Strand:	Environment	**Sub-Strand:**	Understanding our Natural World

BASIC 8

WEEKLY LESSON PLAN – WEEK 4

Content Standard:	B8.1.3.1 Demonstrate understanding of the significance of weather and climate to the environment				
Indicator (s)	B8.1.3.1.1.Assess the significance of weather and climate to the environment		**Performance Indicator;** Learners can differentiate between Weather and Climate.		
Week Ending	02-02-2024				
Class	B.S.8	**Class Size:**		**Duration:**	
Subject	Social Studies				
Reference	Social Studies Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook.				
Teaching / Learning Resources	Poster, Word Chart, Pictures, Power Point Presentation, Video		**Core Competencies:**	• Critical Thinking and Problem Solving Communication and Collaboration.	

DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**	**PHASE 3: REFLECTION**
MONDAY	Discuss with the Learners about the meanings of keywords and terminologies. **Terminologies;** • Flooding • Climate • Weather • Temperature • Pressure • Precipitation • atmospheric conditions • topography • humidity, • vulnerability	1. Using a PowerPoint Presentation, explain the concepts “Climate” and “Weather”. 2. Learners brainstorm to differentiate between Climate and Weather. 3. Assist Learners to identify the elements of Climate. 4. Learners brainstorm to explain the elements of Climate. 5. Discuss the meaning of Climate change with the Learners.  *Courtesy of Pixabay.com* **What exactly is weather?** More specifically, weather is the mix of events that happen each day in our atmosphere. Even though there’s only one atmosphere on Earth, the weather isn’t the same all around the world. Weather is	Learners brainstorm to identify factors that cause climate change. **Exercise;** Explain the following; i. Climate ii. Weather

		different in different parts of the world and changes over minutes, hours, days, and weeks. Most weather happens in the part of Earth's atmosphere that is closest to the ground—called the troposphere. And, there are many different factors that can change the atmosphere in a certain area like air pressure, temperature, humidity, wind speed and direction, and lots of other things. Together, they determine what the weather is like at a given time and location. **What exactly is climate?** Whereas weather refers to short-term changes in the atmosphere, climate describes what the weather is like over a long period of time in a specific area. Different regions can have different climates. To describe the climate of a place, we might say what the temperatures are like during different seasons, how windy it usually is, or how much rain or snow typically falls.	
FRIDAY	Learners brainstorm to describe how temperature of the human body is measured.	1. Assist Learners to identify the instrument used for measuring temperature. 2. Discuss with the Learners about the meaning of "humidity". 3. Show Learners a video to explain how humidity is measured. 4. Demonstrate on how to measure atmospheric pressure and precipitation. What is atmospheric pressure? Atmospheric pressure, the force per unit area of the atmosphere It is common to hear about air pressure, for example, on the television weather programme. The problem is that few people understand what it is all about. **The hPa, a unit of measurement for atmospheric pressure** Previously, the millibar (mb) was used as the unit of measurement for atmospheric pressure. But nowadays, this air pressure is measured in pascal or hPa (hectopascal). A short history lesson will help us understand where hPa comes from.	Through questions and answers, conclude the lesson. **Exercise;** 1. What is temperature? 2. What is the name of the instruments used for measuring the following; i. Humidity ii. Atmospheric pressure iii. Temperature

Indeed, Pascal was a great 17th-century scientist who worked on the subject of atmospheric pressure. According to him, 1 pascal = 1 N/m2. In this case, N stands for Newton, the unit of measurement for force. The atmospheric pressure and the pascal, therefore, define the force per unit area.

The first instrument for measuring atmospheric pressure was created in 1647: the first barometer. Note that atmospheric pressure is most often expressed in hPa or hectopascal, as the pascal is too small: 1 hPa = 100 pascals.

How to measure air pressure accurately, without forgetting other weather data? It's easy with the Netatmo Smart Weather Station ! Find all your weather data (but also your indoor air quality or noise pollution level) on your smartphone.

Why measure air pressure at home?

When you hear about the weather, can you imagine measuring temperature, humidity (the amount of water vapour in the air), sunshine forecasts, and the likelihood of rain? This is not completely wrong… but it is incomplete.

Any weather forecast is based on the measurement of atmospheric pressure (in hPa). This measurement, taken with a device that has a barometer function, is a valuable indicator for anticipating the weather and especially the wind.

Climate refers to the average weather conditions at a specific place over a lengthy period of time (more than 30 years). The climate of a region plays a role in determining what agricultural crops can be grown in that region. The World Meteorological Organization, an agency of the United Nations, is responsible for the international exchange of weather data. It certifies that the data observation procedures do not vary among the over 130-nation participants.

Temperature refers to how hot or cold the atmosphere is as measured by a thermometer (in Celsius (C) or Fahrenheit (F), or Kelvin (K)). A traditional thermometer consists of mercury, red spirit or green spirit in a glass tube and operates on the principle that the liquid expands more that the glass does when heated. Digital electronic devices can also be used were the unit can record the max and min temperature reached and some units can store a

		series of data (a data logger) and others transmit an electronic signal measuring temperature back to a second temperature display on a PC or a base. These new probes can also be used to measure soil temperature. **Atmospheric Pressure** - the weight of the atmosphere overhead (the force exerted on a unit area, such as a square centimeter, by the mass of the atmosphere as gravity pulls it to earth) - expressed in millibars of inches of mercury. Commonly measured with a mercury barometer, a glass tube in which the height of a column of mercury fluctuates as the weight of the atmosphere changes. Changes in atmospheric pressure signal shifts in the weather and can be measured with a simple dial barometer. **Humidity** refers to the amount of water vapour the air contains. (Expressed as relative humidity, or the amount of water vapour air contains expressed as a percentage of the maximum amount it can hold at the same temperature). Cool air holds less water than warm air. **Measuring Humidity**; A Psychrometer is an instrument used to measure relative humidity. It traditionally consists of two thermometers, one covered with a wet cloth. Evaporation cools this thermometer below the actual air temperature, recorded on the dry thermometer. Evaporation and cooling depends on how dry the air is at a given temperature. A table can be used to determine the relative humidity from the amount of cooling. Digital electronic instruments (hygrometers) can be used for quick readings and more upmarket units offer data logging. Some instruments offer a simple dial readying of Relative Humidity, while these offer the least accuracy they can be used as a good indication. **Growing Degree Day (or Heat Units)** - a measure of the departure of the mean daily temperature above or below a given standard. Information can be used to optimize timing of planting, fertilizing, pesticide application and harvesting. **Growing Season** - the period of the year when crops and other plants grow successfully. Calculated by the average number of days between the last heavy frost in spring and the first severe frost in autumn. The length of the growing season varies from place to place and partially determines what crops can be	

		grown in an area. **Precipitation** is a term that covers all of the forms in which water falls to earth from the atmosphere. Main types: rain, snow, sleet and hail. Precipitation is life-sustaining - its amount and distribution a regions receives plays a major role in determining what can survive there and what plants can be grown.	

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