7

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Science

Quarter 1
Week
4

DepED MATATAG
BAGONG PILIPINAS
ONE NCR STRONGER TOGETHER

Lesson Exemplar for Science Grade 7
Quarter 1: Week 4

This material is intended exclusively for the use of teachers in the implementation of the MATATAG K to 10 Curriculum. It aims to assist in delivering the curriculum content, standards, and lesson competencies.

Published by the Department of Education
Secretary: Juan Edgardo "Sonny" Angara
Undersecretary: Gina O. Gonong

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

Development Team

Writer: Maggel R. Anclote
Content Editor: Priscila D. Cabigting
Mechanical Editor: Waylie Nina D. De Claro
Illustrator: John Albert A. Rico
Layout Artist Joe Angelo L. Basco

Management Team

Alberto T. Escobarte, Viernalyn M. Nama, Dianne Catherine Teves-Antonio, Louie Oller V. Erni, Nenette Joy P. Larinay, Lhovie C. Damian, Redgynn A. Bernales

Development Team

Enhanced by: Merie Gerlie V. Capiral and Armida S. Oblinada
Content Validators
Internal: Corazon A. Javier, Jocelyn R. Agulto, Maripaz T. Mendoza, Roxanne S. Villanueva, Gemma C. Caviles, and June Daffodil F. Saquilabon
External: Ryan Lansangan, Louie B. Dasas
Language Validator: Donald Samson
Illustrator: Aileen G. Gutierrez
Layout Artist: Danica Joy B. Delorino

Management Team

JOCELYN DR ANDAYA *CESO IV*, Director IV
CRISTITO A. ECO *CESO III*, Assistant Regional Director
MICAH G. PACHECO, OIC-Chief Education Program Supervisor, CLMD
DENNIS M. MENDOZA, Regional EPS/ LRMS Head
MYRON WILLIE III B. ROQUE, SDO Valenzuela LRMS Education Program Supervisor

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

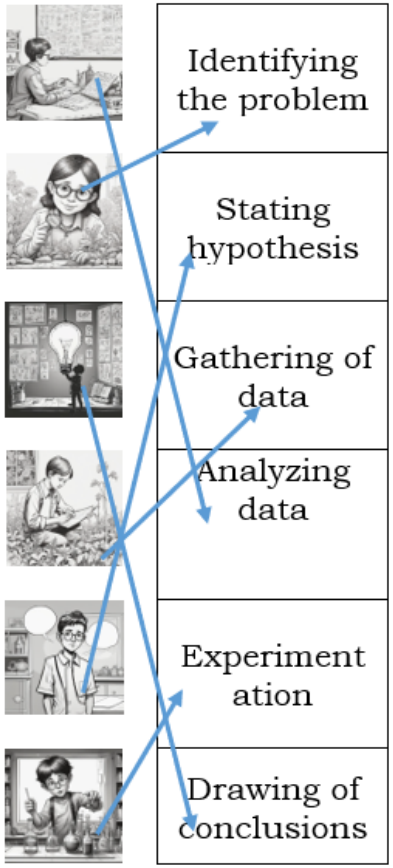
MATATAG **K to 10 Curriculum** **Weekly Lesson Log**	School		Grade Level	7
	Name of Teacher		Learning Area	SCIENCE
	Teaching Dates and Time		Quarter	1 – Week 4

	DAY 1	DAY 2	DAY 3	DAY 4
I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES				
A. *Content Standards*	Learners learn that there are specific processes for planning, conducting, and recording scientific investigations.			
B. *Performance Standards*	By the end of the Quarter, learners recognize that scientists use models to describe the particle model of matter. They use diagrams and illustrations to explain the motion and arrangement of particles during changes of state. They demonstrate an understanding of the role of solute and solvent in solutions and the factors that affect solubility. They demonstrate skills to plan and conduct a scientific investigation making accurate measurements and using standard units.			
C. *Learning Competencies*	The learners should follow the appropriate steps of a scientific investigation which include: a. aim or problem; b. materials and equipment; c. method or procedures; d. results including data; and e. conclusion.	The learners should follow the appropriate steps of a scientific investigation which include: a. aim or problem; b. materials and equipment; c. method or procedures; d. results including data; and e. conclusion.	The learners should follow the appropriate steps of a scientific investigation which include: a. aim or problem; b. materials and equipment; c. method or procedures; d. results including data; and, e. conclusion.	The learners should follow the appropriate steps of a scientific investigation which include: a. aim or problem; b. materials and equipment; c. method or procedures; d. results including data; and, e. conclusion.
D. *Learning Objectives*	At the end of the lesson, the learners shall be able to: a. define scientific investigation; b. identify the components of scientific investigation; c. give the importance of identifying scientific investigation in the school	At the end of the lesson, the learners shall be able to: a. identify a scientific problem; b. create/formulate a scientific problem based on a given situation, and	At the end of the lesson, the learners shall be able to: a. identify methods of gathering data; b. describe the kind of data gathering procedure and;	At the end of the lesson, the learners shall be able to: a. define hypothesis; b. make a hypothesis based on the given scientific problem; and c. appreciate the

