

# Lesson Exemplar for Science

Quarter 1

Lesson

**6**

**Lesson Exemplar for Science 4**  
**Quarter 1: Lesson 6 (Week 6)**  
**S.Y. 2024-2025**

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**SCIENCE (CHEMISTRY) / QUARTER 1 / GRADE 4****I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES**

<b>A. Content Standards</b>	Learners learn that: Communication skills and open-mindedness are needed in solving environmental issues.
<b>B. Performance Standards</b>	By the end of the Quarter, learners describe and change the chemical properties of materials. They demonstrate an understanding that science processes can solve everyday problems and use creativity and determination to provide examples. They exhibit objectivity and open-mindedness in gathering information related to environmental issues and concerns in the community.
<b>C. Learning Competencies and Objectives</b>	The learners learn the: 1. identify issues and concerns in the local community and how they could be addressed by science, such as the treatment of waste; and 2. apply science process skills and attitudes in conducting a guided survey about environmental issues and concerns, including grouping and classifying, communicating, and open-mindedness.
<b>D. Content</b>	1. Science inventions 2. Materials and their uses 3. Gathering scientific information
<b>E. Integration</b>	Environmental Awareness Care for the environmental Food value

**II. LEARNING RESOURCES**

- PARAISO | Smokey Mountain. (n.d.). Www.youtube.com. Retrieved May 9, 2024, from [https://youtu.be/Q3q\\_bPiXnOc](https://youtu.be/Q3q_bPiXnOc)
- ENVIRONMENTAL PROBLEMS IN THE PHILIPPINES. (n.d.). Www.youtube.com. Retrieved May 13, 2024, from <https://youtu.be/Dru4tp-AmkE>
- [http://deforestationvt.weebly.com/uploads/4/1/6/0/41600955/enviropol.com-what\\_is\\_deforestation\\_1.pdf](http://deforestationvt.weebly.com/uploads/4/1/6/0/41600955/enviropol.com-what_is_deforestation_1.pdf)
- Pollution: Trash that Trashes Your Health - Public Health Series | Academy 4 Social Change. (n.d.). Www.youtube.com. Retrieved May 13, 2024, from <https://youtu.be/cuf99Opool1s>

- Food Waste Posters and Infographics. (n.d.). Wwww.budgeat.app. Retrieved May 13, 2024, from <https://www.budgeat.app/food-for-thought/food-waste-posters-and-infographics>

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
<b>A. Activating Prior Knowledge</b>	<p><b>DAY 1</b></p> <p><b>1. Short Review</b></p> <p>Let the learners sing “Paraiso” as guided by the downloaded video clip. Tell them to list at least three lines from the song describing the environment. Refer to the link below for the song.</p> <div> </div> <p>Source: <a href="https://youtu.be/Q3q_bPiXnOc">https://youtu.be/Q3q_bPiXnOc</a></p> <p>The teacher may ask: What are the lines of the song talking about?</p> <p><b>2. Feedback (Optional)</b></p>	<p>Here, the learners may possibly give the following lines:</p> <ul style="list-style-type: none"> <li>- No birds dare to fly over Paraiso</li> <li>- The smoke that screens the air</li> <li>- The grass that was never there</li> </ul> <p>Focus the discussion on the current situation of the environment based on what the song is trying to convey.</p>
<b>B. Establishing Lesson Purpose</b>	<p><b>1. Lesson Purpose</b></p> <p>The teacher may further ask the following questions: Are you bothered by what you’ve watched? Do you observe some environmental issues in your own community? How do you, especially those in authority, address these issues? This week let’s learn more on the pressing environmental issues and concerns we observe in our place and how we could help in our own little way.</p>	

## 2. Unlocking Content Vocabulary

Look at the picture below. Arrange the letters or words beside each picture to name it. Afterward, give 2 sentences to describe what's shown in each picture.



