INTRODUCTION TO MARINE ENVIRONMENT

SUMMARY

Students will be introduced to the goals of the Marine Environment Protectors Program by using a pre-assessment survey. Then, students will dive into coastal habitats and learn about their local marine ecosystems by exploring local watersheds and waterways. To protect the marine environment, we must first understand how it is connected.

Next Generation Science Standard

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

BACKGROUND INFORMATION

The ocean, which covers 70% of the Earth's surface, is the defining feature of the planet. To explore the marine environment, scientists study the physical, chemical, geological, and biological components that together contribute to the natural systems and processes we observe. It is the overlap of these components that ultimately compose distinctive marine environments.

Wherever you go in Florida, you are never far away from water. Coastal wetlands, coral reefs, and mangrove forests are three unique marine ecosystems that support a variety of species with unique adaptations.

OBJECTIVES

Students will:

- Be introduced to the marine environment in Florida.
- Discuss the unique ecosystems and features that make Florida an important region for biodiversity.

LESSON PLAN: INTRODUCTION TO MARINE ENVIRONMENT

TIME
75 - 90 minutes

MATERIALS

- Coastal Habitats slides
- Map or globe
- Notebook & writing utensil, *or* device
- *Optional: mangrove roots, coral, or wetland plant specimen*

ENGAGE

Begin by showing students visuals of coastal wetlands, coral reefs, and mangrove forests. Ask students to make observations and in a pair-share format, ask students to discuss what they notice or can infer about each ecosystem.

Next, locate wetlands, coral reefs, and mangrove forests on a map or the globe. Ask students to describe the climate or weather patterns in these regions.

EXPLORE

Divide students into three groups: wetlands, coral reef, and mangrove forest. Provide each group with multiple visuals of their ecosystem.

Ask students to list:

- Why do you think the ecosystem is important?
- What physical features do you observe?
- What type of plants or animals would live here?
- What adaptations might these species need to survive?
- How have you used this ecosystem?

EXPLAIN

Have each coastal habitat group share its findings. Emphasize the importance of these ecosystems as regions of biodiversity, protection from erosion, water filtration, and supporting the local economy through tourism and recreation.

EXTEND

Have students work in small groups, or individually, to create a poster, cartoon, slide, or other creative projects that demonstrates the ecosystem's importance and characteristics, especially adaptations.

Optional: If you have specimens, students can make observations and determine how these specimens have to adapt to the ecosystem.

EVALUATE

Conclude the lesson by reviewing the importance of these ecosystems, biotic and abiotic interactions, and how they are similar across the different ecosystems. Assess student understanding with a formative assessment, such as an exit ticket.