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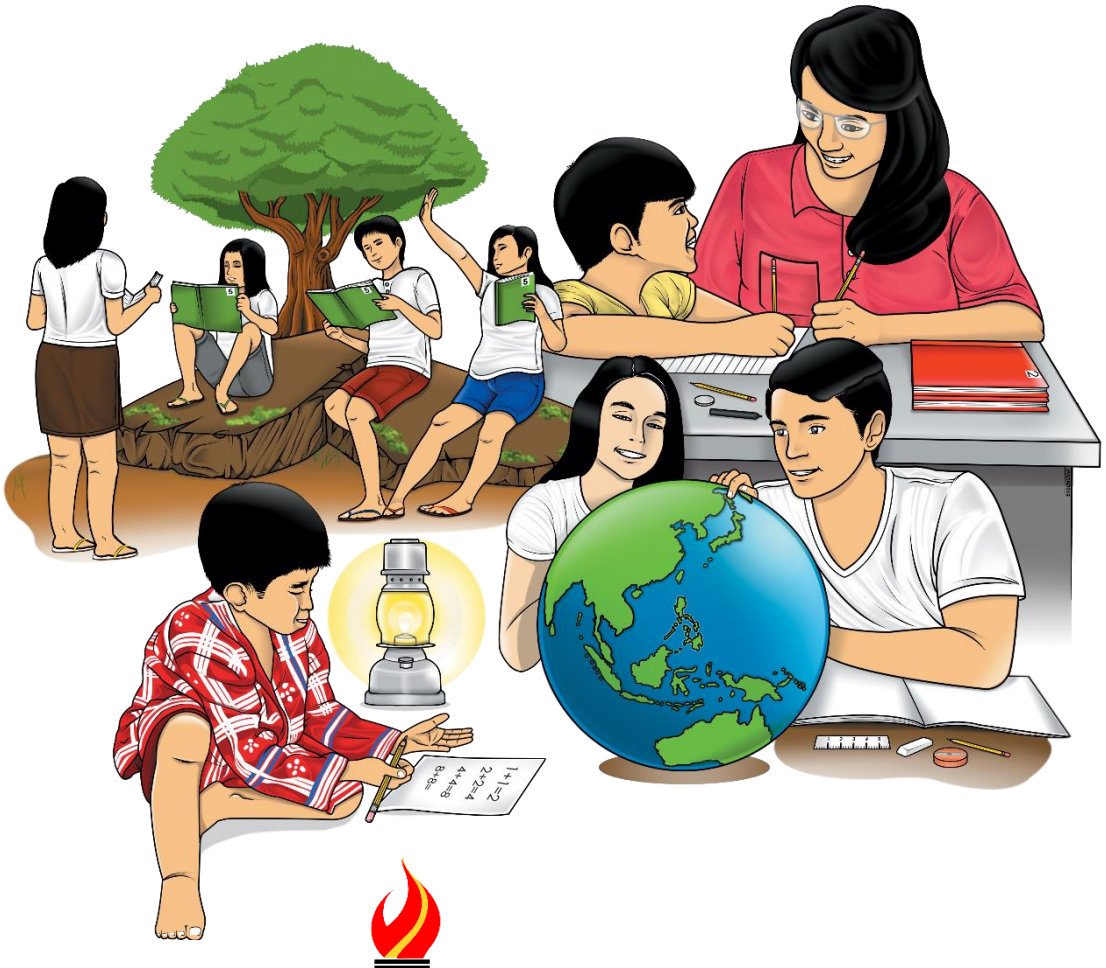
Science

Quarter 4 – Module 2:
Soil Erosion: The Process That Shape Earth's Surface



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ADM

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Science

Quarter 4 – Module 2:
Soil Erosion: The Process That Shape Earth's Surface

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

This module was designed and written with you in mind. It is here to help you to understand the concepts of soil erosion as one of the processes that shape Earth's surface. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

This module will help you investigate the extent of soil erosion in the community and its effects on living things and the environment.

The module is composed of two lessons:

- **Lesson 1** – Factors that Affect Soil Erosion
- **Lesson 2** - Effects of Erosion on Living Things and the Environment

After going through this module, you are expected to:

1. identify the factors that affect soil erosion;
2. describe how soil erosion affects living things and the environment; and
3. cite ways to control soil erosion.

What I Know

Directions: Examine the list of words in the box. Some are the causes of soil erosion, while others are the effects. Place them in the appropriate category. Write your answers in your science notebook.

