

FORMAL ASSESSMENT

An Ode to the Oyster

Each activity in the Estuaries 101 Middle School Curriculum is designed around specific performance tasks. A generalized set of scoring rubrics is provided to judge student progress against these performance tasks. Use the performance assessment indicators in the table below along with the suggested answers in the Teacher Guide to arrive at a score for each performance task.

In addition, you can use the attached Student Assessment handout to conduct a formal assessment at the conclusion of the activity. Use the suggested answers and performance assessment indicators to rate each student's progress.

Performance Tasks	Performance Assessment Indicators		
	Low - Basic	Medium - Proficient	High- Advanced
Students can describe the economic importance of the oyster reef.	The response is partially correct. There is also evidence of inaccurate, incomplete, or inappropriate skills or knowledge.	The response is correct, and demonstrates accurate understanding of concepts. Minor inaccuracies may appear but there is no evidence of misconceptions.	Evidence of higher-level thinking and the application of the appropriate skills and prior knowledge. The response is correct and complete, and contains elaboration and extension. There is no evidence of misconceptions. Minor inaccuracies should not necessarily lower the score.
Students can list factors that threaten the oyster reef organisms.			
Students can identify methods being used to prevent the decline in oyster populations.			

Questions and Answers

Choose three of the points below and write a short explanation of why oyster reefs are important to the estuary ecosystem and the people who use them.

- **Reefs create important habitat**

The intricate structure of oyster reefs provides extensive habitat for numerous marine species. Mud crabs, shrimps, juvenile fishes and other organisms have been observed to seek shelter in reefs from predators as the tide rises.

Loose oyster shell on creek bottoms serves as hard clam habitat as well as substrate for sponges, sea fans, and whip corals which, in turn, supply habitat for small crustaceans and fishes.

- **Reefs provide food**

Other organisms such as stone crabs can live in oyster reefs and feed on oysters.

- **Reefs improve water clarity and quality**

Oysters are filter feeders. Matter brought into the shell, but not passed through the mouth, is trapped by sticky

mucus on the gills and then discarded. This ability to separate food from other material apparently allows oysters to survive in waters of high turbidity which occurs in many estuaries. The filtering action of oysters can play an important role in removing not only suspended sediments from the water column, but can cleanse the water of various pollutants.

- **Reefs reduce erosion, protect shorelines**

Oyster reefs are important in stabilizing exposed marsh edges. The presence of an oyster reef helps prevent bank erosion and the loss of marsh grasses. The energy of natural and man-made waves (e.g., the wake from boats) is dissipated as the waves are refracted off of the complex structure of the oyster reef.

Reflection Question

Why do you think that oyster reefs are important to the health of the estuary ecosystem?

Student answers will vary.

STUDENT ASSESSMENT

An Ode to the Oyster

Why are oyster reefs important to the estuary ecosystem?

Choose three of the points below and write a short explanation of why oyster reefs are important to the estuary ecosystem and the people who use them.

- Oyster reefs create important habitat.
- Oyster reefs provide food.
- Oyster reefs improve water clarity and quality.
- Oyster reefs reduce erosion and protect shorelines.

Reflection Question

Why do you think that oyster reefs are important to the health of the estuary ecosystem?