

# Lesson Exemplar for Science

Quarter 1

Lesson

1

**Lesson Exemplar for Science 4**  
**Quarter 1: Lesson 1 (Week 1)**  
**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>	Science inventions have brought about major changes to our daily lives.
<b>B. Performance Standards</b>	By the end of the Quarter, learners describe chemical properties of materials and changes in them. 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>	<b><i>Learning Competency</i></b> 1. <i>Lesson Objective 1</i> <i>Use information from secondary sources to identify a famous Filipino and/or foreign scientist and their invention/s.</i>
<b>D. Content</b>	Famous Filipino/Foreign scientists and their inventions

### II. LEARNING RESOURCES

Bellis, M. (2019, July 22). Biography of Gregorio Zara, inventor of the videophone. ThoughtCo. <https://www.thoughtco.com/gregorio-zara-filipino-scientist-1991703>

FTD Facts. (2021, May 11). 10 surprising Filipino discoveries & inventions [Video]. YouTube. <https://www.youtube.com/watch?v=ev5N4v9nTul>

Monkordel INFO TV. (2020, August 12). 22 PINOY INVENTIONS na Ginagamit Ng Buong Mundo: Lists Of Filipino Inventions [Video]. YouTube. <https://www.youtube.com/watch?v=A3sgm1fbftk>

Parody And Viral Videos. (2018, September 16). #Interestingfacts Filipino facts and trivia #1: Video-call invented by a Filipino Scientist [Video]. YouTube. <https://www.youtube.com/watch?v=eslf7jZNNXY>

SO Facts! (2020, May 31). GREGORIO Y. ZARA | FILIPINO ENGINEER AND PHYSICIST [Video]. YouTube. [https://www.youtube.com/watch?v=1nijqk\\_ze48](https://www.youtube.com/watch?v=1nijqk_ze48)

Sue Dickson's Songs That Teach. (2011, February 14). Inventors and Inventions by Sue Dickson [Video]. YouTube. <https://www.youtube.com/watch?v=VhbCqZbuwiY>

III. TEACHING AND LEARNING PROCEDURE		NOTES TO TEACHERS
A. Activating Prior Knowledge	<p><b>DAY 1</b></p> <p><b>1. Short Review</b></p> <p><b>WORD FACTORY GAME</b> with a TWIST! (5 minutes)</p> <p>Learners are grouped into 5 members and are to do the following:</p> <ul style="list-style-type: none"> <li>List as many things you consider as products of technology you have been exposed to given 2 minutes.</li> <li>When the time is up, there will be no more updating or adding words to the list. One group will then be chosen to read through their list.</li> <li>One point will be given to the word if there had been only 1 group who identified the word (as listed)</li> <li>½ if two groups had it listed in their list, ⅓ if 3 groups, and no point for more than 3 groups.</li> <li>The group with the highest score wins.</li> </ul> <p>The list of the things you consider as products of technology can go on, and many new things will continue to be created/invented.</p> <p>Nowadays, people use sophisticated materials to make work easier and faster. Materials we use at home, in school, and in the local community are invented and created by scientists. (3 minutes)</p> <p><b>2. Feedback (Optional)</b></p>	<p>The teacher makes a list of the materials shared by the learners as these have been mentioned.</p> <p><b>Sample list:</b>          cellphone          television          refrigerator          stove          plastic cup          automobile</p> <p>Note: This list will have to be written on a board for the Day 3 activity this week.</p> <p>Say to the learners. “ These things in our lists are products of inventors' and scientists' innovations/creations.</p>
	<p><b>B. Establishing Lesson Purpose</b></p> <p><b>1. Lesson Purpose (20 minutes)</b></p> <p>At the end of the lesson, you are expected to:</p> <ol style="list-style-type: none"> <li>describe the biography of Gregorio Y Zara</li> <li>identify his inventions and character traits to follow.</li> </ol>	<p>Today, let us learn about the personal and professional life of one famous Filipino inventor Gregorio Y Zara.</p> <p>The teacher prepares the video, reading material link, and</p>

