

We Eat it Too [MC]



Adapted from New Wave of Learning

Grades: 3-5

Time: 45 minutes to 1 hour

Goals: To explore clamming and crabbing as a shared resource between the human fisheries industry and sea turtle species.

Objectives:

Students will be able to: identify species of sea turtle species that migrate along the Atlantic coast in search of food sources that are shared with humans; explore the fishing industries of clamming off the New England coast as well as crabbing in the mid-Atlantic; and discuss ways to share these resources with sea turtle species.

Materials:

- Large storage bins (about four or five)
- Gray sand
- Tan sand
- Large clam shells
- Toy blue crabs
- Kid rakes
- Kid sieves
- Stop watch

Preparation: Fill the bins with either gray sand or tan sand. Bury the clam shells in the gray sand and bury the crabs in the tan sand. Make sure you have enough bins for the entire class after dividing them into groups of 4-5 students.

Procedures:

1. Pre-Activity (introduction): Inquire what species of sea turtles the students may already know. Explain that there are seven species worldwide and we have five of them along the Atlantic coast, two of which will migrate specifically for food (Loggerhead and Kemp's Ridley). Give descriptions about both species before discussing their prey. Describe how their shells are adequately colored to not only protect them from predators like sharks but also to camouflage them for ambush predation on their prey species.



2. Activity: Divide the class into groups of 4-5 students. Each group will get either a gray sand bin or tan sand bin. One gray bin will represent the clamming industry, using rakes to dig for as many clams as they can. One tan bin will represent the crabbing industry, using sieves to trap as many crabs as they can. The remaining bins will be either loggerhead or Kemp's Ridley sea turtles based on their diet. Students must use their hands cupped like a turtle beak to pick up clams or crabs one by one.

Time the students for approximately 5 minutes to grab as many clams or crabs as they can either by using the human-made tools or their "turtle beaks." When you call time, have each group count out the number of clams and crabs they caught. Students can take turns clamming and crabbing, but they will have to rebury the clams and crabs after each turn.

3. Post-Activity (review): Discuss why the industries were able to grab more and why it was more difficult for the sea turtles. Discuss ways that these industries might be able to catch less or improve on their collection in order to conserve more for the sea turtles to share the resources. If time allows, you can switch the groups around and give everyone a chance to be an industry and a sea turtle.

Key Words:

Sea turtle
Clamming
Crab nets

Loggerhead
Crabbing

Kemp's Ridley
Trawling

Background Information:

Adapted from New Wave of Learning

There are seven species of sea turtles worldwide, most of them living, breeding, and feeding in tropical and sub-tropical areas. Aside from the Australian flatback turtle and the Olive Ridley turtle, the remainder can all be found in Atlantic waters. Two species of sea turtles, the loggerhead and Kemp's Ridley have been known to migrate great distances in search of food and have been spotted along the mid-Atlantic coast during their fall and spring migrations.

Loggerhead sea turtles are the third largest, right after the Leatherback and Green, weighing over 250 pounds and encompassing a length of about three to four feet. They are called loggerheads because of their giant skull and crushing jaws. Because of this feature, their main prey species is horseshoe crabs, blue crabs, and fish. Females will lay nests from southern Virginia down to the Florida Keys from late May until late August. When hatchlings are born, they race to the sea and swim out until they reach the Sargasso Sea in the middle of the Atlantic Ocean. They will stay there for up to ten years before heading back to the coast.



Kemp's Ridley sea turtles are the smallest species, weighing only about 100 pounds and encompassing about two feet in length. They are gray in color, which matches their prey habitat, mud. Their favorite food is clams and other mollusks. They migrate great distances, even to New England, just to find the best clam beds. They are the most critically endangered because their breeding grounds are not widespread. Their main nesting beach is on Rancho Nuevo, Mexico, although they have smaller pocket nesting areas within the Gulf of Mexico, such as Texas, Louisiana, and Florida.

Both loggerhead and Kemp's Ridley sea turtles are susceptible to human-related effects such as marine debris, oil spills, entanglement in fishing gear, swallowing baited hooks, and being hit by boats. Plastics are ingested or get stuck around their throats and limbs. Oil is also ingested. Fishing gear that is left in the ocean, whether it is a ghost net or tangled fishing line can wrap around any body part or can be ingested. Baited hooks can be snagged on their flippers or they can be ingested and have to be surgically removed. Boat propellers have the power to slice completely through a three-inch thick shell and if the spinal column is severed, the turtle can become paralyzed. After being struck by a boat, they become incapacitated and the wounds quickly become infected by parasites and bacteria.

Photos of sea turtle species on the following page.



Loggerhead Sea Turtle



Kemp's Ridley Sea Turtle

