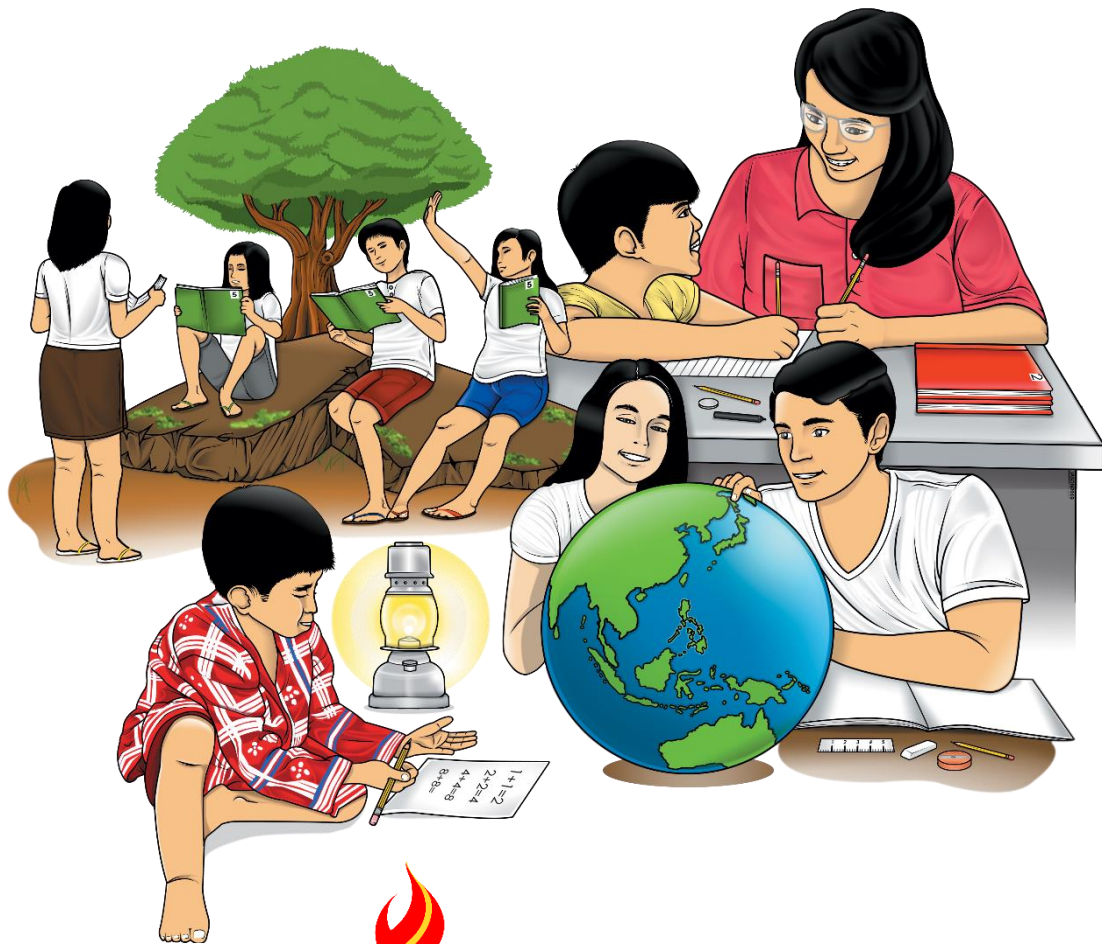


Science

Quarter 4 – Module 4: “Weather”



Science – Grade 4
Alternative Delivery Mode
Quarter 4 – Module 4: “Weather”
First Edition, 2020

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4

Science
Quarter 4 – Module 4:
“Weather”

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

This module was designed and written for you to help you identify how weather instruments are used to measure the different weather components. You will also learn how to describe in a chart the different weather conditions around in a certain area. Every activity will provide you much learning about weather.

The module will focus on:

- Lesson 1 – Using Weather Instruments and Describing Weather Components (S4ES-IVe-5)

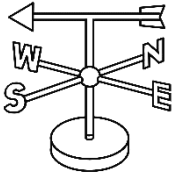
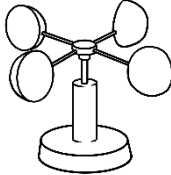

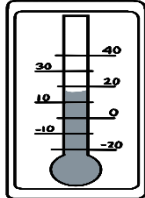
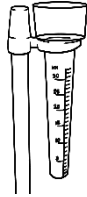
After going through this module, you are expected to be able to:

1. identify different weather instruments that measure the different weather components; and
2. identify the weather components recorded in a weather report.