	<p>This week we will identify inventions by a famous Filipino inventor Gregorio Y. Zara. Let us find out about his personal and professional life.</p> <p>Let us watch this video and read a bibliography to complete the data for Gregorio Y Zara's Bibliographic File.  <a href="https://youtu.be/1nijqk_ze48?t=132">https://youtu.be/1nijqk_ze48?t=132</a></p> <p>After the video, you will be directed to read <a href="http://thoughtco.com/gregorio-zara-filipino-scientist-1991703">http://thoughtco.com/gregorio-zara-filipino-scientist-1991703</a></p>	<p>Worksheet Activity 1, "Biography of Gregorio Y Zara"</p> <p><a href="https://youtu.be/1nijqk_ze48?t=132">https://youtu.be/1nijqk_ze48?t=132</a></p> <p>After they have watched the video, you share the link to the Biography of Gregorio Zara.</p> <p>This data is taken from the document  Bellis, Mary. "Biography of Gregorio Zara, Inventor of the Videophone." ThoughtCo, Aug. 29, 2020, <a href="http://thoughtco.com/gregorio-zara-filipino-scientist-1991703">thoughtco.com/gregorio-zara-filipino-scientist-1991703</a>.</p> <p><b>Fast Facts: Gregorio Zara</b></p> <p><b>Known For:</b> Inventor of the video telephone</p> <p><b>Born:</b> March 8, 1902 in Lipa City, Batangas, Philippines</p> <p><b>Died:</b> October 15, 1978</p> <p><b>Education:</b> Massachusetts Institute of Technology, University of Michigan, Sorbonne University</p> <p><b>Awards and Honors:</b> National Scientist Award (Philippines)</p>
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**Personal Information**

Complete Name: \_\_\_\_\_

Birthdate: \_\_\_\_\_

Birth Place: \_\_\_\_\_

Date he died: \_\_\_\_\_

**Educational Achievements**

School: \_\_\_\_\_

Awards: \_\_\_\_\_

Spouse: \_\_\_\_\_

Children: \_\_\_\_\_

**His inventions**

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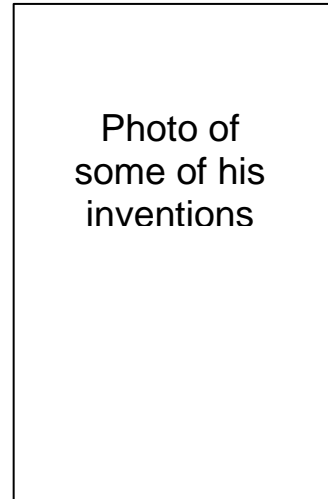
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Photo of  
some of his  
inventions



**Spouse:** Engracia Arcinas  
Laconico

**Children:** Antonio, Pacita,  
Josefina, Lourdes

Some inventions:

Improved methods of producing  
and harnessing solar energy,  
including new designs for a  
solar-powered water heater,  
stove, and battery (the 1960s)

Inventing wooden aircraft  
propellers and the corresponding  
propeller-cutting machine (1952)

Designing the microscope with  
collapsible stage

Helping design the robot Marex X-  
10, which could walk, talk, and  
respond to commands

Inventing the vapor chamber, used  
to visualize radioactive elements

Close this day by going through  
their Work Sheet Activity 1 and  
answering the guide questions.