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

		c. determine a sample of scientific problem in the school with a possible solution	c. make an orderly and systematized gathering of data.	importance of making a hypothesis in a scientific investigation
E. *Instructional Design framework feature (s)*	Connection Ideation Integrative Creativity Engage	Context Explore Creativity Inclusive	Communication Context Explore Innovation	Communication Creativity Collaborative Ideation Integrative
F. *21st Century Skills*	Information literacy Collaborative Skills Problem-Solving Openness Reflective thinking Interactive	Critical Thinking Self-direction Reflective thinking Interactive	Global Awareness Information literacy Collaborative Skills	Self-direction Problem-solving Openness Reflective thinking
II. CONTENT	Planning, following, and recording scientific investigations 1. Scientific Investigation 2. components of scientific investigation	Planning, following, and recording scientific investigations- 1. identifying problems 2. Making a scientific problem based on a given situation	Planning, following, and recording scientific investigations- 1. methods of gathering data 2. kinds of gathering data 3. organizing and planning data	Planning, following, and recording scientific investigations- 1. Hypothesis 2. Testing hypothesis
III. LEARNING RESOURCES				
A. *References*	CLMD4A_ScienceG7.pdf Pivot Material		CLMD4A_ScienceG7.pdf Pivot Material	
B. *Other Learning Resources*	https://www.australianenvironmentaleducation.com.au/education-resources/what-is-the-scientific-method/			

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

IV. TEACHING AND LEARNING PROCEDURES				
Before/Pre-Lesson Proper				
Activating Prior Knowledge	**Pre-Assessment** Based on the previous lesson, the teacher will post the phrase and ask the students the following: **"PARTICLE MODEL THEORY"** *Q1. How did scientists come up with this idea?* *Q2. What did they do to get information about matter and its particles?* *Q3. Does something make you curious?* *Q4. Does something seem strange to you?* *Q5. Do you wonder what causes something or why something happens?* ***Answer:*** ***1. By observing their surrounding*** ***2. They conduct an investigation or experiment*** ***3. Yes*** ***4. Yes***	**ACTIVITY 2.1: SCIENTIFIC INVESTIGATION QUEST** 	Based on the previous lesson about the first step in the scientific method (identifying the problem), the students will fill out their formulated problem on the stations they went through yesterday.  *Q1. What is the first step of the scientific method?* *Q2. What will be the next step?* *Q3. Why is it important to follow a step-by-step procedure in solving scientific problems?* *Answer:* ***1. Identifying the problem.*** ***2. Stating the hypothesis*** ***3. It ensures that the investigation is***	Review questions: 1. Which of the following is the first step in the data-gathering procedure for a scientific investigation? A. Analyzing data B. Collecting data ***C. Formulating a hypothesis*** D. Conducting experiments 2. Which of the following is an example of quantitative data? A. The texture of the flowers ***B. The temperature measured in degrees Celsius*** C. Descriptions of plant leaf colors D. The shape of the material 3. Which method involves collecting data through direct observation or experimentation? A. Secondary data collection B. Survey research

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

			systematic and organized.	C. ***Primary data collection*** D. Literature review 4. Why is it important to record data immediately and accurately during a lab experiment? ***A. To prevent data loss and ensure accuracy*** B. To reduce the need for data analysis C. To shorten the duration of the experiment D. To increase the complexity of the experiment 5. Which of the following is an example of a qualitative data collection method in a laboratory experiment? A. Measuring the pH level of a solution B. Counting the number of bacterial colonies ***C. Recording observations about the color change in a chemical reaction***