What I Know

A. Directions: Match the following pictures in group A to its meaning in group B by writing the correct letter in your science notebook.

A		B
1. 	4. 	a. measures wind speed
2. 	5. 	b. measures wind direction
3. 		c. measures the amount of rainfall
		d. measures the air temperature
		e. tells both the wind direction and wind speed

Illustrated by: Jotham D. Balonzo

B. Directions: Fill in the blanks with the correct answer. Write your answer in your science notebook.

1. The scientist who studies the weather is called _____.
2. The measure of the hotness or coldness of the atmosphere is called _____.
3. The instrument that measures and records temperature is _____.
4. The instrument that measures the speed of wind is the _____.
5. The _____ tells where the wind is from and where the wind is going.

C. Directions: Choose the letter of the correct answer. Write your answer in your science notebook.

1. Which Celsius thermometer shows the coldest temperature?
a. 37^o b. 29^o c. 28^o d. 46^o
2. Which of these instruments tells the direction of the wind?
a. anemometer b. telescope c. thermometer d. wind vane
3. What type of wind can blow away the roof of a house?
a. light wind c. north wind
b. moderate wind d. strong wind
4. Which instrument measures the hotness or coldness of the environment?
a. anemometer c. compass
b. barometer d. thermometer
5. You placed a wind vane in a windy place. You observed that its arrowhead pointed to the south direction. Where did the wind come from?
a. from east b. from north c. from south d. from west

<p>Did you find it exciting? You will be familiarized with the lesson, as you go through the succeeding topics. Keep going.</p>

Lesson

1

“Weather Instruments and Weather Components”

One of the ways to predict the weather is by measuring the air temperature. Weather conditions affect the day's temperature. To predict weather in our surroundings, weather instruments can be used in measuring different weather conditions. Weather charts also presents weather components that determine the weather condition at any given time.

Are you ready to learn more about weather and its components? This is going to be exciting and fun, so be patient for every activity that you are going to take.



What's In

A. Directions: Write **fact** if the statement is correct and **bluff** if the statement is not. Write your answer in your science notebook.

- _____ 1. Snow is a precipitate.
- _____ 2. Clouds are signs of weather.
- _____ 3. Water vapor gather in the hydrosphere.
- _____ 4. Evaporation happens when water is heated.
- _____ 5. Plants and animals are not part of the water cycle.

B. Directions: Supply the missing letters to make the statements correct. Write your answer in your science notebook.

1. Ci _ _ us clouds are high feathery clouds.
2. Ni_b_s cloud is a cloud that produces precipitation.
3. C_m_lu_ clouds are the puffy clouds that look like puffs of cotton.
4. A c_ou _ is a large collection of very tiny droplets of water or ice crystals.
5. S_ra_ _s clouds are uniform grayish clouds that often cover the entire sky.



What's New

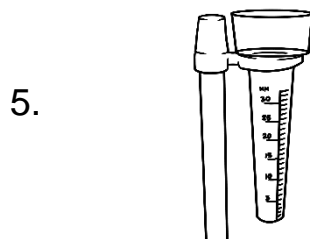
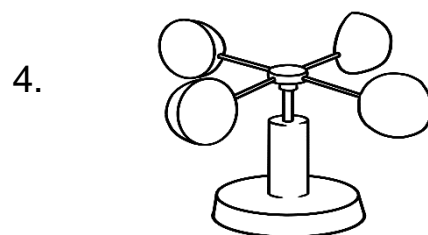
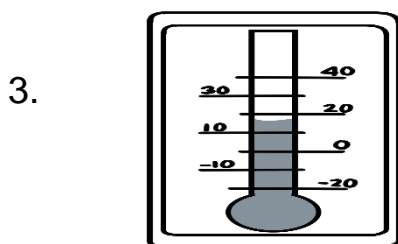
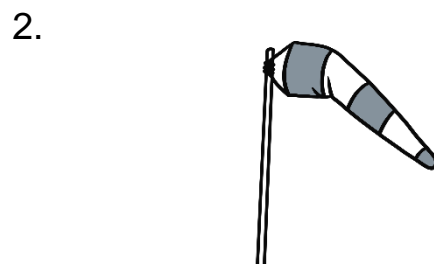
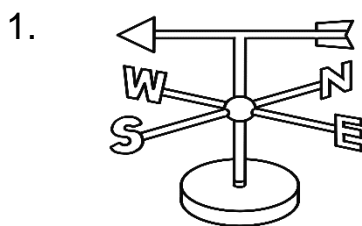
Note to Parent/Guardian: Guide your children in doing this activity and answer the following questions.

