

# 9 MAPEH

(Health)  
Quarter 1



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# Health

## Grade 9

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**Health Grade 9**  
**PIVOT IV-A Learner's Material**  
**Quarter 1**  
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## Guide in Using PIVOT Learner's Material

### For the Parents/Guardian

This module aims to assist you, dear parents, guardians, or siblings of the learners, to understand how materials and activities are used in the new normal. It is designed to provide the information, activities, and new learning that learners need to work on.

Activities presented in this module are based on the Most Essential Learning Competencies (MELCs) for **MAPEH** as prescribed by the Department of Education.

Further, this learning resource hopes to engage the learners in guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

You are expected to assist the child in the tasks and ensure the learner's mastery of the subject matter. Be reminded that **learners have to answer all the activities in their own notebook.**

### For the Learners

The module is designed to suit your needs and interests using the IDEA instructional process. This will help you attain the prescribed grade-level knowledge, skills, attitude, and values at your own pace outside the normal classroom setting.

The module is composed of different types of activities that are arranged according to graduated levels of difficulty—from simple to complex. You are expected to **answer all activities on separate sheets of paper** and submit the outputs to your respective teachers on the time and date agreed upon.

## PARTS OF PIVOT LEARNER'S MATERIAL

	Parts of the LM	Description
<b>Introduction</b>	What I need to know	The teacher utilizes appropriate strategies in presenting the MELC and desired learning outcomes for the day or week, purpose of the lesson, core content and relevant samples. This allows teachers to maximize learners awareness of their own knowledge as regards content and skills required for the lesson
	What is new	
<b>Development</b>	What I know	The teacher presents activities, tasks , contents of value and interest to the learners. This shall expose the learners on what he/she knew, what he /she does not know and what she/he wanted to know and learn. Most of the activities and tasks must simply and directly revolved around the concepts to develop and master the skills or the MELC.
	What is in	
	What is it	
<b>Engagement</b>	What is more	The teacher allows the learners to be engaged in various tasks and opportunities in building their KSA's to meaningfully connect their learnings after doing the tasks in the D. This part exposes the learner to real life situations /tasks that shall ignite his/ her interests to meet the expectation, make their performance satisfactory or produce a product or performance which lead him/ her to understand fully the skills and concepts .
	What I can do	
	What else I can do	
<b>Assimilation</b>	What I have learned	The teacher brings the learners to a process where they shall demonstrate ideas, interpretation, mindset or values and create pieces of information that will form part of their knowledge in reflecting, relating or using it effectively in any situation or context. This part encourages learners in creating conceptual structures giving them the avenue to integrate new and old learnings.
	What I can achieve	

# Community and Environmental Health

## I

### Lesson

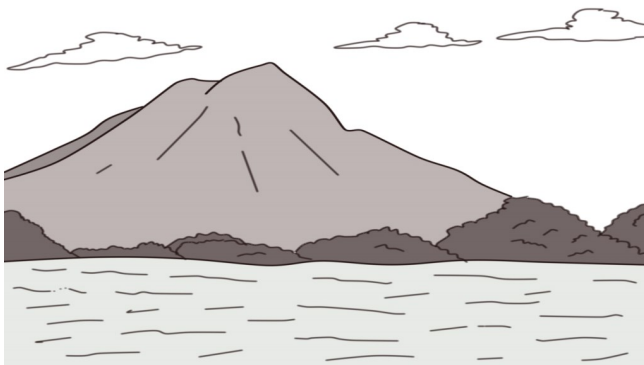
We live in a place where our family members and neighbors are interacting to do their regular activities and share resources. During this time of pandemic and in many cases where disasters, calamities and other unavoidable situations happen in our country, our lives and living are affected. There are many changes and adjustments that our family and other members of the community need to do in order to cope up with the different situations.

In this lesson, you will learn to **define your community and environmental health**. Specifically during this time that corona virus disease 2019 (Covid-19) is declared as a pandemic disease, our community and the rest of the country is under the declaration of Community Quarantine by the Inter Agency Task Force for the Management of Emerging Infectious Diseases (IATF). There are different levels by which a certain community is declared under Enhanced Community Quarantine (ECQ), Modified Enhanced Community Quarantine (MECQ) or General Community Quarantine (GCQ) depending on the number of cases of infected people in a certain community or locality. Are these related to environmental health?

Examine the pictures below. What is an environment? Which picture shows a clean environment? What will happen to the community if the environment is not clean?



**Picture A**



**Picture B**

**Learning Task 1:** Read the poem below. Answer the guide questions. Write your answer in your notebook.

**Warned**

by: Sylvia Stults

The sands of time have rendered fear  
 Blue skies on high no longer clear  
 Stars were bright whence they came  
 Now dimmed, obscured, pollution's haze.

Crystal clear our waters gleamed  
 Fish abundant, rivers streamed  
 Ocean floors sandy white  
 Now littered, brown, pollution's plight.

Trees towered high above  
 Trunks baring professed love  
 Birds chirping from sites unseen  
 Gone, paper joined pollution's team.

One can't blame pollution alone  
 As they say, you reap what you've sown  
 So let us plant a better seed  
 Tear out old roots, cultivate, weed.

Protect what has been given for free  
 Our waters, skies, wildlife and trees  
 For once they're gone, don't you say  
 Consider yourself warned of that fatal day.

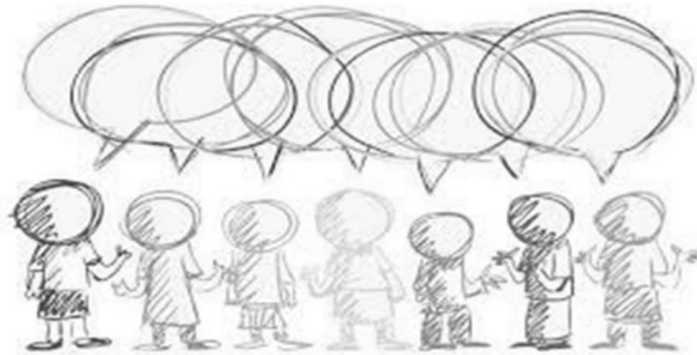
**Guide Questions:**

1. What happened to the environment as being described by the author? Write your answer by completing the table below.

Stanza No.	Before	After
1. blue skies		
2. water, fish and ocean floor		
3. trees, trunks and birds		

2. Based on the poem shared by the author in stanzas 1 to 4, what is the main cause of these changes or harmful effect in our environment?
3. In stanza 5, what are the resources in the environment that are given to us free and thus, need protection?

