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Lesson Exemplar for Science

Quarter 4
Lesson
4

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

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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	Local Weather Chart Components of a Local Weather Chart Guided Analyses of Local Weather Charts - interpreting current weather - predicting weather changes - understanding weather patterns Weather Instruments and Measurements (thermometer, barometer, anemometer, wind vane)
E. Integration	● Environmental awareness (Environmental Literacy) ● Collaboration ● Development of survival skills

II. LEARNING RESOURCES
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. YouTube Videos on how to make improvised weather instruments

https://youtu.be/2Epu6fPreW4?t=66
https://youtu.be/wMJmUAOpsg8?t=164
https://youtu.be/V647xfOreKM
https://youtu.be/Mzuh-sB2GXM?t=24
https://youtu.be/jwo2XGBABpY?t=68
https://youtu.be/9JHuXRTSxx8?t=19

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	**DAY 1** (50 minutes) **Let us Review** 1. Ask the learners individually or in small groups to decode the hidden terms in the given numbers. 2. Tell them that once the terms have been decoded, they try to recall the meaning of each term and how this contributes to cloud formation.	**Answers:** 1. HYDROLOGIC CYCLE 2. DEW POINT 3. FOG AND SMOG 4. FORECASTING 5. THUNDERSTORM 6. ATMOSPHERIC PRESSURE 7. CLOUDINESS 8. TEMPERATURE 9. WIND 10. HUMIDITY

A	B	C	D	E	F
1	2	3	4	5	6
G	**H**	**I**	**J**	**K**	**L**
7	8	9	10	11	12
M	**N**	**O**	**P**	**Q**	**R**
13	14	15	16	17	18
S	**T**	**U**	**V**	**W**	**X**
19	20	21	22	23	24
Y	**Z**				
14	26				

1.__ __ __ __ __ __ __ __ __ __ __ __ __ __ __
8 25 4 18 15 12 15 7 9 3 3 25 3 12 5

	2.__ __ __ __ __ __ __ __ 4 5 23 16 15 9 14 20 3.__ __ __ __ __ __ __ __ __ 6 15 7 1 14 4 19 13 15 7 4.__ __ __ __ __ __ __ __ __ __ __ 6 15 18 5 3 1 19 20 9 14 7 5.__ __ __ __ __ __ __ __ __ __ __ __ 20 8 21 14 4 5 18 19 20 15 18 13 6. __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ 1 20 13 15 19 16 8 5 18 9 3 16 18 5 19 19 21 18 5 7.__ __ __ __ __ __ __ __ __ 3 12 15 21 4 9 14 5 19 19 8.__ __ __ __ __ __ __ __ __ __ __ 20 5 13 16 5 18 1 20 21 18 5 9. __ __ __ __ 23 9 14 4 10. __ __ __ __ __ __ __ __ 8 21 13 9 4 9 20 25	
B. Establishing Lesson Purpose	**Lesson Purpose** Tell the learners that for two weeks starting today, they will experience being a Meteorologist. They are expected to: (a) use improvised weather instruments to monitor weather**,** (b) report the observations and predict the weather for the week that follows**,** and (c) interpret local weather charts utilizing basic weather symbols. **2. Unlocking Content Area Vocabulary** 1. Provide them with a list of the words related to weather.	Ask them" Which terms do you still need to be clarified about?" The teacher explains and discusses these. For the terms related to weather forecasting, these may be discussed during the lesson proper. ***Answer Key:*** Weather Components (includes air pressure, atmospheric pressure, cloudiness, humidity, precipitation, temperature, wind) Types of Clouds (includes cirrus cloud, cumulus cloud, nimbus cloud, stratus cloud) Weather Instruments (includes anemometer, aneroid barometer, mercury barometer, nephelometer, precipitation gauge, psychrometer,

air pressure	precipitation	mercury barometer
anemometer	precipitation gauge	meteorologist
aneroid barometer	psychrometer	meteorology
atmosphere	rain	nephelometer
atmospheric pressure	rain gauge	nimbus cloud
barometer	sleet	weather
cirrus cloud	snow	weather chart
cloud	stratus cloud	weather map
cloudiness	temperature	weather stations
cumulus cloud	thermometer	wind
hail	humidity	wind vane

2. Allow the learners to work in groups as they share the meaning of the terms in the list and do the task of classifying these.

3. Let them classify the above words under the following heading:

Weather components	Types of Clouds	Weather Instruments	Terms related to Weather Forecasting

rain gauge, thermometer, wind vane)

Weather Forecasting (includes atmosphere, cloud, hail, meteorologist, meteorology, rain, sleet, snow, weather, weather chart, weather map, and weather station)

Remind the learners of the importance of these terms as they will be using these to describe the weather for the next two weeks.

Give the learners an assignment for the next day to bring an umbrella or cap for the next day's activity.