Source: <https://education.nationalgeographic.org/resource/deforestation/>

n o l t a t s e r o f e d



Source: [https://umaine.edu/sustainability/wp-content/uploads/sites/162/2021/04/Treasure\\_trove\\_of\\_wasted\\_food\\_sm2.jpg](https://umaine.edu/sustainability/wp-content/uploads/sites/162/2021/04/Treasure_trove_of_wasted_food_sm2.jpg)

d o f o   a s w e t

Answers vary. Here, the teacher discusses that deforestation, food waste, pollution, and improper disposal of garbage are the present environmental concerns in the community.



3.

Source: <https://www.linkedin.com/pulse/environmental-pollution-sivaprakash-pm/>

oIntuollp



4.

Source: <https://medium.com/@modernspatialdivisions/improper-solid-waste-management-in-manila-513224d50b17>

egabrag

### C. Developing and Deepening Understanding

#### 1. **Explicitation:** “EcoVideo”

Watch the video and answer the questions below.



ENVIRONMENTAL PROBLEMS IN THE PHILIPPINES

Source: <https://youtu.be/Dru4tp-AmkE>

For the explication part, the class will conduct a short discussion, directing the learners to focus on the observed environmental issues and concerns in their own localities. The teacher may assign the following: What are the observed environmental concerns/problems in your community?

**Guide questions:**

1. What are the environmental problems shown in the video?
2. Describe each environmental problem as shown in the video.
3. How does each problem affect the environment?

After watching, the teacher will facilitate a short discussion about the content of the video.

**DAY 2 - 3****2. Worked Example:** *“EnviRescue Trip”*

(Work Sheet 1)

The teacher will prepare 4 stations (or two stations for day 2 and 2 stations for day 3). Here are the materials to be prepared by the teacher for each station.

**Station 1:** Article About Deforestation

- Enough copies of the article for each of the members of the group to read.

**Guide Questions:**

1. What is deforestation?
2. What are the reasons why deforestation happens?
3. Give simple things that man can do to protect our forests from deforestation.

**Station 2:** Video about Pollution

- TV or LCD or laptop which will be used to play the video.



Source: <https://youtu.be/cuf990pool1s>

In the Worked Example part, the first two environmental issues can be discussed on the second day, while the other two can be discussed on the third day so that the learners can focus on each problem.

### Guide Questions:

1. What is pollution?
2. What are the major forms of pollution that harm our health?
3. What are the different causes of pollution?
  - a. air pollution
  - b. water pollution
  - c. land pollution
4. What are the effects of pollution on men's health?

### Station 3: Food Waste

- Enough copies of the infographic to be distributed to each member of the group.



Source: <https://www.budget.app/food-for-thought/food-waste-posters-and-infographics>



Source: <https://www.budget.app/food-for-thought/food-waste-posters-and-infographics>





Source:

<https://www.canva.com/templates/EAFLiSbKu4-ivory-red-pink-bold-geometric-climate-impact-portrait-food-waste-poster/>



Source:

<https://www.canva.com/p/templates/EAGA4TH9BJo-green-yellow-bold-illustrative-food-waste-tips-poster/>

### Guide Questions:

1. What is food waste?
2. How many percent of the greenhouse gases are from food waste?
3. What are the easy steps and ways to prevent food waste?
4. What can you do to avoid food waste?

### Station 4: “Shoot those Trash.”

Visit the school garden where trash is scattered (Purposely throw/scatter garbage in the school garden for this activity ahead of time. Just be sure that you will prepare the garden without their knowledge)