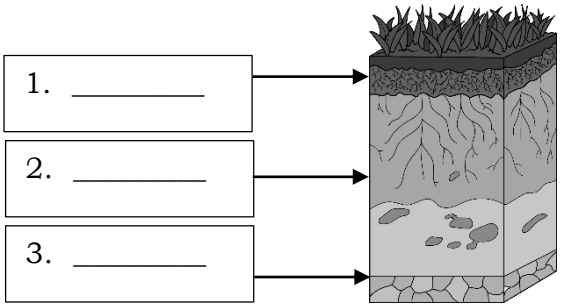
illegal logging	mining
burning of trees	uprooting of trees
overflowing of rivers	loss of topsoil
strong winds	exposed bedrocks
landslides	barren soil

Causes	**Effects**
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Lesson 1 Factors that Affect Soil Erosion

What's In

A. Directions: Below is an illustration of soil profile, the vertical structure of soil. Identify and label the three layers of the soil. Write your answers in your science notebook.



(Illustrated by Reyson Joe G. Cañedo)

B. Directions: Arrange the jumbled letters to form the correct words to describe the following statements. Write your answers in your science notebook.

1. An agent of weathering that carries light materials and soil particles by blowing them and depositing them in other places.

N	W	I	D

2. It disperses soil particles that cause topsoil loss, crop yields reductions, infrastructure damage, weed dispersal, and dam silting.

T	W	E	R	A

3. They damage the soil surface by eating vegetation and digging into wet or compacting dry soil with their hooves.

N	A	S	I	A	M	L

4. They damage the soil by doing activities such as gardening, quarrying, mining, deforestation, bad farming, and *kaingin*.

S	U	N	M	A	H

5. It is the movement of rock fragments and soil from one place to another.~~?~~

I	L	N	O	I	E	S	O	R	S	O

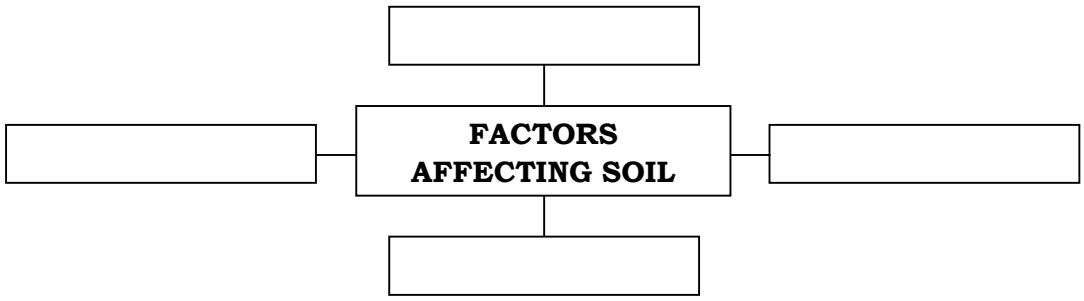
Notes to the Teacher

- Always remind the learners to be careful when doing the activities that require physical manipulation of materials. They can ask assistance from their elders.
- Activity materials may be provided by you if the learners cannot provide such, or modify the activity, if needed.

What's New

Mountains, plateaus, valleys, and plains are examples of Earth's various landforms. Some of these landforms were formed as a result of rocks breaking down and erosion. Soil erosion is a naturally occurring phenomenon that affects all landforms. Soil is a non-renewable resource that cannot be renewed after it has been eroded. Soil erosion is the irreversible change of the characteristics of the soil. In agriculture, it refers to the natural physical forces that wear away the topsoil.

Directions: Complete the concept map by filling in the physical forces or factors that affect soil erosion. Write your answers in your science notebook.



What is It

FACTORS AFFECTING SOIL EROSION

When rocks are broken down into smaller pieces, they do not remain in one place. Some rock fragments decompose and become soil. Others are moved from one place to another. **Erosion** is the transfer of rock fragments and soil from one place to another. Sediments are the materials that are transported as a result of erosion. Erosion of rock fragments contributes to soil formation and landform formation in general.

There are various agents or factors affecting soil erosion, just as there are different agents of weathering. Water, wind, animals, and humans are among them.

Water

Water carries rock and soil particles from one location to another as it flows. The rate of erosion is affected by the speed of flowing water. The erosion would be quicker and farther if the water flowed faster. The fast movement of water can cause many sediments to be carried away by the water.

Since clay, sand, and minerals are carried in the rain, the water appears muddy. It clears after a while, creating multiple layers of rock materials that represent the soil profile. Soil profile refers to the layers of the soil, namely: topsoil, subsoil, and bedrock.

Wind

When the wind blows, it carries light material and soil particles with it, transporting and depositing them somewhere else. Strong winds bring soil particles to a distant location. Wind erosion can occur anywhere, especially in areas where the soil is not sufficiently compacted. Sometimes, you may notice dust on your

cabinets, tables, and other furniture. The dust you found has been brought there by the wind. Wind has the ability to move and carry away soil particles.

Animals

Some rocks and soil particles stick to the bodies of burrowing animals as they move from one place to another, resulting in sediment transport. When animals travel around, they break down rocks with their claws and hooves, and their waste materials help in the decay of rocks that cause soil erosion.