# D



Examine the picture above. What do you observe in the picture? If you say that you see a group of people and interacts with one another, you are right. You can also imagine a group of family in one location or certain place doing might their tasks or activities for a common goal. You might also think about your groupmates in your previous classroom last school year or in an online classroom in the absence of physical reporting in your class.

A community is defined as a group of people living in the same place or having a particular characteristic in common. Study the characteristics of a healthy community. Are these characteristics present in the community that you are in today?

## **Characteristics of a Healthy Community**

1. Access to quality education
2. The community naturally blends into its environment.
3. Health care and preventive health services
4. Access to healthy food.
5. Fitness and wellness opportunities.
6. A community should have enough security and safety for all the people.
7. People in the community should love and unify with each other.
8. People in the community should be free from any vices.
9. A community should have access on affordable healthy foods, clean air, clean water and quality education.
10. A community should have an educational facility for all the children and youth.
11. A community should have enough jobs and transportation for all the people.

Community Health is the art and sciences of maintaining, protecting and improving the health of all members of the community through organized and sustained community efforts. Related to the study of community is the place where a community immediately live and respond to the changes that happen in their locality. This is where the community live or is their habitat. This is called an environment.



Technically, environment is the sum total of all the surroundings whereby living organism, including natural forces and other living things interact. This provides also the conditions for the development and growth as well as of danger and damage that might happen. There are different types of environment and each is characterized by certain conditions. Environment mainly consists of **atmosphere, hydrosphere, lithosphere** and **biosphere**. Some of these types of environment are:

1. The natural environment encompasses all living and non-living things occurring naturally. It is made up of naturally occurring resources like water, land, air and all organisms that live in nature. It comprises the nature of the living space. This is in contrast to artificial environment or man-made environment like in a fishpond.

2. Industrial environment is a term used to describe working conditions that may be outside of your home. Industrial environments are usually harsher than normal work environments, such as in an office. In an industrial environment, people and equipment are exposed to more extreme conditions.

3. The social environment consists of the sum total of a society's beliefs, customs, practices and behaviors. It is, to a large extent, an artificial construct that can be contrasted with the natural environment in which we live.

Study the characteristics of a healthy environment. Can you add more on these?

- |                         |                                   |
|-------------------------|-----------------------------------|
| 1. Clean                | 6. Garbage cans are always closed |
| 2. Neat                 | 7. No flies and mosquitoes breed  |
| 3. Looks beautiful      | 8. Many plants are grown          |
| 4. Feels comfort        | 9. Enough space to work and play  |
| 5. No rubbish in sewage | 10. Waste are segregated properly |

Why is there a need to grow more plants in our environment? It is said that “more plants; more oxygen”. That’s why we need to plant more trees. The air that surrounds us make us feel comfortable and fresh. Is there a river around your house? Are rivers and ditches clean? Bodies of water like rivers, streams, and seas are considered healthy if the water is clean, clear. There are no garbage thrown in these bodies of water. Usually, a clean water environment will give a good harvest of fishes and other organisms that live in the river or in any bodies of water. Each part of your house should always be cleaned. Garbage must be dumped off regularly in appropriate places. Clean the sink to avoid clogging that will affect effective water flow.

Environmental Health comprise of those aspects in human health that are determined by physical, chemical, biological, social and psychosocial factors in the surrounding environment. The air that comes from dangerous fumes coming from motor vehicles, smoke, burning of garbage and smoke from factory can be very dangerous to your body. Any unpleasant smell like those coming from garbage and filthy trenches can cause air pollution. These air pollutants can damage our respiratory system that will greatly affect the functions of other organs in the body.

**Learning Task No. 2:** Examine the pictures below. List down your observations that will tell about the kind of environment given in the pictures. Write it in your health notebook.



**E**

**Learning Task 3:** Write a paragraph of your reflection that will define your community and the environment where you live in. Do this in a separate sheet of paper.

I understand that \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_.

I realized that \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_.



**Learning Task No. 4:** Choose the letter of the correct answer. Write your answer in your notebook.

- \_\_\_\_\_environment that is harsher than normal work environment.  
A. Industrial environment                      C. Social environment  
B. Natural environment                         D. None of the above
- This refers to a group of people living in the same place or having particular characteristics in common.  
A. Community                                      C. School  
B. Family    D. Society
- This refers to unwanted materials in all forms that can cause harm.  
A. Medicine                                        C. Toxic waste  
B. Mineral    D. Water
- The following activities are beneficial to the environment EXCEPT:  
A. Avoid burning plastic materials            C. Proper waste disposal  
B. Dump toxic waste to the river               D. A and C
- The following are characteristics of a healthy environment ECEPT one:  
A. Access to a healthy food                    C. Access to massive alcohol intake  
B. Access to quality education                D. Availability of healthcare facilities

**Learning Task No. 5:** Give two (2) situations that show characteristics of a healthy community .

- \_\_\_\_\_
- \_\_\_\_\_

**Learning Task No. 6:** Write three (3) sentence reactions to this quotation.

*“In a state of a healthy body, mind, and soul , sunshine glows and beauty remain. Sunflower faces where sunshine is. ”- May Natividad*

Your reaction:

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# Impact of Healthy Environment

## I

### Lesson

In the previous lesson, you learned to define community and environmental health. You also described a healthy community and how to keep a healthy environment. There are relevant activities that positively affect and what should you do to sustain community and environmental health. In this lesson, you are expected to **explain how a healthy environment positively impact the health of people and communities such that the occurrence of disease and health care cost will be less.**

During this time of pandemic, you need to take care of yourself and guard your health to avoid diseases and possible infection to and from your immediate environment. When Covid-19 hit many people in and out of the country, a large amount of budget and crucial preparations were dealt with. Thus, a healthy body and environment will help everyone to survive and sustain life in the New Normal.