	<p><b>GUIDE QUESTIONS:</b></p> <ol style="list-style-type: none"><li>1. What feelings came about when you were reading about his accomplishments? _____</li><li>2. What characteristic/personal traits can we learn from his biography? _____</li><li>3. What do you think it takes to be similar to him? _____</li></ol> <p><b>Unlocking Content Vocabulary</b></p> <p>Give your definition of the word invention.</p> <div><p>Invention for me is _____</p><p>_____</p><p>_____</p></div> <p>Using your cellphone, search for images to help you understand the following words:</p> <ul style="list-style-type: none"><li>• Solar Powered water heater</li><li>• Marex X-10</li><li>• aircraft propellers</li><li>• phonograph</li><li>• steamboat</li><li>• Vazbuil Modular Housing</li></ul>	<p>Let us make sure we understand some of the words we have encountered in this lesson.</p> <p>Give your definition of the word invention.</p> <p>Instruct the learners that they can use their cellphone to search for images for the following words,</p> <ul style="list-style-type: none"><li>• Solar Powered water heater</li><li>• Marex X-10</li><li>• aircraft propellers</li><li>• phonograph</li><li>• steamboat</li><li>• Vazbuil Modular Housing</li></ul>
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<div>C. Developing and Deepening Understanding</div>	<div>DAY 2</div> <div>1. Explicitation (5 minutes)</div> <div>Give at least five (5) of the many inventions of Gregorio Y Zara that you considered very significant and state why. Share your answer with the seatmate.</div> <div>VIDEO: Song on Global Inventors (10 minutes)</div> <div>Let us watch this video on a song about inventors and inventions by global inventors.</div> <div><a href="https://youtu.be/VhbCqZbuwiY">https://youtu.be/VhbCqZbuwiY</a></div> <div>While listening to the song, let us match some inventions with the inventors.</div> <div>Match Column A (Inventions) with Column B (Inventors) Please note that an inventor in the list has several inventions, so his name could be repeatedly chosen.</div> <div><table><tr><th>Column A</th><th>Column B</th></tr><tr><td>_____ 1. Plane</td><td>A. Benz</td></tr><tr><td>_____ 2. Projector</td><td>B. Fulton</td></tr><tr><td>_____ 3. Television</td><td>C. Thomas Edison</td></tr><tr><td>_____ 4. Steamboat</td><td>D. Baird</td></tr><tr><td>_____ 5. Light Bulb</td><td>E. Wilbur &amp; Orville Wright</td></tr><tr><td>_____ 7. Phonograph</td><td>F. Ford</td></tr><tr><td>_____ 8. Automobile</td><td></td></tr></table></div> <div>Today we will meet more Global inventors and their inventions.</div> <div>2. Worked Example</div> <div>WISH KO LANG (15 minutes)</div> <div>Aside from those we have known through the song, what other inventions are you fascinated or amazed about that you wanted to research?</div>	Column A	Column B	_____ 1. Plane	A. Benz	_____ 2. Projector	B. Fulton	_____ 3. Television	C. Thomas Edison	_____ 4. Steamboat	D. Baird	_____ 5. Light Bulb	E. Wilbur & Orville Wright	_____ 7. Phonograph	F. Ford	_____ 8. Automobile		<div>Ask learners to list at least five of Zara’s inventions and explain why they have chosen them. Then, they are to share this with their seatmates.</div> <div>Prepare this short video clip <a href="https://youtu.be/VhbCqZbuwiY">https://youtu.be/VhbCqZbuwiY</a> on some global inventors. Instruct the learners to answer the matching type guided by the music video.</div> <div>When they are done answering, play the video again to review the correct answers.</div> <div>Answer Key</div> <div><div>1. E</div><div>2. C</div><div>3. D</div><div>4. B</div><div>5. C</div><div>6. C</div><div>7. A</div></div> <div>The teacher gives a review and a discussion of the correct answer.</div> <div>Say, “Today, we will search for more global inventors and their inventions. Aside from those we</div>
Column A	Column B																	
_____ 1. Plane	A. Benz																	
_____ 2. Projector	B. Fulton																	
_____ 3. Television	C. Thomas Edison																	
_____ 4. Steamboat	D. Baird																	
_____ 5. Light Bulb	E. Wilbur & Orville Wright																	
_____ 7. Phonograph	F. Ford																	
_____ 8. Automobile																		