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

				D. Measuring the temperature of a liquid
Lesson Purpose/Intention	Present and explain the lesson objectives to the learners. • I can describe and define scientific investigation; • I can identify the components of scientific investigations	Present and explain the lesson objectives to the learners. • I can identify the problem • I can formulate scientific problems in a given situation	Present and explain the lesson objectives to the learners. • I can identify methods of gathering data in a scientific problem. • I can describe the kind of data-gathering procedures. • I can systematically organize the data gathered	Present and explain the lesson objectives to the learners. • I can make a hypothesis based on the scientific problem and the data gathered • I can organize and plan a scientific investigation based on the hypothesis the gathered data
Lesson Language Practice	Refer to Worksheet **Activity 1.1: ME, MY ROLE and PURPOSE** Read about the following names of headings for a scientific investigation. Ask the students to complete the task below by matching the items in column A with the items in column B. ***Scientific Investigation Matching Game*** **Components of Scientific Investigation** (Match A) 1. results 2. conclusion 3. aim	Match the words in Column A with their corresponding meanings in Column B. ***Column A*** 1. overheating 2. battery 3. insulation 4. shut down ***Column B*** A. material used to stop heat to pass through B. unexpected rise in temperature C. stops operating D. a device that produces electricity to provide	Match the items in Column A with the items in Column B. ***Column A*** 1. data 2. tabulate 3. data table 4. organize ***Column B*** a. information b. data arranged in rows and columns c. list systematically d. put in order	Arrange the following jumbled letters based on the given definition. 1. T M E N X E E P I R scientific procedure 2. M N G I O L O B flowering 3. R I N A T E R A W water obtained from rain 4. P A T A W R E T water from piped supply ANSWER: ***1. experiment*** ***2. blooming*** ***3. rainwater*** ***4. tap water***

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	4. experiment **Role//Purpose** (Match B) A. How do you gather data? B. What are you trying to prove? C. What do you want to measure? D. What have you learned from the results? *Q1: What are the 4 major components of a scientific investigation?* *Q2: Are you following these steps in solving scientific problems?* ***Answer:*** ***1. B*** ***2. D*** ***3. C*** ***4. A***	power for electronic devices ***Answer:*** ***1. B*** ***2. D*** ***3. A*** ***4. C***	***Answer:*** ***1. A*** ***2. C*** ***3. B*** ***4. D***	

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

<table>
<tr><th colspan="5">During/Lesson Proper</th></tr>
<tr>
<td>Reading the Key Idea/ Stem</td>
<td>The learners will read out the text. Ask the learners if there are words that are unfamiliar to them (give descriptions that would help/make it easier for them to understand)
(*Refer to the worksheets)

ACTIVITY 1.2: THE MYSTERY OF THE THIRSTY TOMATOES

In the school, seventh-grader Mia loved science. One day, she noticed some tomato plants in her garden looked vibrant while others were droopy. Mia decided to investigate.

She hypothesized that the amount of water each plant received might affect its health. To test this, she chose three tomato plants and labeled them in three pots: Pot A, Pot B, and Pot C.

Mia watered Pot A with half a cup of water daily, Pot B with a full cup, and Pot C with no water. She recorded her observations.</td>
<td>The learners will be given a reading passage.

ACTIVITY 2.2: THE MYSTERY OF THE OVERHEATING BATTERIES

Jenny, a brilliant young chemist, created a new long-lasting <u>battery</u> that performed excellently in the lab, lasting twice as long as the existing model. The company quickly moved to production, but soon customer complaints poured in: phones with the new battery overheated and <u>shut down</u> unexpectedly.

Realizing she had overlooked potential issues, Jeneca decided to investigate. She researched common causes of battery overheating and hypothesized that the problem was due to inadequate thermal <u>insulation</u>. She then designed and tested multiple battery versions with different insulation materials and thicknesses,</td>
<td>ACTIVITY 3.1: SCIENTIFIC INVESTIGATION QUEST

An experiment was performed in a Grade 7 Science class to investigate how different amount of lights affect the growth of plants. Three similar pots labeled A, B, and C were used to plant 3 pieces of identical bean seeds. Then Pot A was exposed to full sunlight, Pot B to partial sunlight and Pot C placed in a dark box. All three pots received same amount of water daily.

A tabular representation of results was presented at the end of the 15th day.