A healthy community is one in which local groups from all parts of the community work together to prevent disease and make healthy living options accessible. Working at the community level to promote healthy living brings the greatest health benefits to the greatest number of people. It also helps to reduce health gaps caused by differences in income, education, race and ethnicity, location and other factors that can affect health.

Look at the pictures below. What can you say about the activities that will promote a healthy environment?



Healthy communities commonly enjoy some privileges like having a regular medical check up, high vaccination rates to protect citizens from diseases and they have easy access to medical care and healthy food. They are also designed for healthy living at home, work, and school and provide good mental health resources. This also means that it is safe and easy to walk, bike, and play in parks and community spaces.

Healthy community-is a term used to describe the state of health and how easy or difficult it is to be healthy where people live, learn, work and play.

A healthy community is one in which local groups from all parts of the community work together to prevent disease and make healthy living options accessible. Working at the community level to promote healthy living brings the greatest health benefits to the greatest number of people. It also helps to reduce health gaps caused by differences in income, education, race and ethnicity, location and other factors that can affect health.

Healthy communities commonly have high vaccination rates to protect citizens from diseases and easy access to medical care and healthy food; are designed for healthy living at home, work, and school; and provide good mental health resources. Often, this also means it is safe and easy to walk, bike, and play in parks and community spaces.

Unhealthy communities often have a large number of individuals that are more vulnerable before, during, and after a disaster. Factors that lead to poor health in communities such as high rates of chronic diseases like diabetes and heart disease, limited access to general medical care, and low levels of health education, can cause substantial difficulties for a community recovering from an emergency event.

Humans impact the physical environment in many ways: overpopulation, pollution, burning fossil fuels, and deforestation. Changes like these have triggered climate change, soil erosion, poor air quality, and undrinkable water. These negative impacts can affect human behavior and can prompt mass migrations or battles over clean water.

**Learning Task No. 1. :** List down all activities that you and your family do to have a healthy environment. Also list down the programs and activities being done or implemented by your barangay officials in your community. Write your answer on a separate sheet of paper.

**My Family and Our Community**

What are the list of activities that you and your family do to have a healthy environment?

My Family's Activities	Activities/ Programs by Our Barangay Officials or Officers of Our Subdivision

What activities being practiced by your family is the same with the programs/activities being implemented by the barangay officials or authorities in your community?

# D

## **IMPORTANCE OF A HEALTHY COMMUNITY**

A healthy community is all what we need as a human being living in the community. We are all seeking a livable and peaceful community for our family and children. Community is a reflection of its people, thus, a healthy community makes people healthy and happy. If a community promotes respect and fair treatment to all its people, then the people will also be respectful and fair to all. It is important that a community leader will uphold the law and promotes peace and unity among people. It is the prime duty of the community leader to take good care of the welfare of the people. A healthy community gives many benefits such as it (1) promotes happiness, (2) peace of mind, (3) unity, (4) generosity and (5) friendliness.

## **WAYS TO MAINTAIN HEALTHY COMMUNITY**

There are ways to maintain a healthy community. These include the following:

1. Enough budget to support community projects.
2. All should participate in any program implemented within the community.
3. Local government should evaluate community performance.
4. National Government should mobilize money and resources to create anything which is necessary for the people.

### **Health Benefits Of A Healthy Community**

1. Promote physical activity.
2. Promote a diet free of additives, preservatives, and pesticides.
3. Improve air quality.
4. Lower risk of injuries.
5. Increase social connection and sense of community.
6. Reduce contributions to climate change.

Working at the community level to promote healthy living brings the greatest health benefits to the greatest number of people. It also helps to reduce health gaps caused by differences in income, education, race and ethnicity, location and other factors that can affect health.

You can help improve the health of your community by taking a look at your health and the health of your family. Take actions to ensure that you are as healthy as possible. Before an emergency, if you eat well, get regular check ups and vaccinations and are physically active. Your body will be better able to handle stress and physical demands of recovering from a disaster. Washing your hands regularly can also help reduce your chances of getting sick during and after emergency.

You can help promote health in your community by becoming more engaged in your community. Encourage local community groups and the organizations to consider community health in their emergency preparedness plans. Take action to improve your community's health now to ensure you are better prepared to remain healthy when an emergency occurs. Promoting and maintaining a healthy community is everybody's business and the responsibility of every individual living in it.

### **Positive Impacts of Healthy Environment to People**

1. Clean water prevents diseases. There are about 2.2 million people die from diarrhea due to unsafe water, whereas, 90% of them are kids. Preserved natural beauty attracts people from other places who want to live, work and study in close proximity to something beautiful. If those people are conscious and respectful for the environment, then that's an economic boon for local communities. And all of these things nourish the soul.
2. It provides clean air, clean water, and other ecosystem services that we need. It provides a sense of calm that relieves stress. It offers an amenable place to engage in exercise like walking, running, swimming etc. It is a source of tourism revenue, from people who come for recreation, for the wildlife or just to relax.

The environment affects our health in a variety of ways. The interaction between human health and the environment has been extensively studied and environmental risks have been proven to significantly impact human health, either directly by exposing people to harmful agents, or indirectly, by disrupting life-sustaining ecosystems. Although the exact contribution of environmental factors to the development of death and disease cannot be precisely determined, the World Health Organization (WHO) has estimated that thirteen million deaths annually are attributable to preventable environmental causes.

The report also estimates that 24% of the global disease burden (healthy life years lost) and 23% of all deaths (premature mortality) are found to be attributable to many environmental factors. The environmental burden of diseases being 15 times higher in developing countries than in developed countries, due to differences in exposure to environmental risks and access to health care.

**Learning Task No. 2:** Write **TRUE** if the statement is correct and **FALSE** if the statement is wrong. Write your answers on a separate sheet of paper.

1. Healthy community refers to surroundings or conditions that provide the means and opportunity to achieve physical and/or mental being.
2. If community promotes respect and equality, then the people will also be respectful and equal to everyone.
3. Healthy community is a term used to describe the state of health and how easy or difficult it is to be healthy when people live, learn, work and play.
4. Working at the community level to promote healthy living brings the greatest health benefits to the greatest number of people.
5. A healthy community makes people sick and sad.
6. Only an individual should participate in any program implemented within the community.
7. The youngsters should evaluate community performance.
8. National Government should mobilize money and resources to create anything which is necessary for the people.
9. Help promote health in your community by becoming more engaged in your community.
10. Wellness program initiated by the community promotes healthy environment to its people.
11. Promoting and maintaining a healthy community is everybody's business and the responsibility of every individual living in it.
12. Having a peaceful mind is one of the importance of healthy environment.
13. A healthy community increases risks to climate change.
14. A healthy environment promotes happiness.
15. Budget is not necessary to support community projects.



