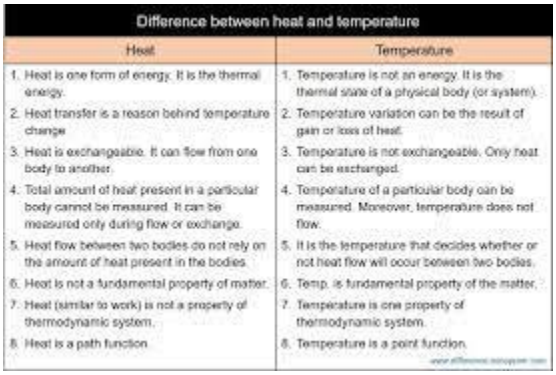
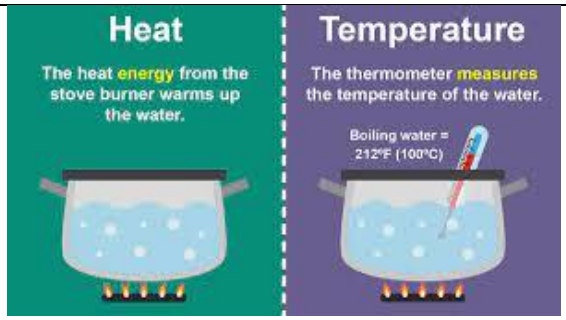
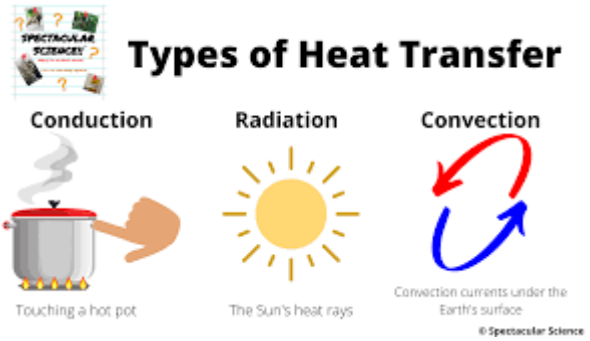
BASIC 8

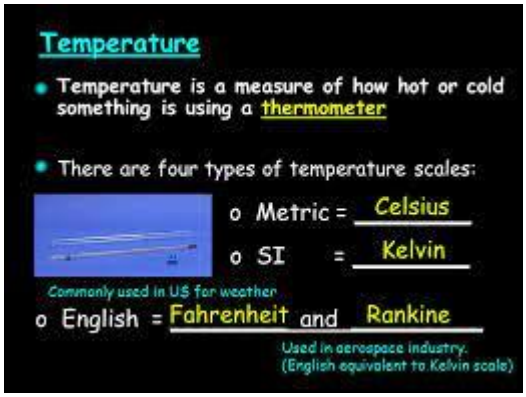
WEEKLY LESSON PLAN – WEEK 6

Strand:	Forces and Energy		**Sub-Strand**	Energy	
Content Standard:	B8.4.1.3 Demonstrate understanding of the relationship between heat and temperature.				
Indicator (s)	B8.4.1.3.1 Discuss the differences and the relationship between heat and temperature in the environment		**Performance Indicator:** Learners can explain the meaning of heat and temperature.		
Week Ending	16-02-2024				
Class	B.S.8	**Class Size:**		**Duration:**	
Subject	Science				
Reference	Science Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook.				
Teaching / Learning Resources	Poster, Pictures, Video, Power Point Presentation.		**Core Competencies:**	• Critical thinking • Problem solving • Digital Literacy • Communication and Collaboration	

DAY/DATE	PHASE 1 : STARTER	PHASE 2: MAIN	PHASE 3: REFLECTION
MONDAY	Discuss the meanings of keywords and terminologies in the lesson. **Keywords;** 1. Heat 2. Temperature 3. Hotness 4. Coldness 5. Joules 6. Energy. 7. calories	1. Discuss the differences between heat and temperature with the Learners. 2. Assist learners to identify the uses of heat . 3. Demonstrate how to measure the heat of an object with a formula. 4. Learners brainstorm to measure heat of objects.  Difference between heat and temperature Heat: 1. Heat is one form of energy. It is the thermal energy. 2. Heat transfer is a reason behind temperature change 3. Heat is exchangeable. It can flow from one body to another. 4. Total amount of heat present in a particular body cannot be measured. It can be measured only during flow or exchange. 5. Heat flow between two bodies do not rely on the amount of heat present in the bodies. 6. Heat is not a fundamental property of matter. 7. Heat (similar to work) is not a property of thermodynamic system. 8. Heat is a path function. Temperature: 1. Temperature is not an energy. It is the thermal state of a physical body (or system). 2. Temperature variation can be the result of gain or loss of heat. 3. Temperature is not exchangeable. Only heat can be exchanged. 4. Temperature of a particular body can be measured. Moreover, temperature does not flow. 5. It is the temperature that decides whether or not heat flow will occur between two bodies. 6. Temp. is fundamental property of the matter. 7. Temperature is one property of thermodynamic system. 8. Temperature is a point function.	Through questions and answers, conclude the lesson. **Exercise;** 1. Tabulate 3 difference between Heat and Temperature. 2. Explain 2 uses of heat.

		 **Heat** i. Heat is a form of internal energy obtained due to random motion an attractive force of molecules in a substance. ii. Its S.I. unit is joule (J). iii. It is measured by the principle of calorimetry. **Temperature** i. Temperature is the quantity which determines the direction of flow of heat between two bodies at different temperatures kept in contact. ii. Its S.I. unit is kelvin (K). iii. It is measured by a thermometer.	
THURSDAY	Review Learners knowledge on the previous lesson.	1. Learners brainstorm to identify 3 sources of heat. 2. Discuss 5 properties of heat with the Learners. 3. Assist Learners to explain 4 types of heat. **Sources of Heat;** • Sun. • Earth. • Chemical energy. • Electrical energy. • Atomic energy. • Air.	Reflect on the uses of Heat. **Exercise;** 1. State 3 sources of heat. 2. Explain 5 properties of heat. 3. Mention 4 types of heat and explain.

		 **Properties of Heat;** ○ Thermal conductivity ○ Density ○ Viscosity ○ melting point/glass transition temperature ○ heat capacity. **Uses of Heat;** ○ Heat is used to make things warm, to boil water and fry eggs and to melt metal to build cars. ○ Heat is used to generate electricity at a thermal power plant for our daily lives. ○ Temperature is the measure of how hot or cold matter is. 	
FRIDAY	Discuss with Learners the properties of temperature.	1. Using PowerPoint Presentation, explain 3 types of temperature. 2. Learners in small groups to discuss 5 uses of Temperature. 3. Discuss the relationship between Heat and Temperature with the Learners. **Temperature;** Temperature is a physical quantity that expresses quantitatively the perceptions of hotness and coldness. Temperature is measured with a thermometer. Thermometers are calibrated in various temperature scales that historically have relied on various reference points and thermometric	Through questions and answers, conclude the lesson. **Exercise;** 1. Explain 3 types of Temperature. 2. Write 5 uses of Temperature

		substances for definition. **Types of Temperature;** o Fahrenheit (expressed as °F) o Celsius (°C) o Kelvin (K). 	

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