<table>
<tr><th>DAY</th><th>Pot A Height (cm)</th><th>Pot B Height (cm)</th><th>Pot C Height (cm)</th><th>Observations</th></tr>
<tr><td>1</td><td>0</td><td>0</td><td>0</td><td>Seeds planted</td></tr>
<tr><td>3</td><td>2</td><td>1</td><td>0</td><td>Pot A sprouting, Pot B small sprout, Pot C no change</td></tr>
<tr><td>6</td><td>5</td><td>3</td><td>1</td><td>Pot A growing well, Pot B has moderate growth, Pot C small sprout</td></tr>
<tr><td>9</td><td>8</td><td>5</td><td>2</td><td>Pot A healthy leaves, Pot B pale leaves, Pot C weak sprout</td></tr>
<tr><td>12</td><td>11</td><td>7</td><td>3</td><td>Pot A thriving, Pot B struggling, and Pot C very weak</td></tr>
<tr><td>15</td><td>14</td><td>9</td><td>3.5</td><td>Pot A tall and strong, Pot B small and pale, and Pot C barely growing</td></tr>
</table>
</td>
<td>The learners will be given a reading passage.

ACTIVITY 4.1: LILY'S EXPERIMENT

Read the story below and answer the questions that follow.

In a small town, Lily loved conducting backyard experiments. One day, she noticed her flowers blooming vibrantly when watered with rainwater from her gauge. Intrigued, she wondered if rainwater made a difference.

Lily thought: "If I water flowers with rainwater, they'll bloom more vibrantly than with tap water." She split her garden, testing rainwater on one side and tap water on the other.

Carefully observing for weeks, Lily saw the rainwater side bloomed more vibrantly, confirming her guess. She learned the importance of making a clear guess, guiding her</td>
</tr>
</table>

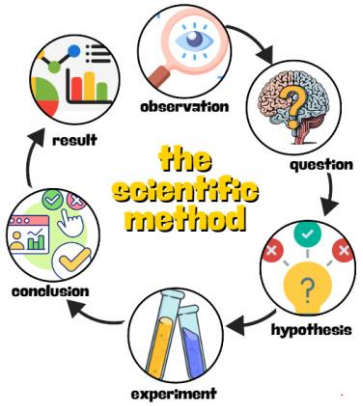
Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	After a week, clear differences emerged: • Tomato plants in Pot B grew tall and strong. • Tomato plants in Pot A were moderate. • Tomato plants in Pot C were weak and wilted. Mia concluded that the plants watered with a full cup of water were the healthiest. She presented her findings at school, impressing her teacher, Mr. Cruz. "Excellent work, Mia! You've demonstrated key scientific principles," he praised. Mia was proud. She solved the mystery of the thirsty tomatoes and learned the importance of water for growth. From then on, she carefully watered her garden, letting her love for science and her plants thrive. Source: OpenAI. (2024). *The Mystery of the Thirsty Tomato*. Retrieved from ChatGPT June 7,2024	simulating real-world conditions. After analyzing the data, Jenny found that improved insulation materials and optimized designs maintained stable temperatures and prevented **overheating.** She documented her findings and presented them to the company, recommending design changes. The company implemented her recommendations, and the new batteries became reliable and efficient, gaining customer satisfaction. Jenny's experience reinforced the importance of thorough testing and scientific investigation in developing new technologies. Source: OpenAI. (2024). *The Mystery of Heating Battery*. Retrieved from ChatGPT June 9,2024		experiments to meaningful conclusions. Source: OpenAI. (2024). *Lily's Experiment*. Retrieved from ChatGPT June 7,2024

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

Developing Understanding of the Key Idea/Stem	**GUIDE QUESTIONS:** 1. What did Mia notice in the garden?? 2. What steps did she take to find answers to her queries? 3. Why is it important to follow a certain procedure to solve scientific problems? NOTE: The teacher walks around giving encouragement and looking at learners' answers; he/she may add more questions depending on the type of learner handled. What is scientific investigation then? The teacher solicits the answers of the learners and structures their ideas to operationally define scientific investigation.	**GUIDE QUESTIONS:** 1. Did Jenny follow a scientific method in her scientific investigation? How? 2. What problem did Jenny identify and find solution? 3. What other problems can you identify that could be addressed by Jenny? Answer: ***1. Yes. She followed a very detailed way of solving the problems she identified and followed the steps in the scientific method to solve the problem.*** ***2. Why are the new batteries overheating and causing phones to shut down unexpectedly?*** ***3. What materials cause the overheating in the phone?***	**GUIDE QUESTIONS:** 1. Explain in your own words the scenario above. 2. What is the scientific problem being addressed? 3. How was the result presented? ***Sample Answer:*** ***1. In our class, an experiment was done to see how different amounts of light affect plant growth using three pots with bean seeds: Pot A in full sunlight, Pot B in partial sunlight, and Pot C in darkness, all watered equally, and results were recorded in a table after 15 days.*** ***2. How does the amount of light affect plant growth?*** ***3. Results were presented using a***	**GUIDE QUESTIONS:** 1. What was the problem identified by Lily in her backyard? 2. What helped Lily solve her problem? 3. What is the hypothesis formulated by Lily? ***Answer:*** ***1. The effect of rainwater and tap water on the flowers.*** ***2. Lily conducted an experiment to test which between rain water and tap water can make the flowers bloom better.*** ***3. Rainwater use to water the flower can make it bloom better.***