To the Learner:

Activity 1: "Identify Me?"

Directions: Identify the different weather instruments by choosing the correct word from the box below. Write your answer in your science notebook.

thermometer rain windsock
cloud rain gauge wind vane
anemometer

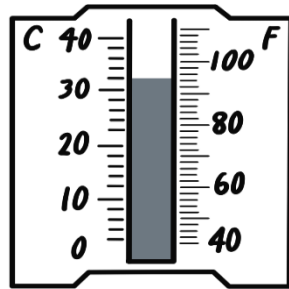


Illustrated by: Jotham D. Balonzo

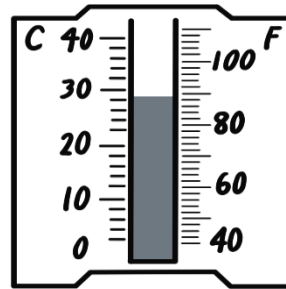
Activity 2: “How to Use It”

B. Directions: Read and list down the temperature readings of these two thermometers below in your science notebook.

Temperature outside
the house



Temperature inside
the house



Illustrated by: Jotham D. Balanzo

Guide Questions:

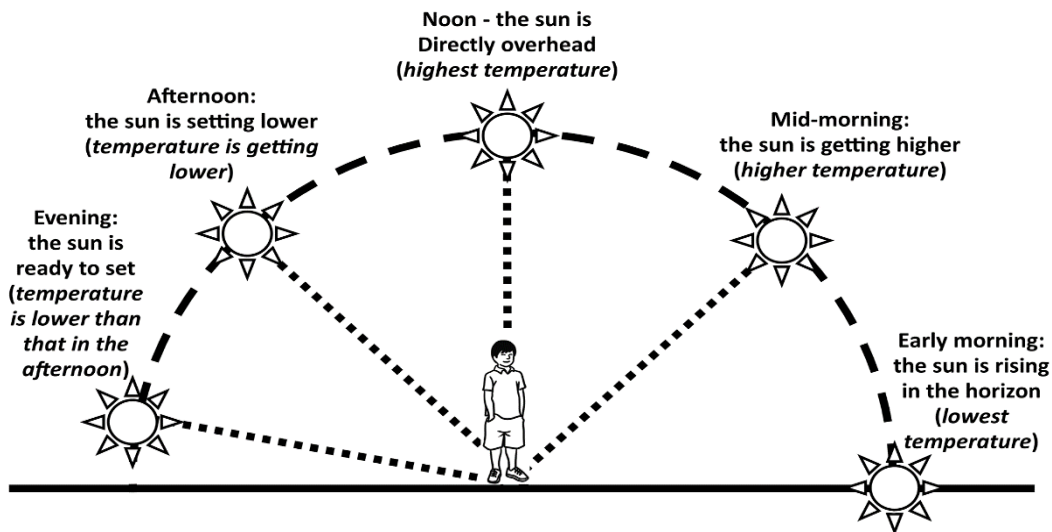
1. What do °F and °C means?
2. Why are there long and short lines?
3. What is the use of the red liquid inside the thermometer?
4. What is the temperature inside the house?
5. What is the temperature outside the house?
6. Which thermometer is showing the lower temperature?
7. Which thermometer is showing the higher temperature?
8. Compare the temperature readings inside and outside the house?

Activity 2.1 “What Factors Affect the Day’s Temperature?”

Directions: Study the chart below and answer the questions that follow.
Write your answer in your science notebook.

