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DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 4
Lesson
3

Lesson Exemplar for Science 4
Quarter 4: Lesson 3 (Week 3)
S.Y. 2024-2025

Development Team

Writer:
Kathleen Mallorca Morales, PhD (Xavier University)

Validator:
- Dr. Randel D. Estacio (Quezon City University)

Management Team

Philippine Normal University

Research Institute for Teacher Quality

SiMERR National Research Centre

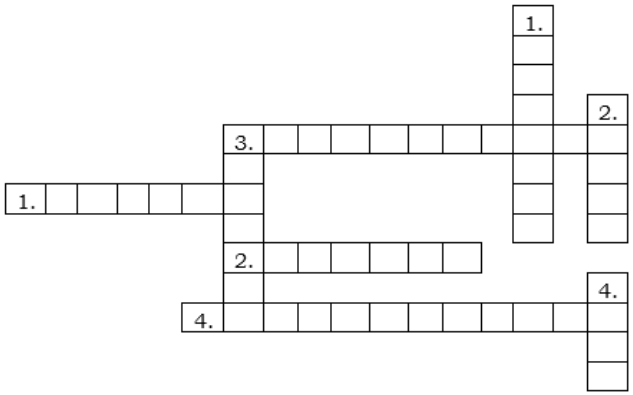
SCIENCE (EARTH AND SPACE SCIENCE) / QUARTER 4 / GRADE 4

I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES	
A. Content Standards	The learners learn that: 1. Soil and water resources are needed by plants and animals to live and grow. 2. Characteristics of the weather can be observed and measured. 3. The Sun is a ball of hot gases about 100 times the size of Earth, which radiates light energy needed by living things.
B. Performance Standards	By the end of the Quarter, learners use simple equipment to identify how types of soil hold water to support the growth of plants. They use instruments and secondary sources to measure and describe the characteristics of weather and use the information to make predictions about weather patterns in their local area. They demonstrate appreciation for the dangers of extreme weather events and use safe practice to protect themselves if they are caught in bad weather. Learners use personal observations and reliable secondary information sources to describe the Sun and explain its importance to life on Earth.
C. Learning Competencies and Objectives	***Learning Competencies*** 1. *identify some of the basic characteristics/elements used to describe the weather, such air temperature, air pressure, wind speed, wind direction, humidity, rain, and cloud cover; and* 2. *use weather instruments to measure and record some of the characteristics of weather during a school day.*
D. Content	Understanding Weather and Its Characteristics - What is weather? - Importance of studying weather - Basic Characteristics of Weather
E. Integration	● Environmental awareness (Environmental Literacy) ● Collaboration ● Development of survival skills

II. LEARNING RESOURCES
Confidence Meets Parenting. (2024). Water Riddles with Answers. https://confidencemeetsparenting.com/water-riddles-with-answers/ Harmony Square. (2020). All About Weather: Way Cool Science. https://www.youtube.com/watch?v=XxELVix36tI&t=87s Riddles For Kids. (n.d.). 10 Weather Riddles for Kids. https://riddles-for-kids.org/10-weather-riddles-for-kids/. Real Life Science 4 Quezon City, Philippines. Eight Printing 2020 Abiva Publishing Quintana, J. R. (2019). Elementary Science Explorer 4. Quezon City: PSICOM Publishing Inc.

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**DAY 1:** **SHORT REVIEW** **Bodies of Water**: In this short activity, the students will recall different bodies of water. **Instructions**: To effectively present a riddle to students, the teacher should read the riddle below clearly and dramatically, encourage critical thinking, and allow individual reflection. Teachers may offer clues, if needed. **Riddle 1**: I'm vast and deep, with waves that roar, Creatures within, a watery floor. From ocean to ocean, my reach is wide, What am I, where tides reside? **Answer**: The Sea or Ocean **Riddle 2**: I twist and turn, a winding spree, Through valleys deep, I find my way to the sea. Rushing and gushing, with power untamed, In canyons or meadows, I'm always named. **Answer**: River **Riddle 3**: I'm not a lake, yet I'm not the sea, A body of water, quite smaller you see. Surrounded by land, with shores all around, In a tranquil setting, where stillness is found. **Answer**: Pond **Riddle 4:** I'm not solid, yet I'm not vapor, Reflecting the sky, like a clear mirror. Sometimes frozen, sometimes in flow, On mountains high or valleys low. **Answer:** Lake **Riddle 5**: I'm salty and vast, with waves that play, Where ships set sail and dolphin's sway. Coral reefs hide in my embrace, A vast expanse, a salty space. **Answer**: The Ocean	