Humans

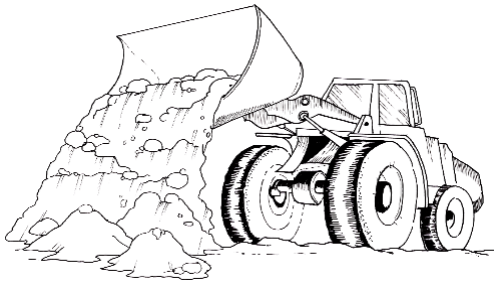
We are all aware that erosion is a natural occurrence. We cannot deny that humans play a significant role in the rate at which soil erosion occurs. Even walking contributes to soil erosion, because soil clings to our shoes, in the same way that it does to animals, and the soil is then transported from place to place.

Other human activities contribute to soil erosion, such as gardening, quarrying, mining, deforestation, bad farming, and *kaingin*.

a. Gardening causes soil erosion when digging the soil for planting. It affects the soil profile. Even walking through a garden for planting induces erosion. The soil sticks to our shoes and moves from one place to another.

(Illustrated by Ryan A. Machate)

b. Quarrying is the process of removing rocks from mountains to be used in construction. It can result in soil movement and sediment build-up downstream. Quarrying activities have the potential to damage pre-existing environments seriously. It has a negative impact on land, depletion of groundwater, loss of fertile topsoil, forest destruction, and public health.

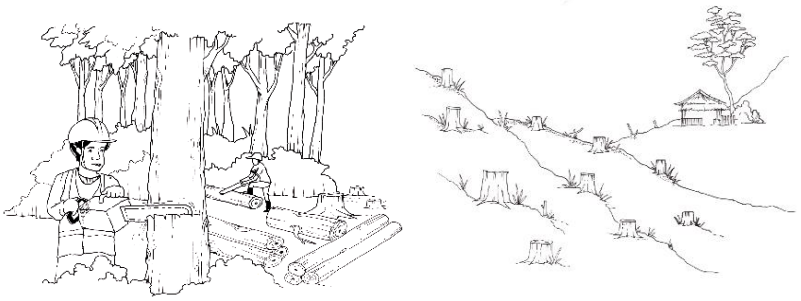


(Illustrated by Ryan A. Machate)

c. Mining is the process of removing minerals and metals from soil and rocks. Wind, water, and gravity can carry exposed soils from mining operations, tailings, and other fine materials away from mining operations, resulting in sediment loading in rivers and other bodies of water. Mining activities alter the surrounding landscape on a regular basis by exposing previously undisturbed earthen materials.

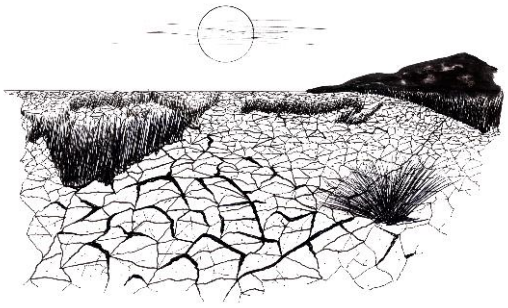
(Illustrated by Ryan A. Machate)

d. Deforestation occurs when trees are cut down without being replaced. Because there are no roots to hold or retain water from heavy rains, the soil becomes loose, making it more vulnerable to erosion.



(Illustrated by Ryan A. Machate)

e. Bad farming is referred to as excessive fertilizer and irrigation use. Farming involves plowing the field, which destroys natural vegetation and promotes the growth of new seeds or plants. If farming is not properly managed, the topsoil, which contains nutrient materials, will erode, reducing soil fertility.



(Illustrated by Ryan A. Machate)

f. ***Kaingin***, also known as slash-and-burn, is the practice of cutting down trees and burning them to clear land for cultivation, exposing the land to air and water and making the soil prone to erosion.

(Illustrated by Reyson Joe G. Cañedo)

What's More

Activity 1. Effect of Water on Soil Erosion

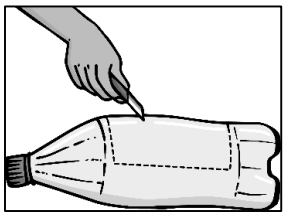
Materials Needed:

- 1 plastic soft drink bottle
- a pair of scissors or a knife
- 1 clear plastic cup/glass or container
- 2 cups of soil or more if needed
- 1 pitcher of water

What to Do:

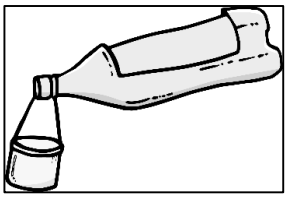
Note: *Be careful in doing the activity, especially in using sharp objects. Ask help from an elder.*

1. Use a pair of scissors or a knife to cut a large rectangle out of the side of the plastic soft drink bottle.



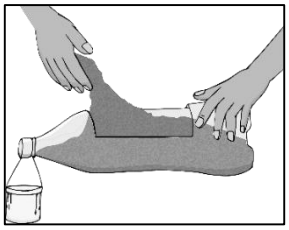
Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

2. Just below the neck of the bottle, place or hang a clear plastic cup or glass. Ensure that the plastic cup or glass is not too short – it should be capable of holding the water that will pour out from the bottle.