Weather Condition	Different Temperature at Various Times (in one’s school yard)			
	8:00 A.M.	10:00 A.M.	12:00 N.N.	2:00 P.M.
Fine	27° C	31° C	33° C	30° C
Fair	26° C	28° C	29° C	27° C
Rainy	23° C	24° C	25° C	24° C

Temperature in relation to the angle of sun's



Illustrated by: Jotham D. Balonzo





Guide Questions:

1. What factors affect the day's temperature?
2. At what weather condition are the temperatures low?
3. At what weather condition are the temperatures high?
4. At what time of the day is the temperature at its lowest?
5. At what time of the day is the temperature at its highest?
6. Compare the temperature readings during the fine, fair, and rainy weather conditions.

Activity 3: "Describe the Weather Condition?"

Directions: Observe the weather elements listed in the chart below and answer the questions that follow. Record your observations in your science notebook using this format.

- Look at the pictures below.
- Describe the possible condition for each of the pictures. You can make approximate guesses for the needed details in the chart.
- Record your predictions on the chart below.

Day	Temperature	Wind Speed	Wind Direction	Cloud Formation
				
				
				
				

Illustrated by: Jotham D. Balonzo

Guide question:

- What are your bases in telling the weather condition?

**You have got your brain in gear today.
Good luck to the next level!**



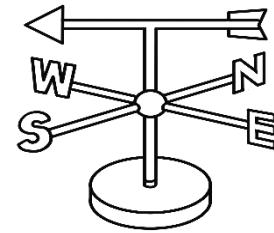
What is It

Points to Remember:

The following are the primary conditions/weather components of the atmosphere and the weather instruments used to measure them:

1. **Wind** is the movement of air parallel to Earth's surface.

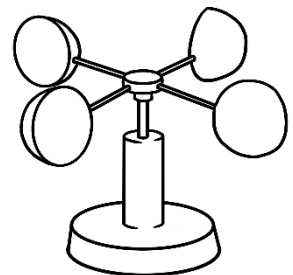
- A **wind vane** is a device that tells the direction of the wind. Wind direction is the direction from which the wind is blowing (four directions: E- East, W-West, N-North, and S-South).



Illustrated by: Jotham D. Balonzo

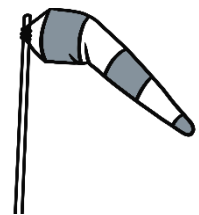
- North wind - if the arrowhead of the wind vane faces the north direction
- East wind - if the arrowhead of the wind vane faces the east direction
- If the arrowhead points between North and East, we say, the wind is blowing northeast.

- An **anemometer** measures wind speed. The cups catch the wind, turning a dial attached to the instrument. The dial shows the wind speed. The speed of the wind may be fast or slow. Sometimes it blows gently but at other times it blows fast.



Illustrated by: Jotham D. Balonzo

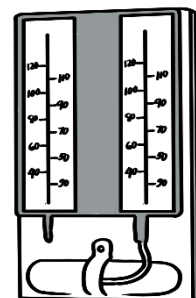
- A **windsock** tells both the wind direction and wind speed.



Illustrated by: Jotham D. Balonzo

2. **Humidity** is the amount of moisture in the air which is measured by a hygrometer.

- **Hygrometer** uses a pair of thermometers where one bulb is open to the air and the other has a bulb covered in a wet cloth. This causes evaporation on the wet bulb and loss of heat thus a drop in temperature reading. The relative humidity can then be derived from the temperature difference between the two thermometers.

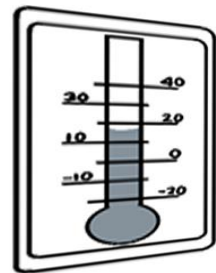


Illustrated by: Jotham D. Balonzo

3. Temperature is the degree of hotness or coldness on a definite scale of air around us. Places near the equator have high temperature because they receive direct rays of the sun. The time of the day and time of the year also affect the air temperature.

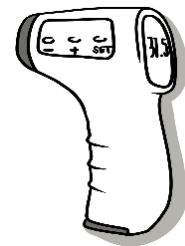
- A thermometer is used to measure air temperature. A room thermometer may bear the Fahrenheit, the Celsius scale, or both. Air temperature is typically read in degrees Celsius or °C while the Fahrenheit scale is mainly used in the United States.