B. Establishing Lesson Purpose	**1. Lesson Purpose** *What is Weather?* 1. Divide the class into small groups and provide each group with weather instruments. 2. Take students on a "Weather Walk" around the school premises. 3. Instruct students to use instruments to measure and record air temperature, wind speed, wind direction, humidity, and signs of rain or cloud cover at different locations. 4. Have students observe and record their findings. 5. Discuss the collected data as a class, encouraging students to compare their observations and share insights. *Importance of Studying Weather* ● Introduce various weather instruments and explain their purposes. ● Allow students to choose one weather instrument to construct. ● Provide craft materials for students to create their own working model of the chosen instrument. ● Once completed, students share their creations with the class. ● Discuss how each instrument is used to measure specific weather characteristics, reinforcing understanding through hands-on creation. *Basic Characteristics of Weather* ● Provide each student with a weather journal template. ● Instruct students to record daily weather observations for a specified period, including air temperature, wind speed and direction, humidity, and any notable weather events. ● Encourage students to use symbols or drawings to represent different weather conditions. ● At the end of the observation period, have students analyze their data. ● Students share their findings with the class, promoting discussion and understanding of weather patterns. **2. Unlocking Content Area Vocabulary** Ask the students to fill in the crossword puzzle using the given clues. Tell the students to pay attention to the number of letters in each answer.	

	 **Across:** 1. The condition of the atmosphere at a specific place and time (6 letters): *Hint: Daily ____ conditions.* 2. A large body of air with similar temperature and humidity (6 letters): *Hint: Influences local weather.* 3. A tool used to measure temperature (7 letters): *Hint: Often found in homes.* 4. The process of water changing from a gas to a liquid (10 letters): *Hint: Occurs when clouds form.* **Down:** 1. The distance above sea level (5 letters): *Hint: Measurement used in weather reports.* 2. The boundary between two air masses (6 letters): *Hint: ____ Front.* 3. A rotating column of air that extends from a thunderstorm to the ground (7 letters): *Hint: Often associated with severe weather.* 4. A frozen form of precipitation (4 letters): *Hint: Cold and fluffy.*	**Answers for Unlocking Content Area Vocabulary:** Across: *Weather* *Thermometer* *Condensation* *Air Mass* Down: *Altitude* *Snow* *Front* *Tornado*
C. Developing and Deepening Understanding	**SUB-TOPIC 1: WHAT IS WEATHER?** **1. Explicitation** Step 1: Begin the activity by asking the students what they think weather is and why it is important. Encourage them to share their thoughts and experiences related to different types of weather.	**Sub-topic 1:** Materials for Explicitation: Pictures or illustrations depicting different of weather conditions (sunny, rainy, cloudy, windy, stormy, etc.)

	Step 2: Divide the class into small groups. Provide each group with a set of pictures or illustrations depicting various weather conditions. Instruct the students to sort the pictures into different categories based on the type of weather (e.g., sunny, rainy, cloudy, windy). Encourage them to discuss their choices within their groups. **2. Worked Example** Weather is a fascinating and dynamic aspect of our environment that greatly influences our daily lives. In the Philippines, a tropical archipelago located in Southeast Asia, weather patterns are diverse and can vary significantly from region to region. Understanding the weather is crucial for various activities such as agriculture, tourism, and disaster preparedness. ● In the Philippines, typhoons are a common occurrence, especially during the rainy season from June to November. These intense tropical cyclones bring heavy rainfall, strong winds, and storm surges, often causing significant damage to infrastructure, agriculture, and livelihoods. *Example*: Typhoon Haiyan (locally known as Yolanda) in 2013 devastated parts of the Philippines, particularly Tacloban City in Leyte province, with winds exceeding 300 km/h and causing widespread destruction and loss of life. ● The Philippines experiences two main monsoon seasons: the southwest monsoon (Habagat) and the northeast monsoon (Amihan). These monsoons bring distinct weather patterns, with the southwest monsoon typically bringing heavy rainfall and the northeast monsoon bringing cooler and drier air. *Example*: During the Habagat season, which usually occurs from May to October, areas like Metro Manila and western parts of Luzon often experience flooding due to the combination of heavy rains and urban drainage issues. ● Microclimates and localized weather phenomena are prevalent in the Philippines due to its diverse topography and geographical features. Mountainous regions, coastal areas, and urban centers can experience different weather conditions simultaneously. *Example*: Baguio City, nestled in the Cordillera Mountains, is known as the "Summer Capital of the Philippines" due to its cooler climate compared to lowland areas. Meanwhile, coastal cities like Davao experience relatively stable weather with occasional localized thunderstorms. ● The Philippines is influenced by the El Niño-Southern Oscillation (ENSO) phenomenon, which brings about periods of El Niño (warmer sea surface temperatures) and La Niña (cooler sea surface temperatures). These events can lead to droughts, floods, and disruptions in agricultural activities. *Example*: The 2015-2016 El Niño event caused severe drought conditions in many parts of the Philippines, resulting in crop failures, water shortages, and adverse impacts on food production. ● Urban areas in the Philippines, particularly major cities like Metro Manila, experience the urban heat island effect, where temperatures are higher compared to surrounding rural areas due to human activities, buildings, and lack of green spaces. *Example*:	Materials Needed for Lesson Activity: ▪ Large sheets of paper or cardboard. ▪ Markers or colored pencils. ▪ Sticky notes. ▪ Small prizes or rewards (optional). Optional for Lesson Activity: You may choose to reward the winning team with small prizes or rewards to add an element of motivation and encouragement.

