

**Performance Task
Grade 5
Ecofish**

Teacher Section

Activity: Ecofish

Grade Level: 5

Objective(s)/Indicator(s):

1. The student will interpret data to determine the appropriate environment for a fish.
2. The student will use scientific information in a decision making problem.

Student Outcomes:

1. The student will be able to compare/contrast habitats and adaptations of plants and animals in salt water environments.
2. The student will demonstrate an awareness that organisms and groups of organisms that are best suited to an environment survive.

Dimensions of Learning: 2, 3, 4

Overview:

1. A Brief Description of Task:

Students will work independently and in small or large groups to decide an appropriate environment for a fish. The students will design a poster to raise public awareness about erosion control.

2. Approximate Time Required: 120 minutes (2-3 class periods)

3. Materials needed:

poster board crayons
markers data collection sheets

Teacher Directions/Procedures

Prior to the assessment, students should complete Estuary Explorer, Stream Survey and Soil Control Activities. Data sheets from the activities will be needed for Assessment Task I.

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Pre-Assessment Activity

In a large group, compile the data recorded from the Estuary Explorer and Stream Survey Activities on class chart. If this data is unavailable, use the sample data below.

Stream Survey	
Temperature	40-60 ^E F
pH	5-7
Salinity	0
Depth	0-2 feet
Clarity	usually clear
Sediment Color	brown, red
Sediment Type	sandy

River Estuary	
Temperature	50-80 ^E F
pH	8-9
Salinity	3-12
Depth	1-15 feet
Clarity	50-100 cm
Sediment Color	black
Sediment Type	silt

If necessary, a range for the conditions may be used.

Example: Water Temperature: 70^E- 75^E

Task I

Part A

1. Have each student copy data from class chart onto individual graphic organizer.
2. Reading fish fact sheet and completing graphic organizer is to be done independently. Encourage students to underline important fish facts as they read.

Part B

Remind students to proofread their work.

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**Task II
Part A**

After reading Bulletin from the Department of Environmental Protection, have students brainstorm ideas for erosion control. Participation in "Soil Control" will be helpful. List ideas on a group chart. **Possible suggestions:**

1. Plant trees so roots can hold the soil.
2. Arrange rain gutters to channel water onto grass (lawns), not your driveway.
3. Plant marsh grasses along shorelines.
4. Terrace steep areas to slow down run-off.
5. Build gravel or rock structures to create dams.
6. Keep your lawn healthy so it can absorb water.
7. Plant grasses on bare spots on your lawn.

Part B

Review criteria for poster before students begin. Provide materials for poster.

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Scoring Rubric for Proposal (Task I)

Score 4 Points
Provides exemplary evidence by identifying 4 of the 6 conditions: water temperature, pH, salinity, clarity, depth, sediment color and sediment texture.

Score 3 Points
Provides considerable evidence by identifying 3 of the 6 conditions.

Score 2 Points
Provides adequate evidence by identifying 2 of the 6 conditions.

Score 1 Point
Attempts to provide evidence by 1 of the 6 conditions.

Scoring Rubric for Poster (Task II)

Score 4 Points
Exemplary organization and eye catching design.

Score 3 Points
Proficient organization and competent design.

Score 2 Points
Adequate organization and design.

Score 1 Point
Inadequate or incomplete organization and design.

Appendix B-2

Performance Task

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Student Assessment

You and your classmates have just returned from your outdoor education experience. While you were there you collected data about two aquatic environments, a stream and a river estuary.

The Outdoor Education staff has just received a species of fish that will be reintroduced to this area. Your job is to analyze the data and recommend the appropriate environment for the species of fish.

Pre-Assessment Activity

You and your classmates will use the data to complete the organizer on page 2. Scientists believe the following conditions are important for fish to survive: water temperature, pH, salinity, depth, clarity, sediment color and sediment type.

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Student Assessment

Task I Part A

You will complete part of the organizer with your teacher.

Now turn to page 3 and read the description of the species of fish to be released. Think about the important conditions necessary for a fish to survive.

Stream Survey
Temperature
pH
Salinity
Depth
Clarity
Sediment Color
Sediment Type

* Fish Facts
Temperature
pH
Salinity
Depth
Clarity
Sediment Color
Sediment Type

River Estuary
Temperature
pH
Salinity
Depth
Clarity
Sediment Color
Sediment Type

Now that you have your facts, you need to make a decision. In the space below indicate which environment you think is best for the Ecofish and justify your choice.

Environment:
1.
2.
3.

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Student Assessment

Fish Fact Sheet

You may underline important fish facts as you read.

The ecofish is a silvery striped fish with one main silver streak going from head to tail. It has several bright yellow spots on its forked tail. Ecofish can grow up to 12 inches in length.

Ecofish can live in both fresh and brackish water with the salinity ranging from 0-15. Ecofish can survive in mild water temperatures varying from 40-75°F. These fish prefer to live in water with a pH level of 7 but can survive in a pH range from 5-9. They prefer clear shallow water and soft muddy bottoms to lay their eggs. Ecofish like to hide by the rocks and branches along the water's edge. They eat small fish and aquatic insects.

***Go back to your organizer and complete the section called "Fish Facts."**

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Student Assessment

**Task II
Part A**

Your teacher has received a bulletin from the Department of Environmental Protection. The bulletin explained the problem of run-off and the need for erosion control in streams and rivers. You have a personal interest because the Ecofish is about to be released and its survival depends on raising public awareness of the problem. Read the bulletin below.

Bulletin from the Department of Environmental Protection

How you manage the land around streams and rivers helps determine how much, how fast and how clean the water will be as it runs off the land and drains to rivers and streams. Too much soil in the water, caused by erosion, is unhealthy for aquatic life. Individuals can make a difference in preventing and reducing erosion.

**Task II
Part B**

A poster contest is being held to make people aware of what they can do to help prevent erosion. Your job is to create a poster showing ways to prevent erosion. The winning poster must show three possible solutions and should be neat, attractive and eye-catching.