- **Liquid-in-glass (traditional thermometer)** - A **thermometer** has a **glass** tube sealed at both ends and is partly filled with a **liquid** like mercury or alcohol. As the environment becomes hotter, the liquid inside the thermometer expands causing a rise of the liquid level in the glass tube.



Illustrated by: Jotham D. Balonzo

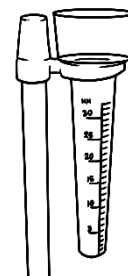
- An **infrared thermometer (non-contact thermometer)** is a **thermometer** which measures temperature from a specific surface portion of the object at a safe distance. The thermometer will compare the heat emitted by the object with its surroundings.



Illustrated by: Jotham D. Balonzo

4. Pressure is the weight of force that is produced when something presses or pushes against something else.

- A **barometer** is a scientific instrument that is used to measure air pressure in a certain environment. The level of liquid inside it will indicate subtle pressure changes caused by weather elements.



Illustrated by: Jotham D. Balonzo

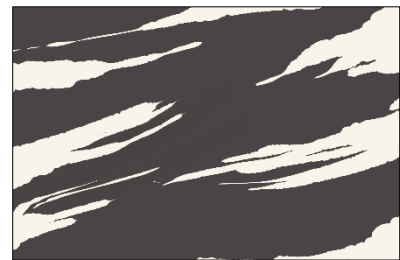
5. Precipitation is the water that falls into the ground as rain, snow etc.

- **Rain Gauge.** It measures the amount of rain that has fallen over a very specific time period.

6. Cloud formation is a visible mass of particles of condensed vapor suspended in the atmosphere of a planet.

Kinds of Clouds

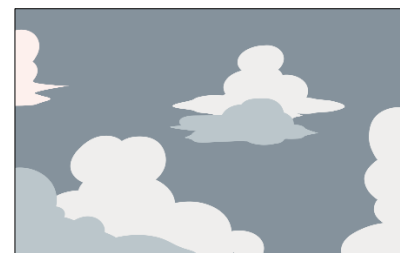
1. Cirrus clouds - they are like white and thin feathers. They appear high up in the sky.



2. Stratus clouds - they are flat layers of clouds. They appear grayish or bluish because they are low and thick enough to hide the sun. They often turn to drizzle or light rain



3. Cumulus clouds - they appear in fine and sunny weather. They appear like cotton.



4. Nimbus clouds - they are called rain clouds. They appear in big heaps of heavy clouds. They bring heavy rains and thunderstorms. They make the sky dark and look heavy.



Illustrated by: Jotham D. Balonzo

Observing the weather condition will help us decide the kind of activities we will do for the day. Planning ahead can be aided by weather predictions.

- Weather charts present about weather components that determine the weather condition at any given time. Below is an example of a weather chart.

Weather Condition	Different Temperature at Various Times (in one's school yard)			
	8:00 A.M.	10:00 A.M.	12:00 N.N.	2:00 P.M.
Fine	28° C	30° C	33° C	30° C
Fair	26° C	28° C	29° C	27° C
Rainy	20° C	23° C	24° C	22° C

- Weather report is important because we can give accurate data on different weather elements. Below is an example of weather report.

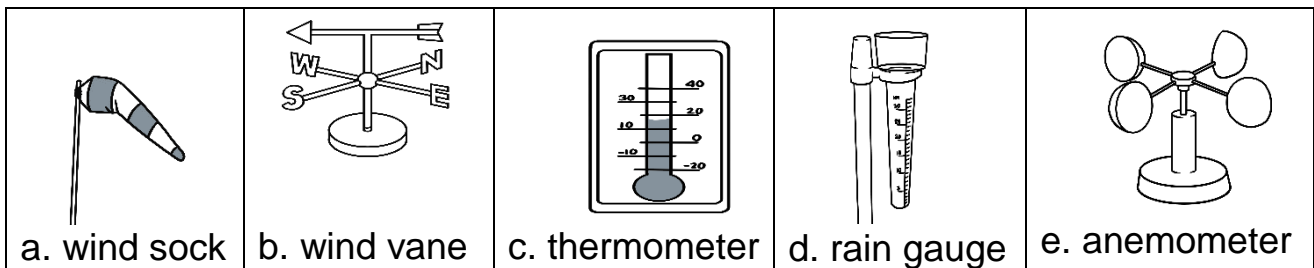
Tuguegarao Province	Fair weather condition all throughout the day. Temperature ranges from 35°C- 40°C.
Baguio City	Light to moderate northwest wind. The sky will be cloudy with brief rain showers in the afternoon or evening. Temperature ranges from 20°C- 23°C.
Tagaytay City	Occasional rain shower and thunderstorm in the afternoon with moderate to strong easterly winds. Temperature ranges from 25°C-30°C.



