



Sea Turtle Survival [ME]

Adapted from NOAA Fisheries

Grades: K-2

Time: 45 minutes to 1 hour

Goals: To understand what it means to be endangered and how humans can be the cause.

Objectives:

Students will be able to: define threatened; define endangered; understand sea turtle life cycles; describe sea turtle nesting; and describe some threats to sea turtles.

Materials:

- Inflatable globe
- Permanent marker
- Duct tape
- Colored index cards
- One-hole punch
- String
- Large playing field
- Pictures of sea turtle life stages (provided in the next lesson)

Preparation: Using the one-hole punch and string, create necklaces for the students to wear the index cards. Depending on your class size, you should have an uneven number of each color, but more green than red, more blue than green, and more yellow than blue. An example would be 4 red, 6 green, 8 blue, and 10 yellow. Take two tabs of duct tape and place them on the inflatable globe. Using the permanent marker, write the word “LIFE” on the tape.

Procedures:

1. Pre-Activity (introduction): This game can be played inside the classroom or outside (whichever you prefer). Begin by asking the students if they’ve ever been to an aquarium or zoo and seen a sea turtle before. Ask them if they’ve ever been on a coastal beach, like Florida or Georgia, during the summer and seen any signs of sea turtle nesting (this can be nest signs, nests roped off, female sea turtles, or even hatchlings). Explain why sea turtle species need to be protected, introduce the terms threatened and endangered and elaborate on why they’ve become so. Discuss the parts of a sea turtle life cycle that directly interact with humans, including nesting on area beaches that people frequent every summer.



2. Activity: Take the students outside to a large playing area or have the students move their desks in the classroom to make a large area to conduct the activity. The students will need enough space to toss the inflatable globe around to each other. Randomly pass out the color-coded necklaces to the students but do not tell them what each color means. Begin by explaining that sea turtles have begun to interact with humans more in recent years because of things we like to do (give examples such as beach going, fishing, and hunting).

Have the students spread out and begin tossing the inflatable globe around to each other. Explain that this should be easy for them because there are so many of them in the group. Correlate this to sea turtles, where they are able to survive better when there are a lot more individuals in the group to interact with. Introduce the first threat by telling the students that over time, commercial fishermen have adapted better means to hunt for more fish. Sea turtles often get caught in their large nets. A large ocean-going commercial fishing boat has entered their class waters and caught some sea turtles by mistake. All of the yellow card holders have to sit down and are out of the game. How does this affect them throwing the ball at each other? How does this affect their chances of survival?

Introduce the second threat to sea turtles: illegal turtle trade. Fishermen and poachers from around the world use turtle meat to feed their families, use turtle shells for decorative products, and use turtle eggs to replace chicken eggs. All the students with blue cards around their necks now have to sit out of the game. Have the remaining students continue passing the “LIFE” globe around. Again, ask the students how it affects their rate of survival?

For the final threat, explain to the students that humans have polluted the water with a lot of plastic and debris. This can harm sea turtles because they mistake the garbage for their food and their bodies can’t digest it. All the students with green colored cards need to sit down. With the remaining students trying to pass the “LIFE” globe to each other, discuss what has happened to their population of sea turtles. Explain that they are now considered a threatened species, with only the red cards remaining.

3. Post-Activity (review): Gather the students to discuss what would happen if anything else harmed the sea turtle species from this point forward. Reintroduce the term endangered and explain how it would affect the species’ survival. Discuss how humans still interact with sea turtles, especially on beaches, and how they have taken measures to protect them from going extinct.

Key Words:

Reptiles

Extinct

Commercial fishing

Threatened

Survival

Endangered

Pollution



Background Information:

Adapted from NOAA Fisheries and New Wave of Learning

There are a lot of marine species that are considered threatened or endangered because their population numbers are low. When the Endangered Species Act was written in 1973, threatened species were defined as “any species which is likely to become an endangered species within the foreseeable future...” Endangered species were defined as “any species which is in danger of extinction...” These threats are often caused by humans.

Some of these threats take years to affect the populations, such as overfishing or hunting. Marine species, such as sea turtles, though, take a long time to reproduce, which means any changes to their populations could affect their species quicker. The more individuals that are taken from the ocean or harvested as eggs, the fewer individuals will remain.

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.

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.