	<p>Tell the learners to identify the different trash found in the garden and segregate it using trash cans labeled biodegradable and non-biodegradable.</p> <p><b>Guide Questions:</b></p> <ol style="list-style-type: none"> <li>1. What is the trash that you've found in the garden?</li> <li>2. What did you do with the trash?</li> <li>3. How did you classify the trash that you've picked from the garden?</li> <li>4. What should be done with our trash?</li> </ol> <p><b>Lesson Activity</b></p> <p>The teacher will facilitate an interactive discussion. But before the discussion, a member from each group will present their output/findings in class in class.</p> <p>After the presentation of outputs, the teacher will ask questions to generate concepts from the learners. He/she may ask the following questions.</p> <p><b>Station 1</b></p> <p>What is deforestation?</p> <ul style="list-style-type: none"> <li>- <i>Deforestation is the purposeful cutting down of trees or clearing of forested land.</i></li> <li>- <i>This is the clearing or thinning of forests by humans.</i></li> </ul> <p>What are the reasons why deforestation happens?</p> <ul style="list-style-type: none"> <li>- <i>Deforestation is due to the following reasons: (1) Agricultural expansion; (2) infrastructure expansion like road building; (3) High demand for timbre/logs; (4) Fields for grazing animals; (5) Housing purposes.</i></li> </ul> <p><b>Station 2</b></p> <p>What is pollution?</p> <ul style="list-style-type: none"> <li>- <i>Pollution is the presence of substances in the environment that have harmful or poisonous effects on one's health.</i></li> </ul>	
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- *Pollution is the introduction of something to the surroundings that causes harm to the natural environment.*

What are the major forms of pollution that harm our health?

- *The major forms of pollution are air pollution, water pollution, and land pollution.*

What are the different causes of pollution?

a. air pollution

- *Air pollution is due to car exhaust, pollen, smoke from burning and from factories, stinky smell from garbage, and even dust.*

b. water pollution

- *Water pollution is caused by dumping garbage in bodies of water, oil spills, sewage and wastewater, and agricultural and factory waste.*

c. land pollution

*Land pollution is caused by industrial waste, agricultural waste, improper waste disposal, accidental oil spills, and acid rain.*

What are the effects of pollution on men's health?

- *The toxic chemicals, when absorbed by the body, can cause damage to major organs of the body.*

- *Other effects include cancer, respiratory illness, premature birth, and other health issues.*

### **Station 3:**

What is food waste?

*Food waste is food intended for human consumption that is wasted and lost. It includes leftovers from restaurants and households as well as raw materials and produce lost in the farming stage, harvesting processes, transportation, and storage.*

How many percent of the greenhouse gases are from food waste?

	<p>- 8% of the global greenhouse gas comes from food waste.</p> <p>What are the easy steps and ways to prevent food waste?</p> <p>- The following can be followed to prevent food waste: (1) Take an inventory of your food stock at home before heading to the store; (2) Plan at least a few meals for each week to avoid buying too much food; (3) Learn to save and eat leftovers, refrigerate them; (4) Store food nicely inside the refrigerator so it won't rot easily; and (5) Compost leftovers instead of throwing them away.</p> <p>4. As a grade 4 pupil, what can you do to avoid food waste?</p> <p>- I only get the amount of food that I can consume. (answers may vary)</p> <p><b>Station 4:</b></p> <p>What garbage is scattered in the garden?</p> <p>- There are crumpled papers, dried leaves, plastic bottles, food plastic wrappers, dried twigs, cans, and many more.</p> <p>What did you do with the trash?</p> <p>- We picked up the trash, and we classified them.</p> <p>How did you classify the trash that you've picked from the garden?</p> <p>- We classified the garbage as biodegradable and non-biodegradable</p> <p>4. What should be done with our trash?</p>	<p>For Station 4, include in the discussion about biodegradable and non- biodegradable.</p> <p>Topics about the negative effects of deforestation and how to address deforestation can be integrated into this part.</p> <p>While the teacher is facilitating the activity, she must explain to them what is biodegradable and non-biodegradable.</p> <p>Prepare a labeled trashcan so the pupils can properly segregate the garbage scattered in the school garden.</p>
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		<p>In the discussion of the different environmental problems, integrate the benefits we get when we participate in addressing these problems. Also, ask the learners what they can do to address them.</p> <p>Integrate values related to environmental awareness like responsible nature stewardship.</p>
<p><b>D. Making Generalizations</b></p>	<p><b>DAY 4</b></p> <p><b>1. Learners' Takeaways</b> Write 2 concepts that you've learned about the environmental issues discussed today.</p> <div><div>DEFORESTATION</div><div><div></div><div></div></div></div>	