**Learning Task No. 3:** Examine the picture below. Write five (5) observations to explain healthy environment and its impact to the health of people and community. Write your answer in your notebook.



**Observations:**

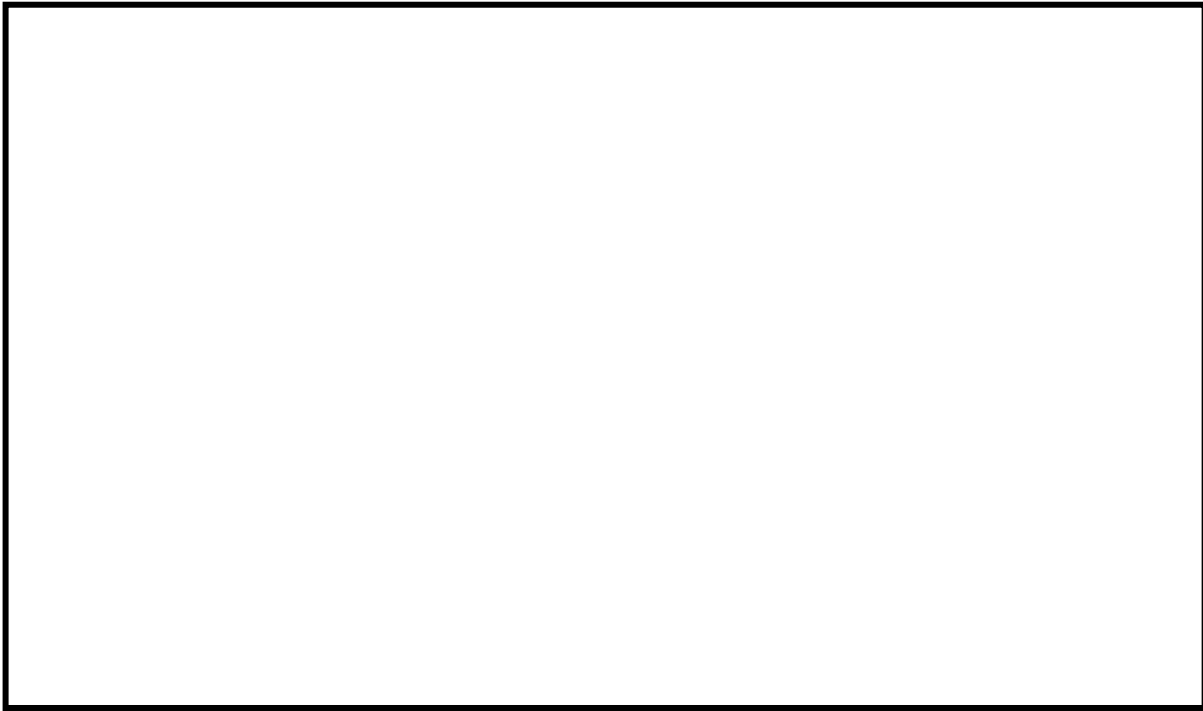
1. \_\_\_\_\_.
2. \_\_\_\_\_.
3. \_\_\_\_\_.
4. \_\_\_\_\_.
5. \_\_\_\_\_.



**Learning Task No. 4:** Draw your dream community. You can use any coloring materials to make it colorful. Make a short description of your work. Write your answer in your notebook.

**My Dream Community**

**Learning Task No. 5:** A healthy community plays a vital role for our health and for the health of the community as a whole. Make a poster or slogan on how can you help to have a healthy environment?



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**Learning Task No. 6:** Write a paragraph that will explain how a healthy environment positively impact the health of people and communities . Use the reflection guide below. Write your answer on a separate sheet of paper.

I understand that \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

I realized that \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

# The Nature of Environmental Issues

## I

### Lesson

In the previous lessons, you were acquainted with the environment and a healthy community. You also learned the positive impact of how healthy environment affects the health of the people and communities. This time that there is health issues and safety measures that need to be accomplished to keep a healthy body, environment plays a major role in the survival of the people to keep living in the New Normal.

This lesson will guide you to reflect on how to keep a healthy community and what activities to avoid that will cause adverse effect to the community and environmental health. This lesson will direct you to determine the environmental issues that needs to be coordinated and understood by every member of the community to keep healthy living. After going through this lesson, you are expected to **discuss the nature of environmental issues**.

**Learning Task No. 1:** Read the poem below. Answer the guide questions in your notebook.



#### Guide Questions:

1. What are the environmental issues mentioned in the poem?
2. What can you do to solve these issues?
3. Choose one stanza from the poem. Give a three (3) sentence reactions on this. Why did you choose this stanza?

# D

**Environmental Issues** are major concerns that happen in the environment. Most of these happened because of human activities on the biophysical environment which has harmful effects to human who are living on it.

## **MAJOR CURRENT ENVIRONMENTAL ISSUES**

1. Climate Change – the global warming that has been going on for the past 50 years due to human activities
2. Pollution – the presence of harmful substances in the environment
3. Environmental Degradation – deterioration of the environment through depletion of resources
4. Resource depletion – is the consumption of resource faster than it can be replenished.
5. Renewable resources - are energy source that cannot be depleted and are able to supply a continuous source of clean energy.
6. Deforestation is the permanent removal of trees to make room for something besides forest. This can include clearing the land for agriculture or grazing, or using the timber for fuel, construction or manufacturing.

## **OTHER ENVIRONMENTAL ISSUES**

1. A flash flood is a rapid flooding of low-lying areas: washes, rivers, dry lakes and depressions. It may be caused by heavy rain associated with a severe thunderstorm, hurricane, tropical storm.
2. Soil erosion is a naturally occurring process that affects all landforms. In agriculture, soil erosion refers to the wearing away of a field's topsoil by the natural physical forces of water and or through forces associated with farming activities such as tillage.
3. Coral reef destruction is defined as the degradation (and potential mass death) of the ocean's corals. It is normally caused by illegal fishing techniques, pollution, careless tourism, other natural phenomena such as earthquakes and hurricanes, and of course, climate change—the culprit responsible for our warmer oceans.