	During hot and humid summer months, Metro Manila often records higher temperatures than nearby provinces, exacerbating heat-related illnesses and energy consumption for air conditioning. Understanding weather in the Philippines involves recognizing the diverse range of weather phenomena that affect the country, from tropical cyclones and monsoons to localized microclimates and global climate patterns like El Niño and La Niña. By studying and preparing for these weather events, communities can better mitigate risks, adapt to changing conditions, and build resilience against weather-related challenges. **DAY 2:** **3. Lesson Activity** 1. Give each group a large sheet of paper or cardboard and markers. Instruct them to create a weather chart that includes the following: a. A title: *"Ang Panahon"* (The Weather) b. Different sections for each type of weather (sunny, rainy, cloudy, windy, etc.). c. Illustrations or drawings representing each type of weather. d. Labels in both English and Filipino. e. Once the charts are complete, have each group present their chart to the class, explaining the different types of weather they included. 2. **Weather Word Matching:** Write down weather-related vocabulary words (e.g., araw, ulan, kidlat, hangin) on sticky notes, making sure to include both English and Filipino terms. Stick the notes randomly on the board. Divide the class into two teams and explain that they need to match the English words with their corresponding Filipino translations. Give points to each team for correct matches. 3. Conclude the activity by summarizing what the students have learned about weather. Ask them to reflect on the importance of understanding different types of weather in their daily lives. Encourage them to share any questions or observations they have about the topic. **DAY 3:** **SUB-TOPIC 2: IMPORTANCE OF STUDYING WEATHER** **1. Explicitation** 1. Begin by asking the students why they think studying weather is important. Discuss with them how weather affects various aspects of their lives, such as agriculture, transportation, and safety.	**Sub-topic 2:** Materials Needed for Explicitation: ▪ Large sheets of paper or cardboard. ▪ Markers or colored pencils.

	2. Divide the class into small groups and provide each group with a large sheet of paper or cardboard and markers. Instruct them to brainstorm and write down as many ways as they can think of on how weather affects different aspects of life. Encourage them to consider both positive and negative effects. Some examples may include: ● Impact on farming and crop growth ● Influence on clothing choices ● Effects on outdoor activities ● Importance for predicting natural disasters ● Role in water cycle and climate patterns ● Significance for aviation and travel safety ● Contribution to renewable energy sources (e.g., solar power, wind energy) ● Relation to local traditions and festivals affected by weather patterns (e.g., fiestas, harvest celebrations) **2. Worked Example** The study of weather holds immense importance, especially in a country like the Philippines, where diverse weather patterns greatly impact various aspects of daily life. From agriculture to disaster preparedness, understanding weather phenomena is crucial for sustainable development and ensuring the well-being of communities across the archipelago. ● In terms of Agricultural Productivity, in the Philippines, agriculture is a vital sector supporting millions of livelihoods. Weather conditions such as rainfall, temperature, and humidity play a significant role in determining crop yields and livestock health. *Example*: Farmers in the rice-producing regions of Central Luzon heavily rely on the timing and distribution of rainfall during the wet season to ensure optimal rice cultivation. Understanding weather forecasts helps farmers make informed decisions about planting, irrigation, and pest management. ● In terms of Disaster Preparedness and Mitigation, the Philippines is prone to natural disasters, including typhoons, floods, landslides, and droughts. Studying weather patterns and forecasts enables authorities and communities to prepare for and mitigate the impacts of these disasters. *Example*: In 2018, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) issued timely warnings about Typhoon Mangkhut (locally known as Ompong), allowing local governments to conduct pre-emptive evacuations and mobilize resources to minimize casualties and damages. ● In terms of Tourism and Outdoor Activities, weather conditions significantly influence tourism and outdoor recreational activities in the Philippines. Tourists often plan their visits based on favorable weather forecasts to enjoy beaches, diving spots, and outdoor	Materials Needed for Lesson Activity: ▪ Pictures or illustrations depicting different weather phenomena (e.g., rainbows, thunderstorms, tornadoes). ▪ Large sheets of paper or cardboard. ▪ Markers or colored pencils. ▪ Sticky notes. ▪ Small prizes or rewards (optional). Optional for Lesson Activity: Provide small prizes or rewards to acknowledge the efforts of each group and enhance motivation.