What's More

Activity 1: "Let's Identify Them"

A. Directions: Identify what is being asked in the statement below. Then answer the riddle by identifying the pictures shown. Write your answers in your science notebook.

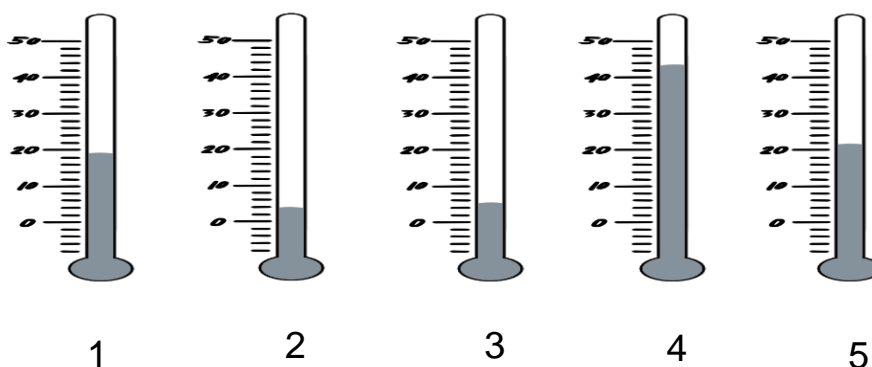


Illustrated by: Jotham D. Balonzo

1. I can tell the direction of the wind if it is going to east or west, north or south. What am I? _____
2. I stand in pole, can tell both the speed and direction of the wind. What am I? _____
3. If you feel warm or feel cold, tell me and I will give you the accurate readings of the temperature. Who am I? _____
4. During storm I can move fast but during fair weather I can softly move. What am I? _____
5. When the rain pours, I can measure the amount of it in a specific period of time. What am I? _____

Activity 2: “Try to Use It”

B. Directions: Read the measurement of each of the thermometer illustrated below. Write the temperature in Celsius under each thermometer. Use your science notebook as your answer sheet.



Activity 3: “Fill Me Out”

Illustrated by: Jotham D. Balonzo

D. Directions: Study this Weather Report. Describe the weather condition present in the following places/location below. Write your answer in your science notebook.

Daet, Camarines Norte	Fair weather condition all throughout the day. Temperature ranges from 30°C-35°C.
Naga City	Light to moderate northeast wind. The sky will be cloudy with brief rain showers in the afternoon or evening. Temperature ranges from 20°C-24°C.
Legazpi City	Occasional rain shower and thunderstorm in the afternoon with moderate to strong easterly winds. Temperature ranges from 25°C-30°C.

Weather Elements	Place /Location		
	Daet, Camarines Norte	Naga City	Legazpi City
Temperature			
Sky Condition			