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

			tabular presentation. In any scientific inquiry or experimentation, data gathering, and presentation is very important. **Data collection** is a systematic method of obtaining, observing, measuring, and analyzing accurate information.	
Deepening Understanding of the Key Idea/ Stem	The teacher presents this diagram in class to show and explain steps in the scientific method  The teacher will facilitate discussion to further expand learning on scientific investigation.	A scientific problem is something you don't understand, but you can experiment to help you understand. Scientific problems are usually based on observation of scientific phenomena. **Keep in mind:** 1. Your problem should be worded so that it can be answered through experimentation. 2. Keep your question concise and clear so that everyone knows what you are trying to solve. 3. The question should have a **purpose**...why do you want to know? how does this	An experimental study is a standard method of data collection that involves the manipulation of the samples by applying some form of treatment prior to data collection. Observation is way of gathering data by watching behavior, events, or noting physical characteristics as it appears naturally. Scientists gather data through observation of their surroundings, performing experiment in	*Q1. How can hypothesis be proven?* ***By following the scientific process, researchers can systematically test hypotheses, providing evidence to support or refute them based on empirical data.*** *Q2. Why is it important to have a hypothesis in a scientific investigation?* ***Hypothesis is a foundational element of scientific research that guides the investigation, structures experiments,***

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	Think-Pair Share Think about something in your everyday life that you're curious about. a. Formulate a question that you can investigate scientifically. b. Enumerate steps on how you can solve that problem. Sharing with the whole class follows.	matter? who wants to know? 4. It must have a **goal**. What purpose will the ***answer*** to this question serve? Identifying the problem requires a combination of the following skills: 1. Critical Thinking skills 2. Observation skills 3. Analysis skills 4. Communication skills 5. **ACTIVITY 2.3: IDENTIFYING PROBLEMS** Write a scientific problem from the scenarios listed. (This can be done in groups) ***Scenario 1*** **The Case of the Disappearing Ice Cubes** In science class, Mr. Lewis placed two identical ice cubes on two separate plates. He put one plate in the classroom by the window and the other plate inside a cupboard. He asked the students to	the laboratory or by running a model. The main techniques for gathering data are observation, interviews, questionnaires, schedules, and surveys Data can be presented in various ways such as: a) texts or tabular presentation, b) diagrams through graphs **ACTIVITY 3.2: FORMULATE a SCIENTIFIC PROBLEM from the given scenario below.** Recalling the 4 scenarios discussed yesterday, each group will now plan how they will gather data for the assigned scenario. Include also how these data will be presented. *Scenario 1* The Case of the Disappearing Ice Cubes ***Think about how you could collect data on the temperature, light***	***facilitates analysis, and promotes scientific progress. It helps researchers stay focused, think critically, and communicate their findings effectively.*** The teacher will observe the learners' answers and will ask them to volunteer their answers and give positive feedback. **ACTIVITY 4.2: MAKING A HYPOTHESIS** Recalling the 4 scenarios discussed yesterday, each group will now formulate hypothesis for the assigned scenario. *Scenario 1* The Case of the Disappearing Ice Cubes ***The ice cube placed by the window will melt faster than the ice cube placed inside the cupboard due to higher ambient temperature and greater exposure to sunlight.***