attractions. *Example*: Boracay, one of the Philippines' top tourist destinations, experiences a peak season during the dry months from November to April when visitors flock to the island to enjoy sunny weather and pristine beaches. Understanding weather patterns helps tourism operators manage visitor expectations and safety.

- In terms of Energy Management and Infrastructure Planning, weather conditions impact energy consumption, particularly in tropical countries like the Philippines where air conditioning usage increases during hot and humid weather. Studying weather forecasts aids energy planners in managing electricity demand and grid stability. *Example*: During periods of intense heatwaves, such as the summer months, demand for electricity surges as households and businesses rely on air conditioning for cooling. Weather forecasts help energy providers anticipate peak demand and deploy resources accordingly to prevent power outages.
- In terms of Public Health and Safety, weather-related illnesses and hazards pose significant risks to public health and safety. Studying weather patterns allows healthcare providers and emergency responders to prepare for and respond to weather-related emergencies effectively. *Example*: In densely populated urban centers like Metro Manila, heat-related illnesses such as heatstroke and dehydration are prevalent during periods of prolonged heatwaves. Weather forecasts enable health authorities to issue advisories and implement measures to protect vulnerable populations, such as the elderly and homeless.

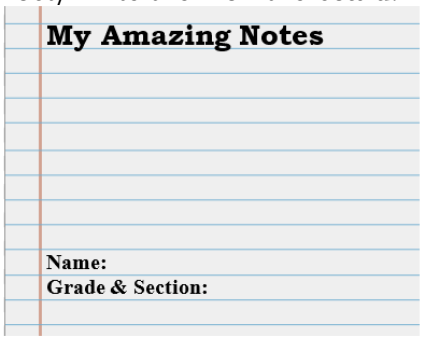
The importance of studying weather in the Philippines cannot be overstated, as it impacts various sectors of society, including agriculture, disaster preparedness, tourism, energy management, and public health. By investing in weather monitoring, research, and forecasting capabilities, the country can enhance resilience, reduce vulnerabilities, and improve the overall well-being of its people in the face of changing weather patterns and climate extremes.

3. Lesson Activity

- **Weather Picture Creation (15 minutes)**: Provide each group with pictures or illustrations depicting different weather phenomena, such as rainbows, thunderstorms, tornadoes, etc. Instruct the groups to choose one weather phenomenon and create a poster illustrating its importance. They should include both the positive and negative aspects of the chosen weather phenomenon and how it affects people's lives in the Philippines.
- **Poster Presentation (10 minutes)**: Have each group present their posters to the class. Encourage them to explain the chosen weather phenomenon, its significance, and how it impacts various aspects of life in the Philippines. Allow time for questions and discussions after each presentation.