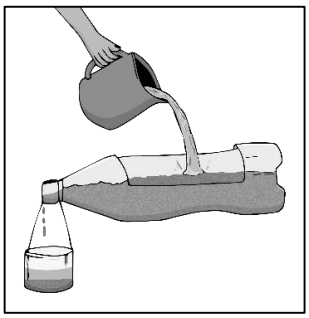
Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

3. Fill the plastic bottle with the soil up to its neck.



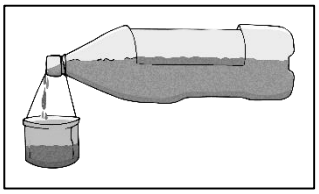
Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

4. Slowly pour water from a pitcher into the rectangular opening on the side of the bottle. Pour water on the entire surface of the soil. Observe how the water passes through the soil and how it flows out into the plastic cup or glass placed just below the small opening of the bottle.



Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

5. Observe what happens to the soil as water flows out of the small opening.



Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

Guide Questions 1

Directions: Based on the activity, answer the following questions. Write your answers in your science notebook.

1. Were you able to do the activity correctly? How?
2. What have you observed in the activity?
3. What is your conclusion on the effect of water on soil erosion?

Activity 2. Effect of Wind on Soil Erosion

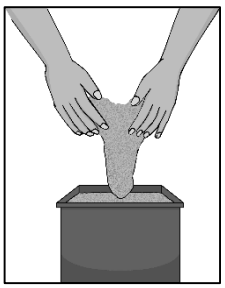
Materials Needed:

- 1 small/medium shallow box or container
- 2 cups of dry sand/soil (or more if necessary)
- 1 electric fan or hand fan

What to Do:

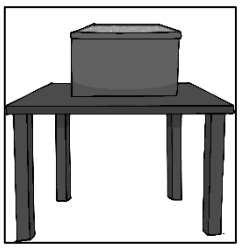
Note: *Be careful in doing the activity. Seek the assistance of an elder.*

1. Fill a shallow box or any container with dry sand or soil. Make sure to fill the box or container all the way to the brim or the topmost edge of the container.



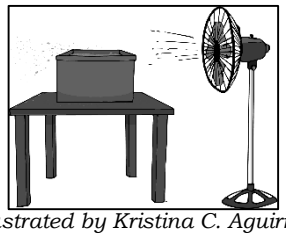
Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

2. Place the container containing the dry sand or soil on top of a table or chair. Place an electric fan in front of the set-up --- the container filled dry sand or soil.



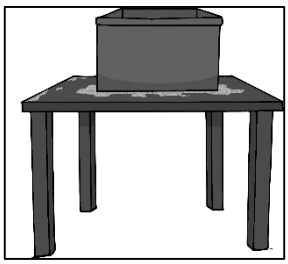
Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

3. Turn on the electric fan up to the highest fan speed possible as it faces the setup. If you do not have an electric fan, you may use an ordinary hand fan.



Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

4. Observe what happened to the dry sand/soil.



Illustrated by Kristina C. Aguirre and Jose Marie E. Baculi

Guide Questions 2

Directions: Based on the activity, answer the following questions. Write your answers in your science notebook.

1. Were you able to do the activity correctly? How?
2. What have you observed in the activity?
3. What is your conclusion on the effect of wind on soil erosion?

Activity 3. Effect of Humans and Animals on Soil Erosion

Directions: Study the illustration below and answer the following questions. Write your answers in your science notebook.

(Illustrated by Reyson Joe G. Cañedo)

Guide Questions 3

1. What can you observe in the illustration?
2. Will the humans and animals in the illustration affect soil erosion? How?

Lesson 2 Effects of Erosion on Living Things and the Environment

What's In

Directions: Write **AGREE** if the statement is correct and **DISAGREE** if the statement is incorrect. Write your answers in your science notebook.

_____1. Bad farming is one of the factors of soil erosion wherein farmers use excessive fertilizers and irrigation, which damage the land.

_____2. Many vehicles passing through non-cemented roads can not cause soil erosion.

_____3. Cutting of trees causes soil to erode due to the lack of roots that hold the soil together.

_____4. Kaingin system is an agricultural practice wherein farmers clear the land by burning trees thus, exposing the soil to rain and wind.

_____5. Animals expose the soil by consuming the grass in a place, making it possible for the soil to be easily be carried by water and wind.

What's New

Every natural process on Earth, such as soil erosion, has an impact or effect on both living and nonliving things. Soil erosion not only shapes Earth's landforms but also has an impacts on the ecosystem, particularly when it occurs suddenly or abruptly.

Gardening, quarrying, mining, deforestation, bad farming, and *kaingin* are all human activities that intensify soil erosion in the environment.

Directions: Give at least three (3) effects of soil erosion on living things and the environment. Write your answers in your science notebook.

