



STEM Challenge: Protecting Sea Turtle Nests Story Book Science at Home Activity

What you need

- One large container
- One large bag of sand
- Two spoons, to be used when digging holes or replicating predators digging
- One bag filled with pom poms, which represent sea turtle eggs
- Dowels, which represent wooden stakes
- Ribbon, which represents flagging tape
- One plastic berry basket, which represents a protective cage

Preparation

Build a model of a sea turtle nest.



Step 1. Place sand in container.



Step 2. Dig a hole in the sand using a spoon or your hands. The hole represents the nest dug by an adult female sea turtle before laying her eggs, or her clutch.



Step 3. Place several pom poms, which represent sea turtle eggs, or a clutch, into the hole. Then, cover the eggs and fill in the hole with sand.

What to do

Model marking a sea turtle nest and protecting the eggs from predation by animals like raccoons and dogs.

Marking a Sea Turtle Nest



Step 1. Locate the area where you dug your nest. Use clues in the sand, such as dig marks, to help you!



Step 2. Mark the area around your nest with dowels, which represent wooden stakes.



Step 3. Wrap the ribbon, which represents flagging tape, around the dowels.

Protecting a Sea Turtle Nest



Step 1. Locate the nest and center the plastic basket, which represents a protective cage, over your nest in the sand. You may need to dig trenches in the sand before placing the cage in the sand. (Don't forget to refill the trenches after placing the cage in the sand!) If you have enough room, you can keep the dowels and ribbon surrounding your nest. If not, remove the dowels and ribbon before placing the cage over your nest.



Step 2. Try and dig into the nest using a spoon or your hands to model the actions of predators that eat sea turtle eggs like raccoons, dogs, and ghost crabs. Can you reach the nest through the cage?



Step 3. Think about the role of a protective cage over a sea turtle nest. Based on your observations modeling the marking and protecting of a sea turtle nest, how does a protective cage protect a nest?

What is happening?

Sea turtles live in the sea, or the ocean, but they are born on land! Adult female sea turtles lay their nests on land, specifically beaches. An adult female sea turtle crawls up the beach from the water and digs a hole for her nest using her back flippers. Then, she lays her eggs into the hole she dug. This nest contains a lot of eggs, or a clutch. (The average clutch size of some sea turtle species is over 100 eggs!) After she is finished laying her nest, she covers the hole with sand before returning to the ocean.

The eggs, which have a soft shell, will stay in the nest for about 60 days before the turtles hatch and emerge. The eggs face many threats, though, especially from predators! Animals like raccoons and dogs are predators that will dig up nests to collect and eat sea turtle eggs. Animals like ghost crabs also eat sea turtle eggs. They dig burrows in the sand towards the nest to get to the eggs.

Sea turtle nests can be marked. Marking nests allows nests to be monitored, or watched carefully. If a nest is monitored and a threat is identified, then additional actions can be taken to protect the nest. One action to protect a nest includes covering the nest with a cage. Most cages are built of wire mesh. They are centered above a nest and buried deep into the sand to keep predators from digging and burrowing into the nest. The wire mesh is usually big enough that sea turtles can exit the cage once they hatch and begin their journey towards the ocean.



The image shows an adult female green sea turtle burying a nest. Image from National Park Service (NPS).

Information from *Hatching Turtles* from the NC Aquarium at Fort Fisher Education Section and *Marine Turtle Conservation Handbook (2016)* from Florida Fish and Wildlife Conservation Commission.