

Lesson 18 : Protecting and Conserving Estuaries and Intertidal Zones

Duration: 5 Days

I. Objectives:

- a. Identify ways on how to protect and conserve estuaries and intertidal environment
- b. Explain the need to protect and conserve estuaries and intertidal environment
- c. Show awareness about the importance of protecting and conserving estuaries and intertidal environment

II. A. Materials:

Pictures of LAKES, BAYS, SHORELINE (Pasig River, Laguna Lake, Manila bay and Beaches)

Pictures of different animals live in the ocean

Video Clips about protecting and conserving estuaries and intertidal

B. References:

Curriculum Guide Science 5 page 32

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Video Clips : Ecosystem Protecting and conserving Estuaries and Intertidal zones

http://www.ehow.com/how_5480174_protect-ecosystem.html

<http://www.nature.com/scitable/knowledge/library/restoration-of-estuaries-82965822>

C. Process Skills:

Explaining, Observing, Inferring, Identifying

D. Values Integration:

Appreciate the importance of having a clean and healthy ecosystem.

III. Learning Tasks:

a. Engagement: Day 1

1. Review:

Identify what is being described then choose the correct answer inside the box. Write your answer in your notebook.

Plankton	Benthos	Nekton
Estuaries	Intertidal	River
Ocean		

- _____ 1. It's a place where fresh river water mixes with salty ocean water.
- _____ 2. An organism that drift freely in the water.
- _____ 3. The shallowest part of the ocean ecosystem.
- _____ 4. It is known as the running – water ecosystem.
- _____ 5. These organisms known as the scavengers or decomposers.

2. Presentation:

- 1. The teacher will give task card to the pupils and ask the pupils to tell their observation about it. (Pictures of swamps, shoreline, bays, River, Marsh)

b. Exploration:

- 1. Let the pupils to watch a documentary about estuaries and Intertidal environment.
- 2. Ask them to write down the important facts about estuaries and intertidal environment.
- 3. Direct the pupils to answer the given guide question in Lesson 18. Activity 1.1

DAY 2

- 1. Divide the class into 5 groups and give instruction on how to accomplish the different activity.
- 2. Recall the standards in doing the activities
- 3. Give the activity sheets in each group and let the pupils check the materials inside.
- 4. Ask the pupils to perform Lesson 18: LM Activity 2 “Protecting and Conserving the Estuaries and Intertidal Ecosystem”
- 5. In this Activity. The pupils need to list down ways on how to protect and conserve the estuaries and intertidal environment.
- 6. While doing this Activity the teacher must monitor the pupils behavior towards the activity.
- 7. Allot enough time for the finalization of group output.

c. Explanation: Day 3

- 1. Before discussing the answer to the different questions, let the leader of each group to present their output.
- 2. Discuss the answer to the different guide questions and give additional input whenever necessary.

(Activity 2)

1. Why we need to protect the estuaries and intertidal environment?
2. What are the importance of these environment?
3. List down 5 ways on how to protect the estuaries as well as the intertidal environment
4. How can we conserve our estuaries and intertidal environment?
5. Ask grade 5 pupils how can you help in the protection and conservation of the environment?

3. Guide the pupils in the formulation of the lesson concepts

Background Information for Teachers:

- Estuaries rank among the most productive ecosystems on earth, but they are also subject to considerable ecological degradation associated with the loss and alteration of habitats and impairment of water quality due to multiple anthropogenic and natural drivers of change
- Escalating population growth, urban and industrial development, modification of coastal watersheds and estuarine basins, pollution inputs, and overharvest of recreational and commercial species can threaten the system structure and function and the sustainability of the system resources.
- Putting coconut fiber mat, planting marsh grass, and Mussels bed are some activities that protect our estuaries and intertidal environment.

d. Elaboration / Extension: (Day 4)

1. Using ½ illustration board ask the pupils to create a poster on how to conserve and protect the LAGUNA LAKE
2. Ask them to present their work and make a brief explanation on it.

Day (5)

e. Evaluation:

I. Answer the following questions:

- a. Why is it important to protect our ecosystem?
- b. How can you help in protecting our water ecosystem?

II. **Modified True or False:** Write True if the statement is correct and if is false, change the underlined words to make the statement correct.