Living Things	Environment
1.	1.
2.	2.
3.	3.

What is It

EFFECTS OF SOIL EROSION

Erosion of land has been occurring for millions of years and will continue as long as there is soil and there are people, animals, wind, and water to move it. Erosion has a significant impact on plants, animals, and humans.

Landslides can occur as a result of erosion. Can you tell how dangerous landslides can be? It has the potential to kill people and harm the environment and properties. Erosion has the potential to destroy roads and bridges. It makes it impossible to pass through or travel on roads. Travel becomes difficult and challenging. Repair of roads, on the other hand, will be expensive for the government.

Erosion has an impact on the land. It has the ability to alter the shape and size of land. The effects of soil erosion on landforms are not visible in a short period of time. Some changes may take years to become noticeable. When soil is exposed as a result of deforestation or other similar activities, the shape of the landform is more likely to change.

The effect of soil erosion on landforms is also coupled with weathering and deposition. Tiny particles of rocks or the sediments formed by weathering are carried away from one place to another. It is caused by some factors of erosion such as wind and water. As the wind blows and water flows across land, they break down rocks and carry these sediments to new locations, where they are deposited. This interaction changes the land over time resulting in valleys, mountains, and hills.

Soil erosion is also a result of extensive agricultural activities. Topsoil is lost as a result of soil erosion, and rills and gullies can form. These rills and gullies have negative impact on agricultural areas because they deplete soil fertility and erode a considerable amount of soil. The majority of the nutrients of plants are from the topsoil. The organic materials produced by dead organisms are found in the topsoil.

This topsoil, however, is usually carried away by wind and water. The nutrients for plants will be carried away once the topsoil is gone.

Soil erosion reduces the ability of soil to absorb water. As a result, the soil becomes dry, coarse, and eventually unsuitable for vegetation. Sediments washed away by water can also clog irrigation systems, further reducing the plant's water supply. Plants would produce less food due to erosion, which would have an impact on both animals and humans because plants are their primary source of food and nutrients. Aside from the need for food, individuals who depend on soil cultivation for a living, such as farming, will face difficulties if they do not have rich soil.

The presence of mine tailings is yet another negative effect of erosion. Mine tailings are the mineral wastes or byproducts of the mining process. Erosion caused by water can wash mine tailings into nearby bodies of water, polluting them. Polluted seas and rivers can harm aquatic plants and animals, as well as the potable water supply of animals and humans.

WAYS TO CONTROL SOIL EROSION

Erosion is the washing away of soil. It is harmful to humans, plants, animals, and the environment in a variety of ways.

Here are some methods for preventing soil erosion.

Building dikes of stones or logs - may be used to slow down water and prevent water from flowing out. The dikes prevent soil from being washed away by rain.

(Illustrated by Reyson Joe G. Cañedo)

Contour Plowing – is a farming technique where the soil is plowed following the contour or shape of the land. It helps slow down soil erosion. It is one of the effective ways to minimize water runoff.

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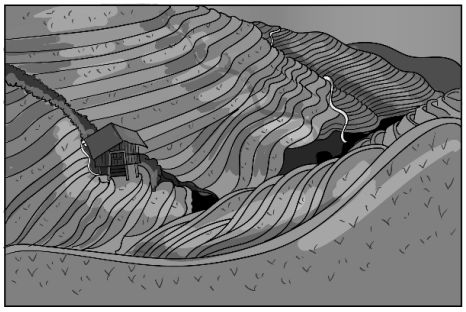
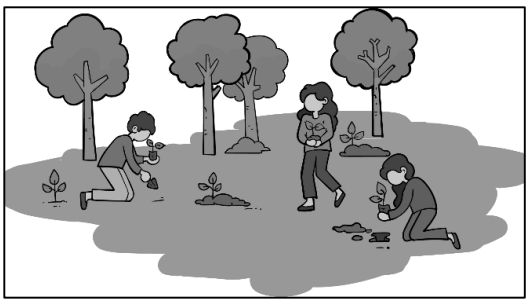


Illustrated by Reyson Joe G. Cañedo)

Crop Rotation – is a method of planting a series of different crops in the same area in sequential seasons. It maintains soil fertility and controls insects and pests.

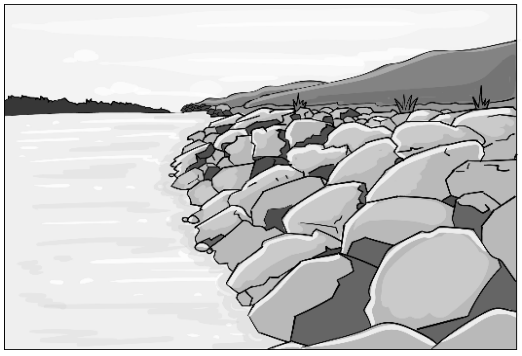
(*Illustrated by Reyson Joe G. Cañedo)*

Reforestation - Plants and trees help in the control of soil erosion. When rainwater falls on plants, it cannot wash away much soil. Plants roots hold the soil in place. Soil erosion can be prevented by reforestation.