	• **Reflection and Discussion (5 minutes)**: Conclude the activity by facilitating a brief reflection and discussion session. Ask students to share what they've learned about the importance of studying weather and how it relates to their lives in the Philippines. Encourage them to think about ways they can apply this knowledge in their daily lives. **SUB-TOPIC 3: BASIC CHARACTERISTICS OF WEATHER** **1. Explicitation** 1. Begin by introducing the concept of basic weather characteristics to the students. Explain that weather is influenced by various factors such as air temperature, air pressure, wind speed, wind direction, humidity, rainfall, and cloud cover. Emphasize the importance of understanding these characteristics for predicting and interpreting weather conditions. 2. Divide the class into small groups and provide each group with a large sheet of paper or cardboard and markers. Instruct them to brainstorm and write down as many characteristics of weather as they can remember. Encourage them to include examples and explanations for each characteristic. Some examples may include: • Air temperature: hot, warm, cool, cold • Air pressure: high pressure, low pressure • Wind speed: calm, breezy, windy, gusty • Wind direction: north, south, east, west • Humidity: dry, humid • Rainfall: light rain, heavy rain, drizzle • Cloud cover: clear skies, partly cloudy, cloudy, overcast **2. Worked Example** Weather is an essential aspect of our daily lives. By learning about the basic characteristics of weather, we can help Filipino children understand how it affects our environment and daily activities. In the Philippines, there are many aspects of weather that we need to study. • Air temperature indicates how hot or cold the weather is. In the Philippines, temperatures are often hot, especially during the summer months, but there are also times when temperatures may change. *Example*: In some provinces in the Cordillera region like Baguio, even during the summer, the temperature is not too hot due to the high altitude and abundance of pine trees. • Air pressure shows how much air is present in a particular area. Changes in air pressure can lead to changes in the weather. *Example*: When air pressure is high, the weather is usually good, and the sea is calm, but when it is low, it may bring rain and strong winds.	Sub-topic 3: Materials Needed for Explicitation: ▪ Large sheets of paper or cardboard. ▪ Markers or colored pencils. Materials Needed for Lesson Activity: ▪ Pictures or illustrations depicting different weather conditions and instruments used to measure weather. ▪ Large sheets of paper or cardboard. ▪ Markers or colored pencils. ▪ Sticky notes. ▪ Small prizes or rewards (optional). *Optional for Lesson Activity: Provide small prizes or rewards to acknowledge the efforts of each group and enhance motivation.*

	• Wind speed and direction indicate how fast and from where the wind is blowing. Wind can come from different directions depending on the current weather. *Example*: During the rainy season, the wind is usually fast from the west, heading towards the Philippines due to the influence of the southwest monsoon. • Humidity shows how moist the air is. In the Philippines, humidity is often high, especially in coastal areas and urban centers. *Example*: During the summer, there is more humidity in areas near the sea, like Metro Manila, because of the heat and moisture from the ocean. • Rainfall indicates the descent of water from the sky. In the Philippines, there are two main rainy seasons: the southwest monsoon (habagat) and the northeast monsoon (amihan). *Example*: During the southwest monsoon, rainfall is usually heavy in the western part of Luzon, which may cause flooding and landslides. • Cloud cover shows how much of the sky is covered by clouds. There are times when cloud cover may be low, while at other times, the sky may be full of clouds. *Example*: On cloudy days, the weather is cooler because clouds block some of the heat from the sun. By studying the basic characteristics of weather, Filipino children will become more knowledgeable about the importance of understanding weather and how it affects their daily lives. **3. Lesson Activity** • **Weather Instruments Matching (15 minutes)**: Show pictures or illustrations of different weather instruments used to measure weather characteristics, such as a thermometer, barometer, anemometer, wind vane, hygrometer, rain gauge, and cloud cover chart. Stick the pictures on the board or around the classroom. Provide each group with sticky notes labeled with the names of the weather instruments. Instruct the groups to match each weather instrument with its corresponding characteristic. Give points for correct matches. • **Weather Report Creation (10 minutes)**: Ask each group to imagine they are weather reporters and to create a weather report for the day. They should include information about the current air temperature, air pressure, wind speed, wind direction, humidity, rainfall, and cloud cover. Encourage them to use Filipino language and localize the weather report for a specific area in the Philippines. • **Weather Report Presentation (10 minutes**): Have each group present their weather report to the class. Encourage them to use their creativity and explain the significance of each weather characteristic in the report. Allow time for questions and discussions after each presentation. • **Reflection and Discussion (5 minutes)**: Conclude the activity by facilitating a brief reflection and discussion session. Ask students to share what they've learned about	

