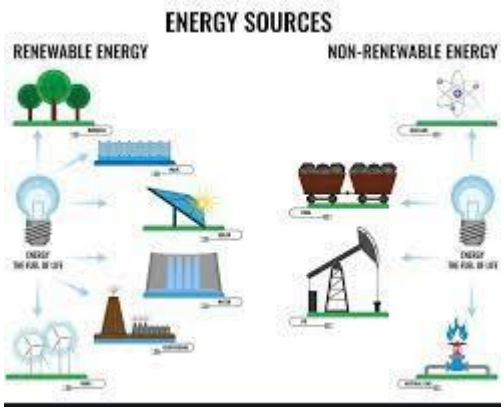
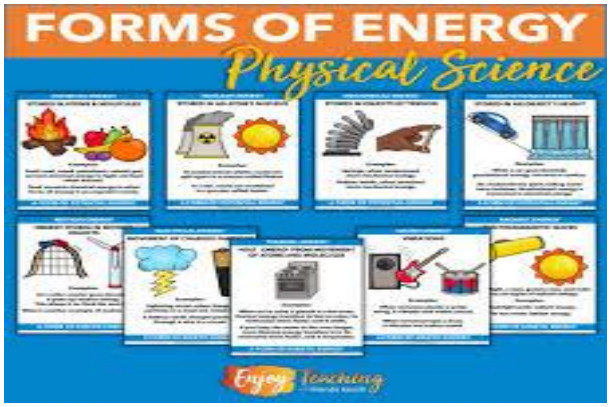
Sound Energy

Sound energy is the movement of energy through substances. It moves in waves and is produced when a force makes an object or substance vibrate. There is usually much less energy in sound than in other forms of energy.

Elastic Energy

Elastic energy is a form of potential energy that is stored in an elastic object - such as a coiled spring or a stretched elastic band. Elastic objects store elastic energy when a force causes them to be stretched or squashed.

		 **Gravitational Energy** Gravitational energy is a form of potential energy. It is an energy associated with gravity or gravitational force – in other words, the energy held by an object when it is in a high position compared to a lower position.	
THURSDAY	Show Learners pictures of the Akosombo Dam.	1. Using a Power Point Presentation, explain the processes that a dammed river goes through to produce electricity. 2. Learners brainstorm to explain the importance of electricity. 3. Assist Learners to identify methods of generating electricity from moving water. **How Electricity is Produced from dam water;** As the water flows down through the dam its kinetic energy is used to turn a turbine. The generator converts the turbine's mechanical energy into electricity. This electric energy then goes through various transmission processes before it reaches you.  **Water Energy** • A hydroelectric dam captures energy from the movement of a river. ... • Wave power captures energy from waves on the surface of the ocean using a special buoy or other	Reflect on the uses of Electricity. **Exercise;** 1. Explain how electricity is produced from dam water. 2. Explain how electricity is generated from moving water.

		floating device. • Tidal power captures the energy of flowing waters with the help of turbines as tides rush in and out of coastal areas.	
FRIDAY	Through questions and answers, review Learners knowledge on the previous lesson.	1. Discuss examples of the natural forms of energy with the Learners. 2. Assist Learners to describe how to harness natural forms of energy to other forms. 3. Learners in small groups discuss the sources of natural energy. **Sources of renewable energy:** • Solar energy. Solar energy is the most abundant of all energy resources and can even be harnessed in cloudy weather. • Wind energy. • Geothermal energy. • Hydropower. • Ocean energy. • Bioenergy. **Natural Sources of Energy;** ❖ Nuclear energy ❖ fossil energy -- like oil, coal ❖ natural gas –  	Each group to report on their discussions for appreciation and feedback. **Exercise;** 1. What is Natural Energy? State 4 examples of the natural forms of energy.

Name of Teacher: **School:** **District:**