(Illustrated by Reyson Joe G. Cañedo)

Riprapping - is building ripraps or chunks of stones or rocks arranged on the edge of the slope. This arrangement of stones serves as a foundation and a ridge to control soil erosion.

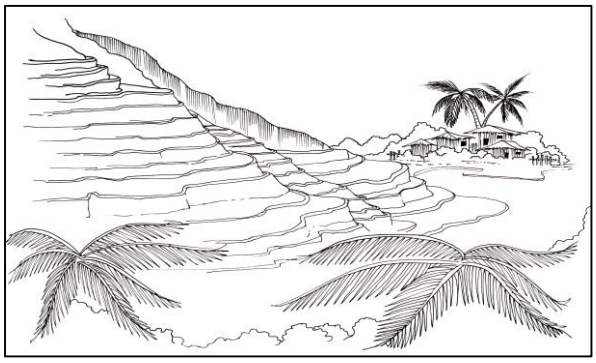


(Illustrated by Reyson Joe G. Cañedo)

Strip Cropping -is another way of conserving soil. Here, the plants are arranged in strips of alternate bands of row crops and cover crops. The cover crops hold the soil and reduce water runoff. An example is planting crops and grass alternately. Grasses prevent the soil from going downhill.

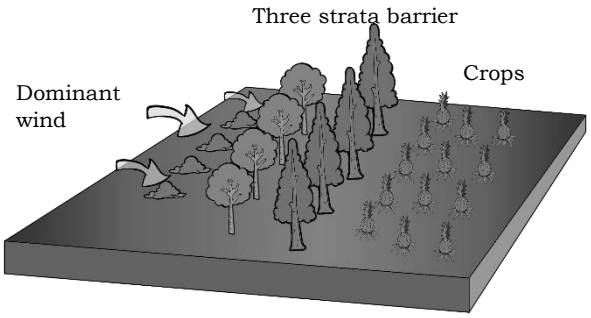
(Illustrated by Reyson Joe G. Cañedo)

Terracing - is a method that prevents soil erosion. Terraces are flat areas built on the mountainsides. Since it is flat, it prevents the soil from going down easily. These terraces are then planted with rice and other crops. The *Banaue Rice Terraces* is a famous example of the method of terracing.



(Illustrated by Ryan A. Machate)

Windbreak - Planting rows of trees or bushes is another way of preventing soil erosion. These plants act like fences or walls. They block the force of the wind. The soil will not be easily carried away by the wind.



(Illustrated by Reyson Joe G. Cañedo)

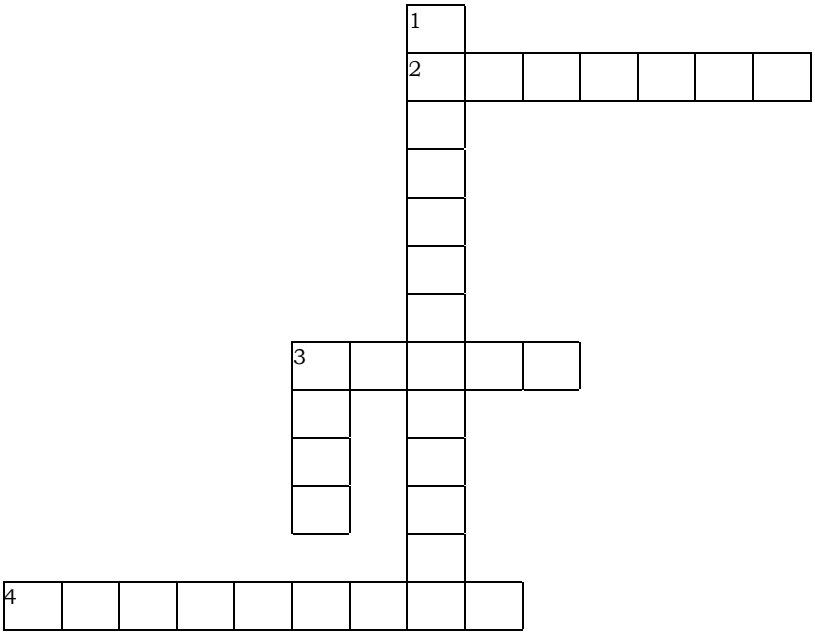
What's More

Directions: Answer the following questions. Write your answers in your science notebook.

1. How does soil erosion cause food shortage among the people in the community?
2. How does soil erosion cause flooding in the community?
3. How does soil erosion affect the fisheries and dam reservoirs of a community?
4. How does soil erosion affect one's life?
5. What are way/s in controlling soil erosion applicable in your community?

What I Have Learned

A. Directions: Complete the crossword puzzle below by answering the following questions. Write your answers in your science notebook.