## **Most Common Solutions to Environmental Issue**

1. Replace disposal items with reusable items
2. The use of paper should be avoided
3. Consume water and electricity
4. Support environmental friendly practices
5. Recycle the waste to conserve natural resources
6. Plant Trees (Reforestation)

**Learning Task No. 2:** Column A is a list of the different environmental problems in the world. Write down human activities that led in such environmental problem in your notebook. Choose your answer in the box below.

**Cutting down of Trees**

**Kaingin**

**Illegal Logging**

Environmental Problem	Cause/Human Activity
Deforestation	
Air Pollution	
Water Pollution	
Global Warming	
Soil Erosion	
Depletion of natural resources	

**Learning Task No. 3:** Choose one environmental problem. Illustrate human activity that cause this problem. Write two-paragraph for your proposed solution to this problem. Do this activity on a separate sheet of paper.

**Environmental Problem:**

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**Illustration of Causes/Human Activity that cause this problem:**

**Proposed solutions:**

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# E

**Learning Task No. 4:** Do the activity below. Answer the guide questions in your notebook.

## Can you undo water pollution?

### Materials:

- bucket of clean water, vegetable oil (to stand for toxic oil spills)
- some household trash tongs, and a strainer.

### Procedure:

1. Pour oil and all the trash in the bucket of water.
2. Mix well.
3. Try to remove all the dirt with a tong and strainer and scoop all the remaining dirt with your hands.



### Guide Questions:

1. What happen to all the mixed trash in the bucket of water?
2. What do you think will happen to water once it gets polluted?
3. Is polluted water easy to clean? Why?
4. What will you do to have a clean bodies of water?

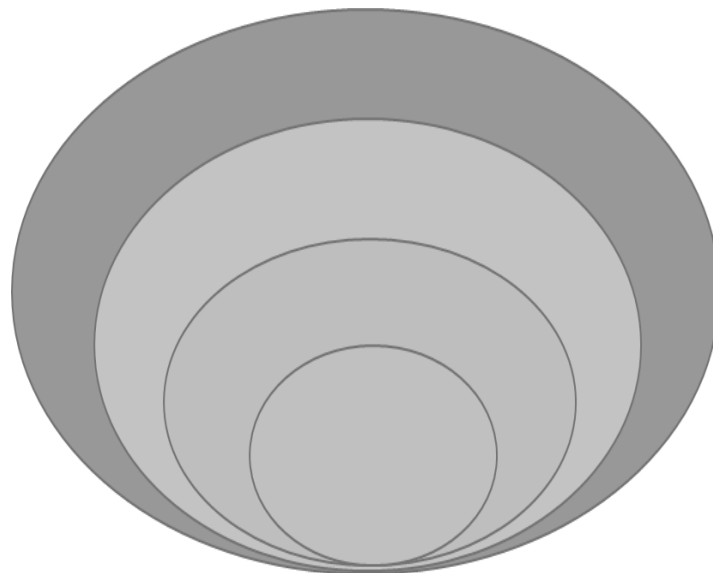
**Learning Task No. 5:** Write a reflective journal in your health notebook. Consider the situation below in stating your reflection.

**Situation: Bills for An Environmental Cause**

You receive five hundred pesos as a birthday gift from your mother. You are to buy something for yourself. What are the things you will buy that will help save the environment?

**Learning Task No. 6:** Study the given scenario. Copy the diagram on a separate sheet of paper. Answer the guide question in your paper.

**Scenario:** Observe four major environmental issues in your community. Using the diagram below, write the first major environmental issues in the outermost circle of the diagram. Write the second major issues in the second outermost circle until the least issue was placed in the innermost circle. Draw emoticons or any reactions along each circles that signifies your role to help solve these environmental issues .



**Guide Question:**

If you were given a chance to become the Department of Environment and Natural Resources (DENR) Secretary, what will be your rules and guidelines to protect and safeguard the welfare of our nature?



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**Learning Task No. 7:** Choose the letter of the best answer. Write the letter in your notebook.

1. Which activity is useful and will help save our planet?
  - a. Dumping garbage everywhere
  - b. Killing wild life animals in the forest
  - c. Planting trees in appropriate vacant areas
  - d. Turning on the lights and leaving them on after using
  
2. What is the effect of global warming in the planet?
  - a. more trees will grown in hot areas
  - b. melting of ice caps in some places in the world
  - c. growing more plants, trees, and different kinds of animals
  - d. making the planet explode that will make the Earth inhabitable
  
3. What environmental problem is the result of chemical reactions in the atmosphere that involve sulfur?
  - a. Acid Rain
  - b. Deforestation
  - c. Holes in the Ozone Layer
  - d. Smog
  
4. Which of the following practices produces the most organic water pollution?
  - a. Paper mills
  - b. Recreational boating
  - c. Intensive livestock farming
  - d. Humans bathing in the water
  
5. The activity or activities that can deplete plant life and vegetation is/are\_\_\_\_\_.
  - a. deforestation
  - b. environmental pollution
  - c. overgrazing
  - d. all of the above



6. Which is the ultimate sink of all natural and man-made pollutants?
- a. river
  - b. ocean
  - c. soil
  - d. all of the above
7. A renewable resource is a resource \_\_\_\_\_.
- a. that can be used only one time
  - b. which is replaced naturally and can be used again
  - c. that cannot be readily replaced by natural means fast enough to catch up to its usage.
  - d. which is a new resource to the earth.
8. The harmful consequences of human activity in the natural world are known as \_\_\_\_\_.
- a. ecosystem conflict
  - b. environmental topics
  - c. environmental issues
  - d. human intervention
9. The presence of industrial waste spills in groundwater is an example of \_\_\_\_\_.
- a. pollution
  - b. osmosis
  - c. carbonization
  - d. conspiracy
10. Main approach for conservation of water is \_\_\_\_\_.
- a. planting trees
  - b. constructing waste water treatment plants
  - c. a & b
  - d. none of the above

# Effects of Environmental Issues on People's Health

## I

### Lesson

In the previous lesson, you have learned and understood the nature of environmental issues. Environmental issues are the results of harmful human activities on the biophysical environment thus environmental protection is a practice of protecting the natural environment at the individual, organizational or governmental levels for the benefit of both the environment and humans.