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

		observe what happens to the ice cubes over time. ***Why did the ice cubes melt at different rates?*** ***<u>Scenario 2</u>*** ***The Case of the Rusty Nails*** In the science lab, Mrs. Turner set up an experiment to show how different conditions affect the rusting of iron nails. She placed iron nails in three different beakers: • Beaker A: Nail submerged in plain water. • Beaker B: Nail submerged in saltwater. • Beaker C: Nail exposed to air with no water. After one week, the students observed the following: • The nail in Beaker A had a small amount of rust. • The nail in Beaker B was heavily rusted.	***exposure, and other conditions.*** <u>Scenario 2</u> The Case of Rusty Nails ***Think about how you could measure the amount of rust on each nail and the conditions they were exposed to.*** <u>Scenario 3</u> The Puzzle of the Dissolving Sugar ***Think about how you could measure the temperature and observe the dissolving process more closely.*** <u>Scenario 4</u> The Mystery of the Fizzing Beakers ***Think about how you could measure the amount of fizz produced, the reaction time, and any other visible changes.*** Each group will discuss and plan how they will gather the data needed and ways to present the	<u>Scenario 2</u> The Case of Rusty Nails ***Iron nails submerged in saltwater will rust more quickly and extensively than nails submerged in plain water or exposed to air due to the presence of salt accelerating the corrosion process.*** <u>Scenario 3</u> The Puzzle of the Dissolving Sugar ***Sugar will dissolve more quickly in hot water than in room temperature water or cold water due to increased molecular motion at higher temperatures.*** <u>Scenario 4</u> The Mystery of the Fizzing Beakers ***Adding salt to the mixture of baking soda and vinegar will decrease the intensity and speed of the reaction, resulting in fewer bubbles and slower fizzing compared to the reaction without salt.***

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

		• The nail in Beaker C showed no rust. ***Why did the nails in Beaker A and Beaker B rust, while the nails in Beaker C did not?*** ***<u>Scenario 3</u>*** **The Puzzle of the Dissolving Sugar** In the science lab, Mr.Magno conducted an experiment with his students to observe how quickly sugar dissolves in water. He prepared three beakers with 100 ml of water, each at different temperatures: cold, room temperature, and hot. He then added a teaspoon of sugar to each beaker and stirred them for 30 seconds. The students observed: • In the hot water, the sugar dissolved completely. • In the room temperature water, some sugar grains were still visible.	data collected. Then present in class. GUIDE QUESTIONS: 1. What are the data gathering procedures you decided on? 2. How did you come up with that data gathering procedure?	Each group will discuss the hypothesis they will formulate. Afterwards, they will present in class.

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

		• In the cold water, most of the sugar remained undissolved. ***Why did the sugar dissolve at different rates in hot, room temperature, and cold water?*** ***<u>Scenario 4</u>*** **The Mystery of the Fizzing Beakers** In the science lab, Mr. David demonstrated a reaction by mixing baking soda and vinegar in two different beakers. He used the same amounts of baking soda and vinegar in each beaker but added a pinch of salt to Beaker B before the reaction. The students observed: • In Beaker A (without salt), the reaction produced a lot of fizz and bubbles quickly. • In Beaker B (with salt), the reaction produced fewer bubbles and fizzed more slowly.		

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

		Why did the reaction in Beaker A produce more fizz and bubbles compared to Beaker B? The learners will be asked to share their formulated scientific problems within their groups. Afterwards, they will share in class. *Q1. What are the scientific problems you formulated?* *Q2. What are the things you consider in formulating your scientific problem?* *Q3. How did you come up with your scientific problems?* *Q4. Define scientific problems in your own words.* The teacher will observe the learners in answering the questions and will ask them to share their answers and give other positive feedback.		
After/Post-Lesson Proper				
Making Generalizations and Abstractions	**GUIDE QUESTIONS:** Reflective 1. What are the steps needed to solve a scientific problem?	Three things I learned are _____, _____, _____.	**PASS THE CABBAGE RELAY** The learners will pass the ball among them in	The teacher will pass the treasure box among them in class. Every learner will get a piece of paper and write down one concept