Down	Across
1. What is the term for the process of removing trees without replacing them, resulting in soil erosion? 3. What factor of soil erosion carries light material and soil particles and deposits them elsewhere?	2. What do you call the occurrence in which rock fragments and soil move from one place to another? 3. What factor of soil erosion carries rock and soil particles from one location to another as it flows? 4. What is removing rocks from mountains to be used in construction, which contributes significantly to soil erosion?

B. Directions: Fill in the blanks with vocabulary words from the discussion on the Effects of Soil Erosion. Use the words in the word box. Write your answers in your science notebook.

wind	soil erosion	landslide
humans	animals	landform

Erosion has a significant impact on plants, animals, and humans. Erosion can cause_1._____. It has the potential to harm the environment and destroy roads and bridges.

The effect of soil erosion on 2._____ is also coupled with weathering and deposition. Tiny particles of rocks or the sediments formed from the process of weathering are carried away from one place to another by agents of erosion such as wind and water. As the wind blows and water flows anywhere on land, they break down rocks and carry these sediments to other places and deposit them elsewhere. Because of soil erosion, the topsoil is lost, and rills and gullies may be created.

3._____ causes the soil to lose its ability to absorb water. Plants would produce less food as a result of erosion. This can have an impact on both 4._____ and 5._____ because plants are their primary source of food and nutrients. The presence of mine tailings is yet another negative effect of erosion.

What I Can Do

A. Directions: Read and understand the situation below. Answer the question that follows. Write your answers in your science notebook.

The manager of a quarrying firm visited your barangay and expressed his intention to conduct quarrying business in your area. He promised to make donations to the people of your barangay if he is permitted to run the business. Will you go for it as a member of the community? Why?

B. Directions: Classify the identified ways of controlling soil erosion in terms of where they should be used. Write your answers in your science notebook.

Building dikes of stones or logs	Riprapping
Contour Plowing	Strip Cropping
Crop Rotation	Terracing
Reforestation	Wind Break

Flat Lands	Slope Lands

Assessment

A. Directions: Read and understand the sentences well. Choose the letter of the correct answer to each of the questions. Write the answers in your science notebook.

1. What factor of soil erosion is responsible for the transfer of sand from one place to another?
   a. wind
   b. water
   c. animals
   d. humans

2. Which of the following shows that animals cause soil erosion?
   a. Construction workers are building a housing project.
   b. A hen is digging the soil.
   c. The root of plants is growing.
   d. Sandstorm

3. All of these are causes of soil erosion except one.
   a. water
   b. humans
   c. sun
   d. wind

4. What human activity contributes to soil erosion that involves removing minerals and metals from soil and rocks?
   a. mining
   b. quarrying
   c. deforestation
   d. kaingin

5. What do you call the process of cutting down trees and burning them to clear land for cultivation, exposing the land to air and water, and making the soil prone to erosion?
    a. deforestation
    b. gardening
    c. kaingin
    d. bad farming

6. How can trees prevent soil erosion?
    a. The roots hold the soil firmly together.
    b. The trees block the way of running water.
    c. The roots absorb the water at once.
    d. The roots secrete acid, attacking the rocks.

7. The following are some of the processes of preventing soil erosion, except one.
    a. Crop rotation
    b. Riprapping
    c. Strip Cropping
    d. Gardening

8. In a slope land, which of the following can be used to prevent soil erosion?
    a. Building dikes of stones or logs
    b. Crop Rotation
    c. Terracing
    d. Wind Break

9. Which of the following can be used to prevent soil erosion in flatlands?
    a. Contour Plowing
    b. Riprapping
    c. Wind Break
    d. Strip Cropping

10. What is the process of using chunks of stones or rocks arranged on the edge of the slope that serves as the foundation and a ridge to control soil erosion?
    a. Riprapping
    b. Building Dikes
    c. Terracing
    d. Strip Cropping

Additional Activities

Directions: Read and understand the situations below. Answer the questions that follow. Write your answers in your science notebook.

1. It is your responsibility to sweep your back yard. As you sweep, loose soil particles are carried away. Much topsoil is lost in this manner. Which would be the most effective way of solving the problem?
2. Why would you join a “Plant A Tree” campaign in the community?

Answer Key

What I Know

Causes	Effects
1. illegal logging	1. landslides
2. burning of trees	2. barren soil
3. strong winds	3. exposed bedrocks
4. mining	4. loss of topsoil
5. uprooting of trees	5. overflowing of rivers

What's In

B.

1. WIND
2. WATER
3. ANIMALS
4. HUMANS
5. SOIL EROSION

Lesson 1

What's In

A.

What's New

What's More
Activity 3
Guide Questions 3 *(Possible Answers)*

1. What can you observe in the illustration?
   - ✓ The dog is playing, the chickens are eating, and the farmer and the carabao are walking together. The ladies are doing their chores such as sweeping and feeding the chickens.
   - ✓ Both the humans and animals are busy doing their own activities.
2. Will the humans and animals in the illustration have an impact on soil erosion? How?
   - ✓ Yes. Since the animals and humans shown in the illustration are engaged in activities that have direct effect on the soil that may result in soil erosion. The soil particles cling to the paws and feet of animals and humans, and are then carried from one place to another.