At the end of this lesson, you are expected to **analyze the effects of environmental issues on people's health**. The economic problems and environmental issues triggered by the persistence of Covid-19 that hit the world have changed many life activities and way of life for humans and other organisms. Science researches are continually moving into higher edges to prove and disprove some theories will lead to the discovery of vaccines for coronavirus. Have you tried to look and examine what changes have taken place in the last two quarters of the year in our country? What are these observations you have noted in our environment?

Examine the picture below. This shows a woman that finds strength and peace in nature. What does nature bring to you?



*If you find strength and peace in nature, go where your heart is. - Ma. Leonora Natividad  
Photo Taken at Flat Rocks, Mt. Makiling Forest on October 5, 2019.*

The natural environment is a good habitable place to humans and other organisms on Earth. There are environmental problems like global warming, land and water pollution causing negative impacts in the natural environment. Many of the environmental problems being experienced are results of human activities. These include habitat destruction due to deforestation, production of industrial waste, overpopulation and massive urbanization, to name a few. This leads to scarcity of the resources. Competition to survive in this struggling world creates an impending problem for the planet's inhabitants. People are struggling towards good health as these changes in the environment alter the healthful activities of human.

**Learning Task No. 1:** Study the lyrics taken from the song by Asin entitled “Masdan Mo ang Kapaligiran”. Answer the guide questions in your notebook.

### **Masdan Mo Ang Kapaligiran**

Asin

Wala ka bang napapansin sa iyong mga kapaligiran?  
Kay dumi na ng hangin, pati na ang mga ilog natin.

Hindi na masama ang pag-unlad  
At malayu-layo na rin ang ating narating  
Ngunit masdan mo ang tubig sa dagat  
Dati'y kulay asul ngayo'y naging itim.

Ang mga duming ating ikinalat sa hangin  
Sa langit huwag na nating paabutin  
Upang kung tayo'y pumanaw man, sariwang hangin  
Sa langit natin matitikman.

Mayron lang akong hinihiling  
Sa aking pagpanaw sana ay tag-ulan  
Gitara ko ay aking dadalhin  
Upang sa ulap na lang tayo magkantahan.

Ang mga batang ngayon lang isinilang  
May hangin pa kayang matitikman?  
May mga puno pa kaya silang aakyatin?

Hindi na masama ang pag-unlad  
Kung hindi nakakasira ng kalikasan  
Bakit di natin pagisipan  
Ang nangyayari sa ating kapaligiran  
Darating ang panahon,  
mga ibong gala ay wala ng masisilungan.

#### **Guide Questions:**

1. What is the message of the song?
2. What are the environmental issues mentioned in the song?
3. What are the effects of these environmental issues on people's health?

# D

Our planet earth has a natural environment, known as 'Ecosystem' which includes all humans, plant life, mountains, glaciers, atmosphere, rocks, galaxy, massive oceans, and seas. It also includes natural resources such as water, electric charge, fire, magnetism, air, and climate.

Environmental issues can be seen by long term ecological effects, some of which can demolish whole environments. An environment is a unique unit and incorporates all the living and non-living components that live inside it. Plants and creatures are evident parts of the environment, but it also includes the things on which they depend on, for example, streams, lakes, and soils.

Environmental surroundings get to be divided when technological advancement splits up areas of land. Some examples of this can include streets which may slice through woods or even trails which wind through prairies. While it may not sound all terrible on the surface, there are bad results. The biggest of these results are felt by particular animal and plant groups, the vast majority of which are specific for their bio-region or need a large area in order to make sure that their genetic lines are kept intact.

## **Effects of Environmental Degradation**

1. **Impact on Human Health:** Human health might be at the receiving end as a result of the environmental degradation. Areas exposed to toxic air pollutants can cause respiratory problems like pneumonia and asthma. Millions of people are known to have died of due to indirect effects of air pollution.

2. **Loss of Biodiversity:** Biodiversity is important for maintaining balance of the ecosystem in the form of combating pollution, restoring nutrients, protecting water sources and stabilizing climate. Deforestation, global warming, overpopulation and pollution are few of the major causes for loss of biodiversity.

3. **Ozone Layer Depletion:** Ozone layer is responsible for protecting earth from harmful ultraviolet rays. The presence of chlorofluorocarbons, hydro chlorofluorocarbons in the atmosphere is causing the ozone layer to deplete. As it will deplete, it will emit harmful radiations back to the earth.

4. **Loss for Tourism Industry:** The deterioration of environment can be a huge setback for tourism industry that rely on tourists for their daily livelihood. Environmental damage in the form of loss of green cover, loss of biodiversity, huge landfills, increased air and water pollution can be a big turn off for most of the tourists.

5. **Economic Impact:** The huge cost that a country may have to borne due to environmental degradation can have big economic impact in terms of restoration of green cover, cleaning up of landfills and protection of endangered species. The economic impact can also be in terms of loss of tourism industry.

A lot of people in the community and in the world are contributing to the different environmental issues that happen everyday. These human activities bring problems in the environment like the occurrence of water, air and land pollution. Other environmental issues like the policies in regulating the natural resources and building urbanized communities are affecting our country today. There is a need to review such policies and help the communities and Filipino people to take and give their part in taking care of the environment.

The need to prevent environmental issues that has damaging consequences to human is important. These issues can cause different effects on the health of the people.

How can you help in saving and protecting our environment?

**Learning Task No. 2:** Do the activity below. Answer the guide questions in your notebook.

### **Build a Rainforest Terrarium in a Jar**

#### **Materials:**

Large Jar, tank or bottle with lid (reuse empty jars at home)	
Pebbles	Moss Organic Potting soil
Activated Carbon/Charcoal	1-3 small tropical plants

#### **Procedure:**

Layer your DIY Rainforest Terrarium:

1. Add 1 inch of pebbles to the bottom of the planter.
2. Add a single layer of activated carbon. This will filter the water and help with clarity.
3. Add a layer of moss.