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	2. Has this lesson helped you to remember the components of a scientific investigation? If so, how? 3. Is it important to solve identified problem/s in our environment using the scientific method? Why?	Two things I would like to know the answer_____, _____. One thing I want to explore on my own_____.	the class while the teacher plays a song. When the song stops, the student who is holding the ball will answer one of the questions below: Q1: What are some of the data-gathering procedures? Q2: What will affect your choice in the data-gathering procedure you will use to help you solve a scientific problem? Q3: Why is it important to present data correctly?	they have learned based on the discussion. After collecting, the teacher will choose representatives to discuss the concept they learned and how they will apply it in their daily lives. Students may use this open-ended question. Today, I learned that _____ is _____. This will be useful in _____.
Evaluating Learning	***Written Work*** Make your own scientific problem based on the situation. Danilo and his sister Annie are in the backyard. They have a basin full of water. While they are playing, they put different materials in the water. They put a leaf, marble, a stick, a needle, a tiny piece of paper, and wood. They noticed that there were materials that floated on the	***Essay:*** Describe a scenario where you observed an unusual phenomenon or problem in your everyday life. Explain how you would identify turn this observation into a scientific investigation following the steps discussed. ***Possible answers - Scenario:***	***Written Work.*** *Write a paragraph of 3-5 sentences only, on how you will gather information based on the situation.* Danilo and his sister Annie were in the backyard. They have a basin full of water. While they were playing, they put different materials in the water. They put a piece of paper, a leaf, a	***Assessment:*** Write H if the statement is a Hypothesis and N if not. ____1. Increasing the temperature of water will make it boil faster. **(H)** ____2. Elephants have the best memory of all animals. **(N)** ____3. Adding salt to water will lower its freezing point. ***(H)*** ___4. Increasing the amount of fertilizer will

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

	water while some were not. Based on the situation, identify the different components of scientific investigation. **Components of Scientific Investigation** / **Situation** Aim — ***Identify the materials that float in water*** Experimenta-tion — ***Observe different materials listed*** Results — ***Leaf, needle, and paper float in water. Other materials sink.*** Conclusion — ***Light materials float in water. Or materials less dense in water float. While heavier or***	***1.You notice that bananas placed on one side of the kitchen counter ripen much faster than those placed on the other side. Both sets of bananas were bought at the same time and appeared to be at the same ripeness when placed on the counter.*** ***2. After taking a shower, you notice that your bathroom mirror fogs up quickly and takes a long time to clear, whereas, in another bathroom, the mirror fogs up less and clears much faster, even though the showers are of similar length and temperature.*** The answers of students can be rated using rubrics.	marble, a stick, a needle, and wood. They noticed that there were materials that floats on the water, while some were not. Based on the situation, discuss how you will gather information. ***Sample answer:*** ***Danilo and Annie can systematically gather information by first listing the materials they put in the water: a piece of paper, a leaf, a marble, a stick, a needle, and wood. For each material, they will place it in the basin and observe whether it floats or sinks, recording their observations in a notebook. To ensure accuracy, they should repeat the process for each material several times. Additionally, they can note any common characteristics of the materials that float versus those that sink, helping them***	result in larger tomato plants. **(H)** ___5. Global warming is caused by human activities. **(N)**

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph

<table>
<tr>
<td></td>
<td>
<table>
<tr><td></td><td>denser than water sinks.</td></tr>
</table>
</td>
<td>
Sample Rubrics:
<table>
<tr><th>Criteria</th><th>Score</th></tr>
<tr><td>Clear scenario identified</td><td>3</td></tr>
<tr><td>Components of scientific investigation were enumerated based on the scenario</td><td>3</td></tr>
<tr><td>Answers were logically presented</td><td>3</td></tr>
</table>
</td>
<td>
understand the reasons behind their observations.

Rubrics:
<table>
<tr><td>Points</td><td>Description</td></tr>
<tr><td>4</td><td>Ideas presented are correct and clear and have correct grammar</td></tr>
<tr><td>3</td><td>Ideas presented are correct and clear but have grammar errors.</td></tr>
<tr><td>2</td><td>Ideas presented have minor errors and clear with grammar errors.</td></tr>
<tr><td>1</td><td>Ideas presented have errors and unclear with grammar errors.</td></tr>
</table>
</td>
<td></td>
</tr>
<tr>
<td>Additional Activities for Application or Remediation (if applicable)</td>
<td></td>
<td>The teacher can give other examples of situations, and the learners will formulate their own scientific problem</td>
<td>The teacher can give other examples of situations, and the learners will identify the method of data gathering they will use.</td>
<td></td>
</tr>
<tr><td>Remarks</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Reflection</td><td></td><td></td><td></td><td></td></tr>
</table>

Misamis St., Bago Bantay, Quezon City
(02) 85229412
ncr@deped.gov.ph
https://www.depedncr.com.ph