1. Excessive used of household chemicals that are improperly dispose can harm our water supply.
2. Planting more trees can prevent the unevenness in the estuarine environment.
3. Dynamite fishing is helpful in estuarine environment
4. Dredging sand in the shoreline provides food stability in the water ecosystem.
5. Planting grass along the marsh will prevent waves action and erosion
6. Sewage is one of the contributors of water pollution.
7. Estuaries serves as recreational areas.
8. Estuaries are replaceable resources.

IV. Assignment:

Make a research about the rehabilitation program of the government to save Pasig river and give your feedback or reaction about it.

Lesson 19 : Protecting and Conserving Estuaries and Intertidal Zones

I. Objectives:

1. Participate in community efforts in protecting and conserving estuaries and intertidal environment
2. Apply ways in protecting and conserving the water ecosystem

II. A. Materials:

Activity Sheet

Board game

B. References:

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<http://www.tvdsb.ca/webpages/miltonr1/news.cfm?subpage=116958>

Resource Speaker from DENR/Barangay

C. Process Skills:

Describing, participating, communicating, inferring

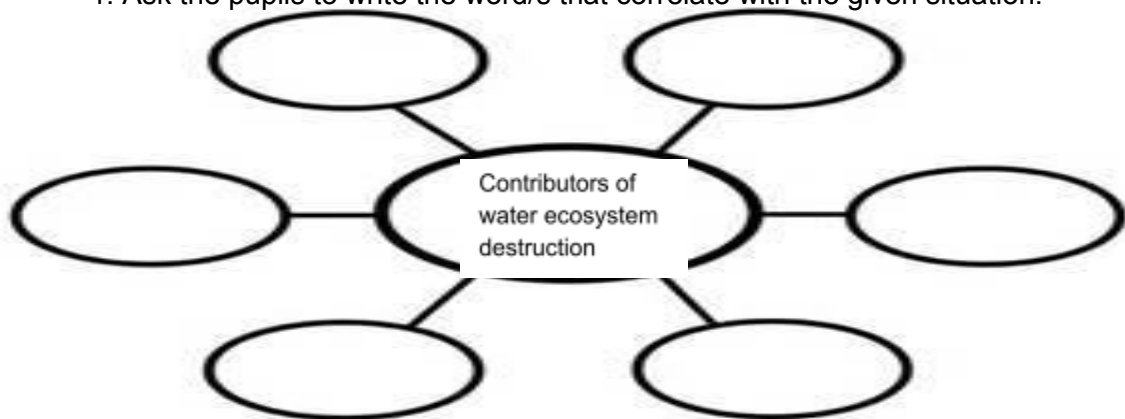
D. Values Integration:

Participate actively in the community program in protecting and conserving our water ecosystem.

III. Learning Tasks:

A. Engagement: (Brain storming) Day 1

1. Ask the pupils to write the word/s that correlate with the given situation.



2. Ask the pupils to answer the following questions.

1. How can we make society more aware of the environmental problems associated with water ecosystem?
2. What will be the future impact on the environment if we continue to destruct our water ecosystem like we do today?

B. Exploration: (Day 2) The Human Board game

1. Show the class the human board game

2. Group the pupils into 4 and ask the group to talk about their strategies.
3. Remind the pupils about the standard setting in performing activities.
4. Let the pupils perform the activity simultaneously. Lesson 19 : LM activity 2
“The Human Board Game”
5. Ask them to answer the guide questions in the Lesson 19 : LM Activity 2. A.

c. Explanation: Day 3

1. The teacher will should give emphasis on the importance of participating in civic or community activities in protecting the conserving our estuaries and the rest of the ecosystem.
3. Let the pupils do the activity 3 of Lesson 19: PRESERVATION OR CONSERVATION activity.

d. Elaboration/ Extention

- Invite a resource person from the barangay/ DENR to talk more about their program on how to protect and conserve our estuaries ecosystem.
- Challenge the pupils to join a community based organization in preserving and conserving our nearby estuaries.

e. Evaluation:

A. Enumeration:

What are the different ways in protecting and conserving our estuaries ecosystem?

- a.
- b.
- c.
- d.
- e.

B. Explain:

1. As grade 4 pupils, how can you contribute in the preservation and conservation of our estuaries?

2. What is the significant of joining civic organization in preserving and conserving our estuaries?

IV. Assignment: Make a slogan about the importance of joining civic organization.