Plant your rainforest:

4. Add a little bit of potting soil.
5. Plant small tropical plants. Add fresh moss to the top of the soil.
6. Decorate with a few rainforest creatures.

#### **Guide Questions:**

1. What do you call this type of environment that you built?
2. Is it useful to the environment?
3. What is the advantage of having a personal terrarium at home?
4. What are the different ways by which you will take care of the terrarium at home?
5. Are there some environmental issues when you keep yourself busy in keeping a terrarium at home?
6. What are the effects of environmental issues in your health?



**Learning Task No. 3:** Decide one environmental issue that greatly affect people`s health during this time of pandemic. Illustrate this environmental issue. Write two-paragraph reactions on its effect on human health . Do this activity on a separate sheet of paper.

**Environmental Issue:**

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**Effect on Human Health:**

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**Illustration of this environmental issue:**

**Position or reaction on the effects of environmental issue on people`s health:**

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**Learning Task No. 4:** Choose the letter of the correct answer. Write your answers in your notebook.

1. What is a biological hazard?  
A. Organic materials for good health                      C. inorganic materials in the body  
B. Organic materials that threatens health      D. any materials in the body
2. Climate change has many impacts in human health. What are these ?  
A. Changes in precipitation                                      C. Rising temperature  
B. Extreme weather events                                      D. All of the above
3. Which illness does NOT increase in frequency along with higher temperatures?  
A. Arthritis    C. Legionnaires' disease  
B. Dehydration    D. Kidney stones
4. How can more frequent intense storms affect drinking water sources?  
A. It can affect sewage, stormwater systems and pollute drinking water sources  
B. Excessive precipitation and storms can damage water treatment, wastewater, and stormwater structures.  
C. None of the above  
D. All of the above
5. Which of the following is NOT a measure to avoid the impact of water pollution in our health?
  - a. Drink fruit juices instead of drinking so much water.
  - b. Allow the community to dump garbage in rivers and nearby areas.
  - c. Encourage your government to implement environment friendly policies.
  - d. Do not throw cooking fats and oils by pouring them down the sink.

**Learning Task No. 5:** Write your reflection on the effects of environmental issues on people`s health. Use the reflection guide below. Write your answer on a separate sheet of paper.

I understand that \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

I realized that \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

# Ways to Prevent and Manage Environmental

## Lesson

In the previous lesson, you have learned the effects of environmental issues to people's health. Many of the issues we face all tie back into one central concern that is public health. Pollution, water scarcity and overpopulation all present a clear threat to public health. Nearly one out of every four deaths each year are directly caused by unhealthy environments, according to the WHO. The health and wellness of human beings is an important issue to watch. What people eat, drink and breathe in plays a significant role in their wellness. In this lesson, you are expected to **suggest ways to prevent and manage environmental health issues**.

Environmental issues include the occurrence of (1) overfishing, (2) urban sprawl, (3) acid rain, (4) deforestation, (5) water, land and air pollution, (6) waste production, (7) population growth, (8) habitat destruction of animals and plants and (8) genetic modifications to name a few. These issues resulted to many health issues accompanied by many factors where people are exposed to.

Some of the environmental health issues include water and sanitation, vector-borne diseases, chemical safety, transport, ultraviolet radiation, nutrition, occupational health, food safety and injury prevention are listed by the World Health Organization (WHO) as critical to improve environmental health.

What is your reaction to this quotation?

*"If We Heal the Earth, We Heal Ourselves"- Wangari Maathai*

There are many ways by which people cope up with environmental health issues. Some prefer do organic farming, go on travel with the family, engage in environmental organizations and some do leisure activities.

Examine the picture below. What does the picture tell you how do people are coping up with the environmental issues?



The choice of food that will upgrade health concerns of people is one way by which issues on health are addressed by some people.





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## **Problems on Pollution**

Pollution prevention is a major global concern because of its harmful effects on people's health and the environment. Because we are all inhabitants on Earth, everyone is a stakeholder, and every person has something to contribute to advance effective pollution prevention and awareness. Environmental protection is a natural extension of caring for ourselves, loving our children, and ensuring a sustainable future for generations to come

We should all, therefore, accept personal responsibility for the success of our local environmental protection programs by actively participating in making our atmosphere pollution-free. And, although we can each help combat pollution in our immediate environments, we can do more by working to change legislation and policy on a larger scale.

NASA reports that in the next ten months, the earth will get hotter by four degrees. Glaciers are melting at rapid rates. Our climate is changing drastically and it's getting worse.

## **Ways to Prevent and Manage Environmental Health Issues**

Every action or inaction of any person has an effect on the environment which be it good, neutral, or negative. By becoming aware and doing the right thing, we choose to be part of the solution. Here are some things you can do:

1. **Stop Smoking.** One butt thrown on the ground can remain for up to 25 years, leaking chemicals like arsenic, ammonia, acetone, benzene, cadmium, formaldehyde, lead, and toluene into the environment. Smoking is a dangerous activity for first and second hand smokers. This adversely affect respiratory and circulatory system.
2. **Use Eco-Friendly Transportation.** Choose to walk or ride a bicycle whenever possible. This will keep your body active and increase your stamina. A regular brisk walk is a good exercise for the heart.
3. **Dispose Waste Responsibly.** Adopt the 3 R's method of solid waste management. Reduce, reuse, recycle and start composting leaves and clippings from your yard and food scraps from your kitchen to reduce waste while improving your soil.
4. **Choose Renewable Sources of Energy.** This helps to save energy in the environment, improves energy budget and expenditure and sustain our environment.
5. **Use the power supplied abundantly and freely by wind and sun.** Hang your laundry to dry to minimize your use of gas or electricity, and open a window or put on a sweater rather than turning on the air conditioner or heater.

6. **Promote Conservation as a Consumer.** Buy local foods and goods. In this manner, the use of fuel for transporting goods can be minimized and buy products that are eco-friendly or made with biodegradable materials.

One person alone cannot save the planet's biodiversity, but each individual's effort to encourage nature's wealth must not be underestimated.

— United Nations Environment Programme (UNEP)

6. Avoid Disrupting the Ecosystem- Plant more trees. They clean the air, provide oxygen, and beautify your surroundings and say a big "NO" to pesticides.