	<div style="border: 1px solid black; border-radius: 25px; padding: 10px; margin: 10px auto; width: 80%;"> <p>Name of Invention _____</p> <p>Year it was invented _____</p> <p>Short description and how it is used</p> <p>_____</p> <p>_____</p> <p>_____</p> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; width: 130px; height: 100px; display: flex; align-items: center; justify-content: center; margin-right: 10px;"> <p>Image of the Invention</p> </div> <div> <p>Inventor's Name</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> </div> </div> </div> <p>List at least five of those you wanted to do a quick research.</p> <p>Choose two you want to share with the class later.</p> <p>For those you have listed, search in your cell phone the following:</p> <p>Do this for the five objects you have on your list. From the 5, choose two you want to share with the class.</p>	<p>have known through the song, what other inventions are you fascinated or amazed about that you wanted to research?”</p> <p>Ask the learners to make a list of 5 inventions that you want to research about.</p> <p>They will choose two of these to share with the class after the given time.</p> <p>You will monitor the names of the objects each student will share then, making sure there are no duplications.</p> <p>NOTE: The information and the list will be utilized for the activity in the week that follows. It would be best if objects represent the following categories,</p> <ul style="list-style-type: none"> <li>● Health,</li> <li>● Transportation,</li> <li>● Education,</li> <li>● Farming/Agriculture</li> <li>● Household,</li> <li>● Communication</li> <li>● Entertainment</li> </ul> <p>If pupils will not be able to choose needed inventions, you may suggest something they might consider.</p>
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**Reporting Time** (15 minutes)

Learners will share what they have gathered about the global invention they have chosen.

When all have shared, the teacher summarizes the lesson focusing on the names of the inventors and the countries they represent.

**REPORTING TIME**

Give each learner about 2 minutes to share with the class their findings.

As learners share their inventions, complete this table on the blackboard.

Invention	Year	Inventor	Country

**Discussion Questions: (5 minutes)**

If you had a chance to meet the inventor in person, what question would you ask him/her? \_\_\_\_\_

For the discussion question, allow learners to share their answers with their seatmates and choose 5 volunteers to share their answers with the class.

Yesterday, our last activity asked us to share a question we would like to ask inventors should we have a chance to see them face to face. Can we have the top three questions?

Write these questions on the board.

Say, "Today, we will look at some Filipino inventors."

### DAY 3

#### **Explicitation** (5 minutes)

We would like to find out the top three questions we want to ask the global inventors. The teacher will call a volunteer who will share the question he/she has written. Then the class agrees on identifying the top three questions learners would have wanted to ask

#### **Lesson Activity**

#### **FILIPINO INVENTORS: (20 minutes)**

*Instructions for the learners:*

Complete the table about Filipino inventors below. You will be asked to work with a partner to research one inventor assigned to you. You will be given 5 minutes to research using your cell phone and the YouTube links to learn about them.

	Name of Filipino Inventor	Invention/s	Year Invented	Home town	Profession
1	Edgardo Vazquez	Vazbuil Modular Housing Misty Cool	1989	Makati City	
2	Leonardo Salvador	Sarao Motors Jeepney		Cavite	
3	Roberto del Rosario	Minus one Karaoke			
4	Rudy Lantano Sr				
5	Alfredo M Anos Sr				

You will be assigned in pairs to research one Filipino Inventor.

Once learners are done with their research, they may raise their flaglets and wait for the teacher to call them.

After the given time, as a class, we will complete the table in your Worksheet and discuss the answers and the guide questions.

Once the sharing is done, learners will then proceed with answering the guide questions.

Initially, they are to answer the guide questions individually, and the teacher will facilitate the discussion of each question.