C. Developing and Deepening Understanding

DAY 2

The Local Weather Chart (Components)

1. Explicitation

1. Take the learners outside of the classroom to observe the weather. (Remind them to bring an umbrella to protect them from extreme heat, or rain (whichever is applicable).
2. Let them describe what they feel and think about the weather for the day especially on the different elements of weather such as temperature, cloudiness, wind, etc.
3. Provided with **Worksheet # 1 titled, "My Meteorologic Menu"**, the learners will individually fill up only Columns B and C of the Table for Week 4 (this Week) and Columns D and E for Week 5 (next week).

Guide Questions:

1. To describe the weather today, what are some of the elements we need to consider?
2. What can you say about each of the elements?

Here you may ask them about

- temperature
- Cloudiness
- wind conditions

What about the other elements like air pressure? precipitation? How should we report/measure them?

MY METEOROLOGIC MENU

Refer to the Worksheet (Activity 1- My Meteorologic Menu)

Weather Element (A)	Weather Instrument (B)	Weather Symbols Used (C)	Meaning of the Symbol (D)	Precautionary Measures (E)
Humidity				
Atmospheric Pressure				
Air Temperature				
Rainfall				
Cloud Cover				

(Lifted from Worksheet 1)

4. They will do the following tasks:

This Week (Week 4)

- Match the picture of the Weather Instruments to use to measure the Weather Element (Column A with B)
- Identify the Weather Symbol used (Column C)

Next Week (Week 5)

- Give the Meaning of the symbol you have chosen and (Column D)
- Indicate the Precautionary measures to do (Column E)

Weather Instruments to Use (B)

WI 1	WI 2	WI 3	WI 4	WI 5	WI 6	WI 7
 An anemometer	 A wind vane		 A psychrometer		 A wall thermometer	 A mercury barometer  An aneroid barometer

Symbols for the Weather Element (C)

WE 1	WE 2	WE 3	WE 4	WE 5	WE 6	WE 7
						E

Guide for the meaning

(Lifted from Worksheet 1)

DAY 3

TASK 2: Monitor the Weather for a Week

1. Provided with a worksheet, the learners will monitor the weather for a week as a group.
2. Divide the class into groups with at least 3 members. For the whole week, assign each group to monitor the different elements indicated in the weather chart at different times of the day.

   These are the suggested times:
   - Early morning (7-8 am)
   - Mid-morning (10 am)
   - Noon Time (12:00)
   - Mid-afternoon (3 pm)
   - Late afternoon (5 pm)

When they have done Activity 1, they will share their answers with the group.

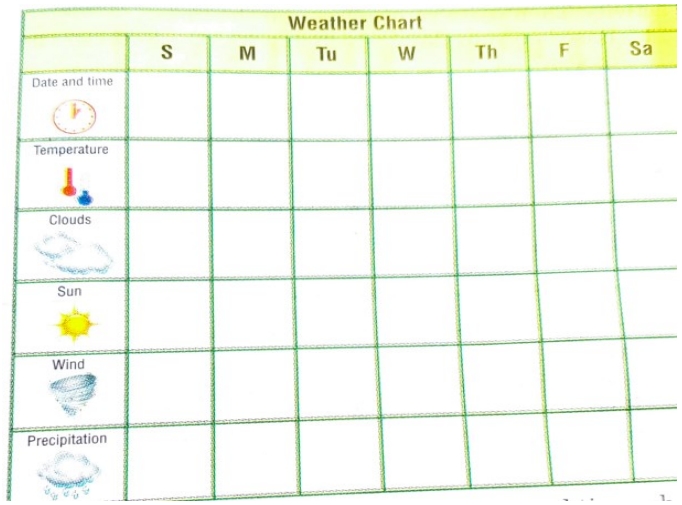
The teacher needs to process/discuss the concerns of learners.

Introduce the task that they need to do starting this day (Day 3).

Create the groupings and assign specific tasks (and time) for them to accomplish.

They will accomplish the Weather Chart during the week.

WEATHER CHART							
	Sun	**Mon**	**Tues**	**Wed**	**Thurs**	**Fri**	**Sat**
Date & Time							
Temperature							
Clouds							
Sun							
Wind							
Precipitation							



(The table may also be designed this way)