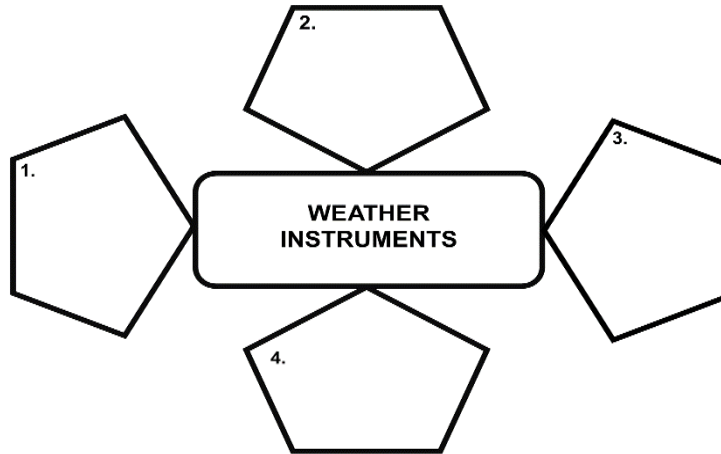


What I Have Learned

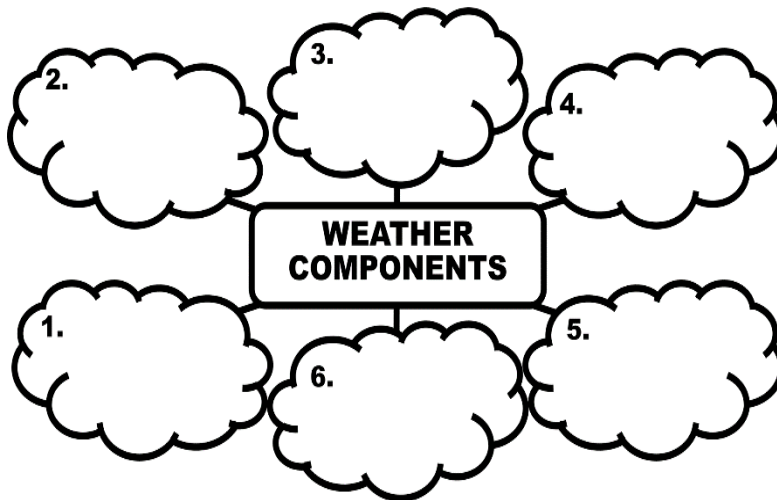
Directions: Complete the concept below by writing the needed data in the space provided. Write your answer in your science notebook.

I learned that...

A.



B.





What I Can Do

Directions: In your science notebook briefly explain your answer based on your understanding regarding this situation.

1. What do you think is the importance of knowing the different uses of weather instruments and reading of the weather charts?
2. Why is there a need for us to know and be observant of the weather conditions?
3. Typhoon Signal No. 1 is raised over the place where you live. Classes are not suspended. However, the place you live gets flooded easily when it rains. Would you go to school? Why or why not?

Wonderful you did it! Keep going.



Assessment

A. Directions: In your science notebook write the letter of the correct answer in each of the following question.

1. What instrument is used to measure the speed of the wind?
 - a. anemometer
 - b. barometer
 - c. thermometer
 - d. wind vane
2. A wind vane tells what component of weather?
 - a. wind speed
 - b. wind direction
 - c. wind temperature
 - d. wind observations
3. What weather instrument measures both wind speed and wind direction?
 - a. wind vane
 - b. wind sock
 - c. anemometer
 - d. thermometer

4. What does the daily weather forecast tells us?
- a. upcoming typhoon
 - b. temperature and place
 - c. wind speed and direction
 - d. all of the above
5. What kind of weather indicates if the cups of anemometer is moving fast?
- a. cloudy
 - b. fine
 - c. rainy
 - d. stormy
6. It gives the news about the weather?
- a. meteorology
 - b. weather man
 - c. weather forecast
 - d. both b and c
7. If the air temperature drops low at your place, what does it mean?
- a. It indicates fair weather.
 - b. It indicates normal weather.
 - c. Low temperature makes the weather cold.
 - d. High temperature makes the weather warm.
8. How can weather forecast help you?
- a. They help me plan what to buy at a discount market.
 - b. They help me decide what kind of gadget to buy next.
 - c. They help me decide what activities to do and what food to buy.
 - d. Both a and b.
9. The air temperature drops to 18°C. What should you wear?
- a. thick clothes
 - b. thin clothes
 - c. new clothes
 - c. all of the above
10. Which is true about weather condition?
- a. Weather condition help us decide the kind of activities we will do for the day.
 - b. Weather condition does not warn us to be safe from dangers during calamities.
 - c. Weather condition is not an important factor in determining different types of weather.
 - d. Weather condition is a steady sky condition and do not affect people's activities.

B. Directions: Describe the weather components recorded in the chart using the given information below. Write your answers in your science notebook.

Location	Descriptions of Weather Condition
Masbate	Cloudy sky condition with moderate northeast wind, temperature ranges from 27°C-29°C
Catanduanes	Light to moderate northeast wind, sky is cloudy with brief rain shower, temperature ranges from 20°C-24°C
Sorsogon	Occasional rain shower and thunderstorm in the morning with moderate to strong easterly winds, temperature is 20°C-33°C

Time: 9:00 A.M.	Masbate	Catanduanes	Sorsogon
Cloud formation			
Wind speed			
Wind direction			
Temperature			

Spectacular! You are great.