6	Ruperta David				
7	Narciso Mosuela				
8	Lawrence Luellen				
9	Maria Orosa Y Ylagan				
10	Francisco Quisumbing				
11	Diosdado Banatao				
12	Abellardo Aguilar				
13	Dr Fe Del Mundo				
14	Fernando Paras, Jr.				
15					
16					
17					
18					
19					
20					

**Share your Findings:**

Once you are done with the Inventor assigned to you, you may raise your Flag to indicate that you are ready to share your answer with the class. Wait for the time when your teacher will ask each pair to share.

	<b>Guide Questions:</b> <ol style="list-style-type: none"> <li>1. In terms of gender, what have you noticed about the inventors?</li> <li>2. When we consider their hometown, where are most of them coming from?</li> <li>3. What can you say about their profession? Are all of them professionals?</li> <li>4. If you become one of them, what will your invention be?</li> </ol>	
<b>D. Making Generalizations</b>	<b>DAY 4</b> <b>1. Learners' Takeaways</b> Give at least three lessons you want to share with your family this week. Lessons <ol style="list-style-type: none"> <li>1. _____</li> <li>2. _____</li> <li>3. _____</li> </ol> Give at least two character traits you have observed that inventors display/demonstrate. <ol style="list-style-type: none"> <li>1. _____</li> <li>2. _____</li> </ol> <b>2. Reflection on Learning</b> If there is something you would like to invent, what will it be and why? _____ _____	

<b>IV. EVALUATING LEARNING: FORMATIVE ASSESSMENT AND TEACHER'S REFLECTION</b>		<b>NOTES TO TEACHERS</b>
<b>A. Evaluating Learning</b>	<b>DAY 4</b> <b>1. Formative Assessment</b>  <b>10-Item Multiple Choice Exam</b> Choose the letter of the correct answer and write these in your Science Notebook.	<b>Answer Sheet</b> <ol style="list-style-type: none"> <li>1. C</li> <li>2. D</li> <li>3. A</li> <li>4. B</li> <li>5. C</li> </ol>

	<p>1. What do you call a person who creates something?  a. a scientist                      b. a creator      c. an inventor      d. a mind master</p> <p>2. Who invented the phonograph?  a. George Eastman  b. Henry Ford  c. Alexander Graham Bell  d. Thomas Edison</p> <p>3. What is an invention?  a. the creation of something that did not exist previously  b. using new methods to do something  c. a new product or service based on another one  d. a person who creates something</p> <p>4. What 3 things made Edison famous?  a. telephone, vacuum cleaner, and computer  b. light bulb, phonograph, and projector  c. light bulb, camera, and telephone  d. phonograph, camera, and cars</p> <p>5. Who invented the airplane?  a. Ford  b. Baird  c. Wright Brothers  d. Benz</p> <p>6. Who invented the jeepney?  a. Gregorio Y Zara  b. Narciso Mosuela  c. Diosdado Banatao  d. Leonardo Salvador</p> <p>7. Which of the following is NOT an invention of Gregorio Zara?  a. Steamboat  b. Solar Powered water heater</p>	<p>6. D  7. A  8. B  9. C  10. D</p>
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	<p>c. Marex X-10 d. aircraft propellers</p> <p>8. Who among the following investors has the following inventions, Vazbuil Modular Housing and Misty Cool?</p> <p>a. Gregorio Y Zara b. Edgardo Vazquez c. Abellardo Aguilar d. Dr Fe Del Mundo</p> <p>9. Who among the following inventors invented something related to music?</p> <p>a. Dr Fe Del Mundo b. Ruperta David c. Roberto del Rosario d. Edgardo Vazquez</p> <p>10. Which of the following is NOT a characteristic of an inventor?</p> <p>a. Curiosity b. Perseverance c. Open-minded d. Perfectionist</p> <p><b>2. Homework (Optional)</b></p>			
<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><i>strategies explored</i></b>			
	<b><i>materials used</i></b>			
	<b><i>learner engagement/ interaction</i></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>			