2. Worked Example: The Weather Instruments

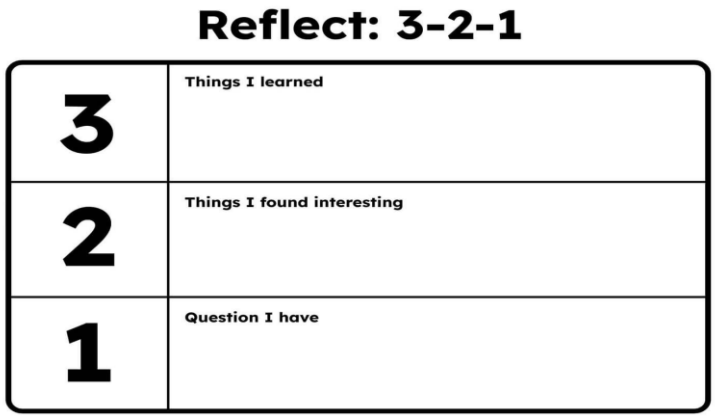
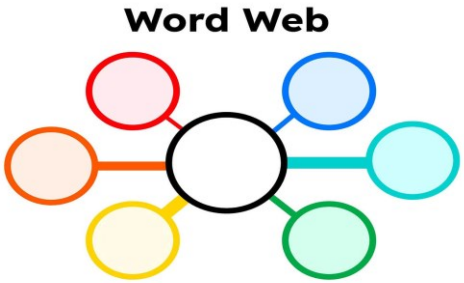
As **Meteorologist**, tell the students that they need to understand the different elements of weather and the instruments to use to measure each.

Remind them that they will answer the synthesis questions only when they have finished the Weather Chart.

Refer to the Worksheet (Activity 2)

When the task has been introduced, have the learners watch the video.

	1. Let the learners watch the videos: https://youtu.be/2Epu6fPreW4?t=66 This video introduces weather and the components/elements. It is followed by the specific weather instruments used to measure each element. https://youtu.be/wMJmUAOpsg8?t=164 This video demonstrates how to use different weather instruments. 2. After watching, tell them to check their answers in the previous activity Column B (Instrument for the Weather Elements). If they make some mistakes, they may make some changes. 3. Ask the following questions for discussion: a. Give at least three weather instruments that you are confident in sharing what they measure and how they work with a friend. b. Which one do you find difficult to understand and if you still need more explanation? **DAY 4** **1. Lesson Activity** *** Making of Improvised Weather Instrument** 1. Group the class into six groups. 2. Assign two groups to work on one improvised weather instrument (Groups 1 and 2 – Wind Vane; Groups 3 and 4 – Rain Gauge; Groups 5 and 6 – Barometer). 3. Let the students perform several experiments on devising improvised weather instruments by viewing and following the steps in the video as follows: • *Improvised Wind Vane* https://youtu.be/V647xfOreKM https://youtu.be/Mzuh-sB2GXM?t=24 • *Improvised Rain Gauge* https://youtu.be/jwo2XGBABpY?t=68 • *Improvised Barometer* https://youtu.be/9JHuXRTSxx8?t=19 4. After the workshop, learners will share in class the answers to the Discussion Questions/Synthesis Questions of Activity 3; 5. Explain how your instrument works.	Remind them to take some notes and also take the test/quiz that follows. The videos may serve as a guide to clarify information they needed to be able to correctly answer their "Meteologic Menu." End this part of the lesson with a summary. As preparation for Day 4, divide the class into groups and assign them which improvised weather instruments to make. The materials needed for the activity will be given as an assignment to be brought to class the next day.

	1. Learners' Takeaways Give one thing that you will share with the members of the family about the activity we did in class this weekend. Share with them which part of the experiment your team succeeded in and which part you need to improve on. **2. Reflection on Learning** 1. In what way has the activity on making improvised weather instruments helped you understand our lesson? 2. How has this group work allowed you to understand your groupmates more? 3. Use the Reflect 3-2-1 to indicate your learning this week.  https://bookcreator.com/wp-content/uploads/2023/06/reflect-3-2-1-thumbnail.jpg	
D. Making Generalizations	 https://bookcreator.com/wp-content/uploads/2023/06/reflect-3-2-1-thumbnail.jpg	

	Make two (2) word webs for the lessons you learn this week. 1.One for the weather elements then 2.One for the weather instruments to use for each weather element. **1. Learners' Takeaways** Share at least two lessons/realizations you gain from the activities about weather. **2. Reflection on Learning** 1. Which of the activities we have done last week helped you understand the lesson? In what way has it helped you? 2. What about those that we have done this week? 3. Which part of the lesson encouraged you? 4. Which would you like to learn/study more? **5.** In what way/s will the lesson you learn help you in the future?	

IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		**NOTES TO TEACHERS**
A. Evaluating Learning	**1. Assessment (Individual)** Quiz on the weather instrument Match Column A the weather component with Column B the name of the weather instrument Which instrument is used to measure the following? **Column A (Weather component)** _____ 1. Air Temperature _____ 2. Air Pressure _____ 3. Wind Speed _____ 4. Wind Direction _____ 5. Amount of Rainfall over a given time _____ 6. Humidity _____ 7. Cloud cover **Column B (Weather Instrument)** A. Wind Vane B. Psychrometer C. Rain Gauge D. Thermometer E. Weather Balloon F. Nephelometer G. Barometer H. Anemometer **2. Homework (Optional)** This sub-component allows students to attempt as a form of deliberate practice what was covered in the lesson.	

<table>
<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>
</table>