7. Make Reducing Pollution a Community Goal

8. If you own a business, make sure you have considered the environmental impact of your business practices. If you work for someone else, take the time to assess your company's environmental impact and try to implement positive change.

10. Do not litter. Better yet, start an anti-litter campaign to educate your community.

**Learning Task No. 1:** Identify an environmental health issue. Develop simple steps that will enhance your creative thinking skills by suggesting different ways to prevent environmental health issues. Follow the simple guide below. Use the materials that are available at home and ensure your safety.

**Environmental Health Issue:**

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**Suggested Program/Activity to Solve the Problem:**

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**Steps/Procedures to prevent the problem:**

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**Learning Task No. 3:** Based on what you have read in this lesson, read each guide question carefully. Write a two-sentence reaction in each of the following question. Write your answer in your notebook.

**Guide Questions:**

1. Are there barangay ordinances that are implemented in your community that helped to prevent environmental health issues?

**Guide Questions:**

1. Are there barangay ordinances that are implemented in your community that helped to prevent environmental health issues?
2. What are these ordinances being implemented in your community.
3. Do you think there are lessons to learn from nature ?
4. What are some of your stuffs/ things that can be recycled?
5. What are your suggestion to minimize or prevent environmental health issues?



**Learning Task No. 4 :** Choose the letter of the correct answer. Write your answer in your notebook.

For numbers 1 and 2, choose from the given choices below:

- I. planting more trees
- II. deforestation
- III. use of inorganic pesticides in farming
- IV. building taller chimneys for factories

1. The way (s) by which land pollution is reduced or prevented.  
A. I only  
B. I and III only  
C. III only  
D. I, III and IV only
2. The way (s) that harm the harvest or products leading to health problems when taken in by human.  
A. I only  
B. I and III only  
C. III only  
D. I, III and IV only
3. What can you do to alleviate global warming?  
A. Choose electric appliances with high energy efficiency.  
B. Use compact fluorescent lamps.  
C. Stop using disposable cutlery.  
D. All above
4. Which statement is TRUE to help prevent environmental issues?  
A. Going Green means an active commitment to environmental stewardship.  
B. “Carbon footprint” refers to a measure of greenhouse gases.  
C. Recycling and recovering used materials to make useful products are effective means of conserving resources, reducing waste disposal, and cost cutting.  
D. A and C

5. Persistent organic pollutants (POPs) are dangerous because they are\_\_\_\_\_.
- readily available
  - considered carcinogens
  - toxic chemicals
  - organic
6. What will happen to organisms if they are exposed to unfavorable conditions?  
Use the choices given below.
- |                  |                            |
|------------------|----------------------------|
| I. will die      | III. move to another place |
| II. adapt        | IV. get sickness           |
| A. I, II and III | C. I, III and IV           |
| B. I and IV only | D. II only                 |
7. Which of the following is considered as the green revolution that brought to modern society?
- increased movement into urban areas
  - new farming techniques, crop varieties, and increased food production
  - return to traditional agriculture
  - new breeds of animals capable of the strenuous work on a farm
8. What can you do to alleviate global warming?
- Choose electric appliances with high energy efficiency.
  - Use compact fluorescent lamps.
  - Stop using disposable cutlery.
  - All of the above.
9. In which of the following ecosystems do tree roots serve as important havens for biodiversity?
- Salt marshes
  - Coral reefs
  - Mangrove forests
  - Estuaries
10. The process of mining can be very destructive. Which of the following best summarizes this destruction?
- Wildlife loss, toxic waste and run off, air pollution
  - Human death, wildlife loss, acid drainage
  - Vegetation removal, acid drainage, toxic waste and runoff
  - Toxic waste, displacement of wildlife

# Environmental Projects

## I

### Lesson

WEEKS

Congratulations! You have successfully completed the lesson that helped you to develop your critical thinking skills in suggesting ways to prevent and manage environmental issues . In this lesson, you will be taught how to **participate in implementing an environmental project such as building and maintaining school garden or conducting a war on waste campaign (depends on feasibility).**

A feasibility study is an assessment of the practicality of a proposed plan or method. In your previous tasks, there are some implemented programs and activities undertaken by your local community to help address the common environmental issues and health concerns of the people. These kind of programs are developed by making a proposal which was then submitted to proper person in charge or lead committee of the project proponents. This requires approval such that any activities can be carried out with utmost considerations on environmental issues, health concerns, budget, availability of resources and sources of fund.

Are your familiar with the programs, projects and activities being lead by school leaders in your community or in your school that involves school and community? A particular program in that involves environmental concerns is often lead by the chairman of the Youth for Education in School (YES) Organization which is adapted by public schools to sustain the good governance among school leaders and students or pupils in addition to their regular K to 12 Curriculum that focus on environmental concerns and health issues.

## D

Action Plan is a sequence of steps that must be taken , or activities that must be performed well for a strategy to succeed.

**Learning Task No. 1:** Identify an environmental problem in your community or at home. Make a simple background of this problem. Do this on a separate sheet of paper.

Environmental Problem: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Background of the Problem: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

There are many problems that may be encountered in the schools , home and in the community. As a student, you need to be aware of the government agencies that will help you to address environmental problems and deal with them. These include Department of Environment and Natural resources (DENR), Bureau of Animal Industry, Bureau of Fisheries, Laguna Lake Development Authority (LLDA), and many other government and non-government agencies.

You can seek help from authorities in participating to these environmental activities or projects to gain meaningful experiences in helping the community and the country.



**Learning Task No. 2:** Develop an action plan to suggest strategies that will solve your identified environmental problem. Use the guide below. Write your answer on a separate sheet of paper. ( *You can add more environmental problems after completing this task and do an action plan.*)

<b>Title/</b>	<b>Goals</b>	<b>Action Step</b>	<b>Benefits</b>	<b>Evaluation</b>
What is the title of your study?	What do you want to happen?	How will it happen?	What positive outcomes do you expect?	How do you know when it is complete?



**Learning Task No. 3:** Write your reflection that shows your participation in implementing an environmental project such as building and maintaining home garden or conducting a war on waste campaign. Write your answer in your notebook.

I understand that \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_.

I realized that \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_.



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