What's More
Activity 2
Guide Questions 2 *(Possible Answers)*

1. Were you able to do the activity correctly? How?
   - ✓ Yes. I followed the instructions given in the activity.
   - ✓ No. I did not follow the instructions given in the activity.
2. What have you observed in the activity?
   - ✓ I have observed that when I turned on the electric fan, the dry sand/soil particles were blown away, were scattered, and landed in some places.
   - ✓ I have not observed anything.
3. What is your conclusion on the effect of wind on soil erosion?
   - ✓ Wind greatly contributes to soil erosion. Because of the wind, light materials and soil particles are carried away and are deposited in other places.
   - ✓ Wind does not contribute to soil erosion.

What's More
Activity 1
Guide Questions 1 *(Possible Answers)*

1. Were you able to do the activity correctly? How?
   - ✓ Yes. I followed the instructions given in the activity.
   - ✓ No. I did not follow the instructions given in the activity.
2. What have you observed in the activity?
   - ✓ I have observed that as I poured water into the bottle, it turned muddy when it mixed with the soil. The soil was carried away as the water flowed out into the plastic cup or glass. The water also decreased the amount of soil in the bottle.
   - ✓ I have not observed anything.
3. What is your conclusion on the effect of water on soil erosion?
   - ✓ Water greatly contributes to soil erosion. Because of the water that passes through landforms due to rainwater, it carries rock and soil particles from one location to another.
   - ✓ Water does not contribute to soil erosion.

What's More

(Possible Answers)

1. Soil erosion makes it difficult to grow nutritious food. Soil erosion can reduce crop yields by up to 50% by reducing the nutrients available to plants as well as space for them to grow roots. Furthermore, crops that do grow are of lower quality: are smaller, and less nutritious.
2. Deforestation causes soil erosion, which can lead to flooding. Without the ability of the soil to absorb water, downstream flooding can occur, causing off-site issues.
3. Because of human activities such as mining and quarrying, soil erosion can kill fish and other life forms in the rivers or seas. Dam erosion could also result in flooding, which could lead to dam failure.
4. Soil erosion has consequences that go beyond the loss of fertile land. It has increased pollution and sedimentation in streams and rivers, clogging these waterways and causing fish and other species to die. It may also cause health problems in all living things.
5. Building dikes of stones or logs, Contour Plowing, Crop Rotation, Reforestation, Rippapping, Strip Cropping, Terracing, and Wind Break.

Lesson 2

What's New

Living Things	Environment
1. Hunger	1. Pollution
2. Low Income	2. Changes in landforms
3. Death	3. landslide

Lesson 2

What's In

Activity 3

1. AGREE
2. DISAGREE
3. AGREE
4. AGREE
5. AGREE

Additional Activities

(Possible Answer)

1. The best way to solve this problem is to only sweep the litter/trash and make sure to leave the loose soil on the ground.

2. I will join the "Plant a Tree"campaign to beautify the community and conserve soil. In that way, I can help the environment and our community to avoid soil erosion.

Assessment

1. a
2. b
3. c
4. a
5. c
6. a
7. d
8. c
9. c
10. a

What I Can Do

B.

Flat Lands	Slope Lands
Building dikes of stones or logs Crop Rotation Reforestation Wind Break	Contour Plowing Riprapping Strip Cropping Terracing

What I Have Learned

A. *Answer in number 4 & 5 may interchange.*

1. landslides
2. landforms
3. soil erosion
4. animals
5. humans

What I Can Do

A.

✓ No. Because quarrying has a negative impact on the environment and may affect our community and our

What I Have Learned

A.

			1d					
			2e	r	o	s	i	o	n
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4q	u	a	r	r	y	i	n	g

References

"BEAM 4 Unit 7 DLP 51: Effect of Erosion on The Condition of Soil and Land Shape". 2021. Deped LR Portal. Accessed April 12, 2021. https://lrmds.deped.gov.ph/detail/6762.

"BEAM 4 Unit 7 DLP 52: Effects of Soil Erosion". 2021. Deped LR Portal. Accessed April 12, 2021. https://lrmds.deped.gov.ph/detail/6768.

"Breaking of Rocks". 2021. Deped LR Portal. Accessed April 14, 2021. https://lrmds.deped.gov.ph/detail/1459.

"Causes of Soil Erosion". 2021. Deped LR Portal. Accessed April 15, 2021. https://lrmds.deped.gov.ph/detail/1627.

"Prevention of Soil Erosion". 2021. Deped LR Portal. Accessed April 16, 2021. https://lrmds.deped.gov.ph/detail/1629.

"Weathering and Soil Erosion: Activity Sheets in Science 5". 2021. Deped LR Portal. Accessed April 16, 2021. https://lrmds.deped.gov.ph/detail/18887

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