	the basic characteristics of weather and how they can observe and interpret these characteristics in their daily lives in the Philippines.	
D. Making Generalizations	**DAY 4:** **1. Learners' Takeaways** ***What is weather?*** **Directions:** Allow the students to write amazing notes about the lesson "What is Weather?" using the given template below. Let them share their notes with a partner. Call on volunteers to share their notes to class. Post/Write them on the board.  ***Importance of studying weather*** **Directions:** Prepare empty bookmarks. Disseminate these at the end of the discussion. Allow the students to write their generalizations learned in class. Let them mill around and share their generalizations learned in class. Allow the class to read their generalizations at the end of the class. *Sample Bookmarks*  ***Basic Characteristics of Weather*** **Directions:** Assign the needed materials (coloring materials, Oslo paper or recycled paper). Ask the class to illustrate their learnings by using an object/material in an Oslo paper or recycled paper. Allow them to illustrate the symbol for a specified period of time. Let them	

	share what they have drawn. Post their sketches on the board. Let them share/explain their illustration in class. **2. Reflection on Learning** ***Learning Bank*** **Direction:** By accomplishing this *Learning Bank*, the student can identify what concepts he/she learned from the lessons being presented, and identify where they can apply or use their learning in their daily lives.	

DEPOSITS (*What I learned from the lessons?*)	**DIVIDEND/S** (*How can I use what I learned in my life?*)

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		**NOTES TO TEACHERS**
A. Evaluating Learning	**1. Formative Assessment** **Direction**: Read each question carefully. Encircle the letter of the correct answer. 1. What is weather? A. The study of rocks and minerals B. The state of the atmosphere at a specific time and place C. The study of earthquakes D. The study of ancient civilizations 2. Why is studying weather important? A. It helps predict the stock market B. It aids in understanding climate change C. It improves cooking techniques D. It assists in solving mathematical problems 3. Which of the following is NOT a basic characteristic of weather? A. Air temperature C. Wind speed B. Ocean currents D. Humidity	**Answer key:** B) The state of the atmosphere at a specific time and place B) It aids in understanding climate change B) Ocean currents A) The weight of air above a particular point D) An anemometer B) A wind vane A) The amount of water vapor in the air B) Inches or millimeters A) The amount of clouds in the sky D) A ceilometer

4. Air pressure is:
   A. The weight of air above a particular point
   B. The measure of oxygen concentration in the air
   C. The force exerted by clouds
   D. The density of air molecules in a specific area

5. Wind speed is measured with:
   A. A barometer C. A hygrometer
   B. A thermometer D. An anemometer

6. Wind direction is determined by:
   A. A rain gauge
   B. A wind vane
   C. A spectroscope
   D. A seismograph

7. Humidity refers to:
   A. The amount of water vapor in the air
   B. The amount of dust particles in the air
   C. The amount of sunlight in the atmosphere
   D. The amount of oxygen in the air

8. Rainfall is measured in:
   A. Pounds per square inch
   B. Inches or millimeters
   C. Degrees Celsius
   D. Liters per cubic meter

9. Cloud cover is:
   A. The amount of clouds in the sky
   B. The thickness of the ozone layer
   C. The number of stars visible at night
   D. The brightness of the moon

10. Which of the following instruments is used to measure cloud cover?
   A. A thermometer
   B. A barometer
   C. A radar
   D. A ceilometer

<table>
<tr><td></td><td colspan="3">2. Homework (Optional)
Weather Instruments Exploration:
● Research and learn about different weather instruments used to measure weather characteristics.
● Choose two weather instruments from the list below and describe how they work and what weather characteristics they measure:
▪ Thermometer
▪ Barometer
▪ Anemometer
▪ Wind vane
▪ Hygrometer
▪ Rain gauge
▪ Cloud observation tool
● Submit your completed answers to your teacher the following day.
● Be sure your name and class are written clearly on each assignment.</td><td></td></tr>
<tr><td rowspan="5">A. Teacher's Remarks</td><td>Note observations on any of the following areas:</td><td>Effective Practices</td><td>Problems Encountered</td><td rowspan="5"></td></tr>
<tr><td>strategies explored</td><td></td><td></td></tr>
<tr><td>materials used</td><td></td><td></td></tr>
<tr><td>learner engagement/ interaction</td><td></td><td></td></tr>
<tr><td>others</td><td></td><td></td></tr>
<tr><td>B. Teacher's Reflection</td><td colspan="3">Reflection guide or prompt can be on:
▪ <u>principles behind the teaching</u>
What principles and beliefs informed my lesson?
Why did I teach the lesson the way I did?
▪ <u>students</u>
What roles did my students play in my lesson?
What did my students learn? How did they learn?
▪ <u>ways forward</u>
What could I have done differently?
What can I explore in the next lesson?</td><td></td></tr>
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