Additional Activities

Directions: Choose one from the given weather instruments and make your own Do It Yourself (D.I.Y.) weather instrument. Try to use it during different weather conditions.

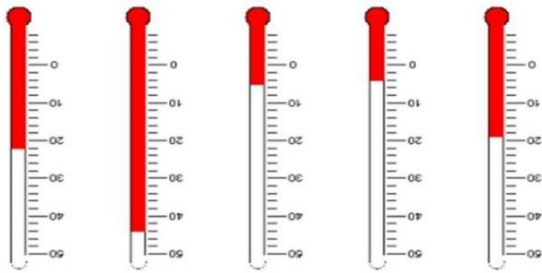
- a. wind vane
- b. anemometer
- c. rain gauge

Excellent! You've tried really hard. You are now ready to go to the next module.



Answer Key

1. 18°C 2. 4°C 3. 5°C 4. 44°C 5. 22°C



B. Try to Use It

1. wind vane
2. wind sock
3. thermometer
4. anemometer
5. rain gauge

A. Let's Identify Them



What's More

The temperature, wind speed, wind direction, and cloud formation are the bases in giving predictions for each weather condition.

Guide Question:

Day	Temperature	Wind Speed	Wind Direction	Cloud Formation
	answers vary	slow	answers vary	cumulus
	answers vary	slow/moderate	answers vary	cumulus
	answers vary	fast	answers vary	answers vary
	answers vary	moderate	answers vary	nimbus

Activity 3

1. rainy days- lowest, fair weather- higher, fine weather- highest
2. 12:00 noon
3. 6:00 am
4. fine weather
5. rainy
6. the time of the day affect the day's temperature

Guide Questions:

Activity 2.1

1. It is used to indicate the lines and point out the numbers inside the thermometer.
2. F- Fahrenheit, C- Celsius
3. Each long line is for 1° Fahrenheit / 1°C temperature. The four shorter lines between each long line are for 0.2°C/0.2°F (two tenths) of a degree of temperature.
4. 30°C
5. 28°C
6. The temperature outside is higher and the temperature inside is lower.
7. the thermometer outside the house
8. the thermometer inside the house

Activity 2- How To Use It

Guide Questions:

1. Wind vane
2. Wind sock
3. Thermometer
4. Anemometer
5. Rain gauge

Activity 1- Let's Identify Them

1. Wind vane
2. Wind sock
3. Thermometer
4. Anemometer
5. Rain gauge

What's New



- A.
 1. fact
 2. fact
 3. fact
 4. fact
 5. bluff
- B.
 1. cirrus
 2. nimbus
 3. cumulus
 4. cloud
 5. stratus

What's In



- A.
 1. b
 2. e
 3. c
 4. a
 5. d
- B.
 1. Meteorologist
 2. Temperature
 3. Thermometer
 4. Anemometer
 5. Wind vane

What I Know




C. FILL ME OUT
 Weather instruments
 Uses

1. thermometer -measures the air temperature
2. wind vane -tells the direction of the wind
3. anemometer -tells the wind speed
4. rain gauge -measures the amount of rain that has fallen over a very specific time period
5. wind sock -tells both the wind speed and wind direction

D.

Weather Elements	Place /Location
Temperature	Daet 30°C-35°C
Sky	Naga City 20°C-24°C
Condition	Legazpi City 25°C-30°C
	rainy/ thunderstorm


What I Have Learned 

A


1. wind vane
2. anemometer
3. rain gauge
4. wind sock

B.

1. thermometer
2. Wind
3. Humidity
4. pressure
5. cloud
6. precipitation

What's I Can Do 

1. Answers may vary.
2. Answers may vary.
3. Answers may vary.


Assessment 

A.

1. a
2. b
3. b
4. d
5. d
6. c
7. c
8. c
9. a
10. a

B.

Time: 9:00 A.M.	Masbate	Catanduanes	Sorsogon
Sky	cloudy	cloudy with	occasional
wind speed	moderate	moderate	Moderate
wind direction	northeast	northeast	easterly
temperature	27°C-33°C	20°C-24°C	20°C-33°C

Additional Activities 

Answers may vary.

Reference

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