	<div><div>POLLUTION</div><div><div></div><div></div></div></div> <div><div>FOOD WASTE</div><div><div></div><div></div></div></div> <div><div>WASTE MANAGEMENT</div><div><div></div><div></div></div></div> <div><p><b>2. Reflection on Learning</b></p><p>Reflect on the different issues discussed in this lesson. Choose one of the discussed issues and give ways in which you can help in addressing this problem.</p></div>	
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IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION		NOTES TO TEACHERS
<b>A. Evaluating Learning</b>	<p><b>DAY 4</b></p> <p><b>1. Formative Assessment</b></p> <p>A. Read and analyze each statement given below. Write TRUE if the statement is true, otherwise, write FALSE.</p> <ol style="list-style-type: none"> <li>1. Pollution can affect the health of humans.</li> <li>2. Pollution only affects air and water resources.</li> <li>3. Food waste is only in poor countries.</li> <li>4. Food waste contributes to climate change?</li> <li>5. Deforestation can destroy the habitat of wildlife.</li> <li>6. High demand for logging materials contributes to the cutting down of trees in the forest.</li> <li>7. Improper waste disposal can contribute to pollution.</li> <li>8. Segregating garbage should only be followed in school and at home.</li> <li>9. Self-discipline is needed to fully address the different environmental problems.</li> <li>10. Caring for the environment is a responsibility only of adult members of society.</li> </ol> <p>B. Aside from the four environmental issues discussed in this lesson, identify other environmental problems that you observe in your own locality. You may seek the help of your parents. Write your answer on a sheet of paper.</p> <p><b>2. Homework (Optional)</b></p> <p>Find a buddy for this activity.</p> <p>Choose 1 of the discussed environmental issues in this lesson. Make a brochure to inform people about the problem. Include in the brochure the causes, effects on humans and the environment, and possible ways to solve the problems. The rubric below guides you as you develop the brochure.</p>	<p><b>Answer Key:</b></p> <ol style="list-style-type: none"> <li>1. TRUE</li> <li>2. FALSE</li> <li>3. FALSE</li> <li>4. TRUE</li> <li>5. TRUE</li> <li>6. TRUE</li> <li>7. TRUE</li> <li>8. FALSE</li> <li>9. TRUE</li> <li>10. FALSE</li> </ol>

	<table border="1"> <tr> <th>CATEGORY</th><th>4</th><th>3</th><th>2</th><th>1</th><th>X 2</th></tr> <tr> <td><b>Graphics/Pictures</b></td><td>Graphics go well with the text and there is a good mix of text and graphics.</td><td>Graphics go well with the text, but there are so many that they distract from the text.</td><td>Graphics go well with the text, but there are too few and the brochure seems "text-heavy".</td><td>Graphics do not go with the accompanying text or appear to be randomly chosen.</td><td></td></tr> <tr> <td><b>Attractiveness &amp; Organization</b></td><td>The brochure has exceptionally attractive formatting and well-organized information.</td><td>The brochure has attractive formatting and well-organized information.</td><td>The brochure has well-organized information.</td><td>The brochure's formatting and organization of material are confusing to the reader.</td><td></td></tr> <tr> <td><b>Content - Accuracy</b></td><td>All facts in the brochure are accurate.</td><td>99-90% of the facts in the brochure are accurate.</td><td>89-80% of the facts in the brochure are accurate.</td><td>Fewer than 80% of the facts in the brochure are accurate.</td><td></td></tr> <tr> <td><b>Graphics/Pictures</b></td><td>Graphics go well with the text and there is a good mix of text and graphics.</td><td>Graphics go well with the text, but there are so many that they distract from the text.</td><td>Graphics go well with the text, but there are too few and the brochure seems "text-heavy".</td><td>Graphics do not go with the accompanying text or appear to be randomly chosen.</td><td></td></tr> <tr> <td><b>Sources</b></td><td>Careful and accurate records are kept to document the source of 95-100% of the facts and graphics in the brochure.</td><td>Careful and accurate records are kept to document the source of 94-85% of the facts and graphics in the brochure.</td><td>Careful and accurate records are kept to document the source of 84-75% of the facts and graphics in the brochure.</td><td>Sources are not documented accurately or are not kept on many facts and graphics.</td><td></td></tr> <tr> <td><b>Spelling &amp; Proofreading</b></td><td>No spelling errors remain after one person other than the typist reads and corrects the brochure.</td><td>No more than 1 spelling error remains after one person other than the typist reads and corrects the brochure.</td><td>No more than 3 spelling errors remain after one person other than the typist reads and corrects the brochure.</td><td>Several spelling errors in the brochure.</td><td></td></tr> </table> <p>Source: <a href="http://rubistar.4teachers.org/index.php?screen=ShowRubric&amp;rubric_id=1417742&amp;">http://rubistar.4teachers.org/index.php?screen=ShowRubric&amp;rubric_id=1417742&amp;</a></p>	CATEGORY	4	3	2	1	X 2	<b>Graphics/Pictures</b>	Graphics go well with the text and there is a good mix of text and graphics.	Graphics go well with the text, but there are so many that they distract from the text.	Graphics go well with the text, but there are too few and the brochure seems "text-heavy".	Graphics do not go with the accompanying text or appear to be randomly chosen.		<b>Attractiveness &amp; Organization</b>	The brochure has exceptionally attractive formatting and well-organized information.	The brochure has attractive formatting and well-organized information.	The brochure has well-organized information.	The brochure's formatting and organization of material are confusing to the reader.		<b>Content - Accuracy</b>	All facts in the brochure are accurate.	99-90% of the facts in the brochure are accurate.	89-80% of the facts in the brochure are accurate.	Fewer than 80% of the facts in the brochure are accurate.		<b>Graphics/Pictures</b>	Graphics go well with the text and there is a good mix of text and graphics.	Graphics go well with the text, but there are so many that they distract from the text.	Graphics go well with the text, but there are too few and the brochure seems "text-heavy".	Graphics do not go with the accompanying text or appear to be randomly chosen.		<b>Sources</b>	Careful and accurate records are kept to document the source of 95-100% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 94-85% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 84-75% of the facts and graphics in the brochure.	Sources are not documented accurately or are not kept on many facts and graphics.		<b>Spelling &amp; Proofreading</b>	No spelling errors remain after one person other than the typist reads and corrects the brochure.	No more than 1 spelling error remains after one person other than the typist reads and corrects the brochure.	No more than 3 spelling errors remain after one person other than the typist reads and corrects the brochure.	Several spelling errors in the brochure.		
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<b>B. Teacher's Remarks</b>	<i>Note observations on any of the following areas:</i>	<b>Effective Practices</b>	<b>Problems Encountered</b>																																									
	<b>strategies explored</b>																																											



	<b>materials used</b>			
	<b>learner engagement/ interaction</b>			
	<b>Others</b>			
<b>C. Teacher's Reflection</b>	<p><i>Reflection guide or prompt can be on:</i></p> <ul style="list-style-type: none"> <li>▪ <u>principles behind the teaching</u>  <i>What principles and beliefs informed my lesson?</i>  <i>Why did I teach the lesson the way I did?</i></li> <li>▪ <u>students</u>  <i>What roles did my students play in my lesson?</i>  <i>What did my students learn? How did they learn?</i></li> <li>▪ <u>ways forward</u>  <i>What could I have done differently?</i>  <i>What can I explore in the next lesson?</i></li> </ul>			