

Endangered Species

“When the last individual of a race of living things breathes no more, another heaven and another earth must pass before such a one can be again.”

~ William Beebe

Earth loses hundreds of species every year, and many of these losses are the result of human activity. Some of these species may have held the key to curing cancer, or feeding everyone on the planet, or improving our lives in ways we can't even imagine. But we'll never know, because they are gone.

In 1973, the U.S. Congress passed the Endangered Species Act to protect species that are in danger of extinction, as well as the ecosystems that supports these species. NOAA and the U.S. Fish and Wildlife Service are responsible for making the Endangered Species Act work. But they can't do this job alone. Protecting endangered species needs everyone's help, and the first step is getting people to think about the problem.



Humpback whales in the singing position. Courtesy Dr. Louis M. Herman, NOAA

Here's an activity that can help introduce the topic of endangered species, particularly whales and sea turtles.

What You Will Need

- 8 1/2 x 11 inches sheets of colored paper (one for each animal)
- Scissors

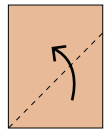
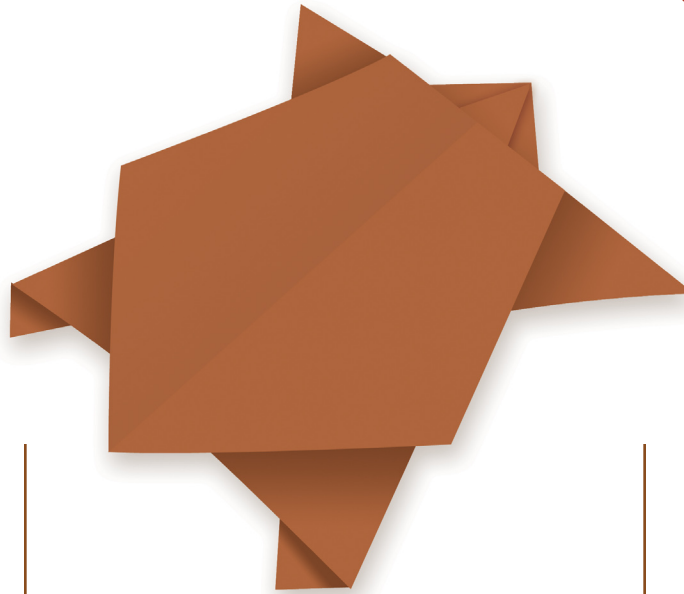
Warning

Be careful with sharp scissors.

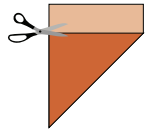
What You Will Do

Make origami models of whales and turtles

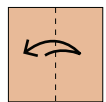
How to Make an Origami Sea Turtle



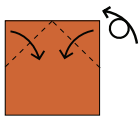
1. Begin by making a square piece of paper. Fold one corner of a piece of paper over to the adjacent side.



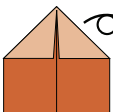
2. Like this. Finish making the square by cutting off the small rectangle.



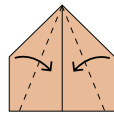
3. Fold side to side and unfold. This is the "valley fold" or "river."



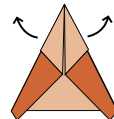
4. Turn over and fold right and left points down to form a "roof."



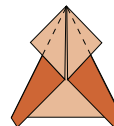
5. Like this. Then turn over.



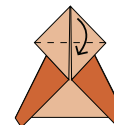
6. Bring the folded edges to meet the valley fold (the river). Crease flat.



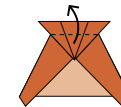
7. Unfold the top side points.



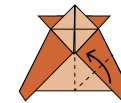
8. Like this.



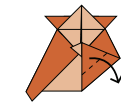
9. Fold the top point down as shown.



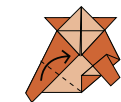
10. Fold the point upward to create a head.



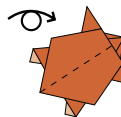
11. Lift the bottom edge to meet the vertical center line.



12. Like this. Press flat and fold outward as shown.



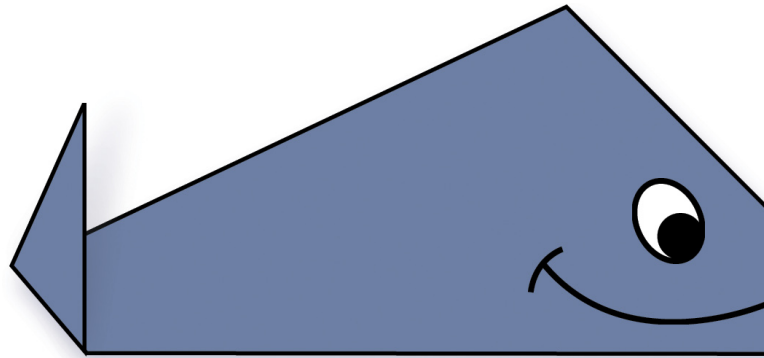
13. Repeat steps 11 and 12 with the other foot.



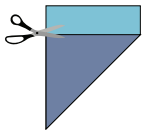
14. Turn over. You've made a turtle!

Origami illustrations courtesy Matt McIntosh, NOAA

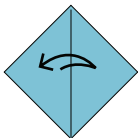
How to Make an Origami Blue Whale



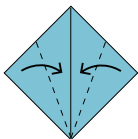
1. Begin by making a square piece of paper. Fold one corner of a piece of paper over to the adjacent side.



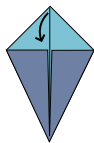
2. Like this. Finish making the square by cutting off the small rectangle.



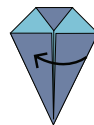
3. Put a square of paper on the table so it looks like a diamond. Fold side to side and unfold.



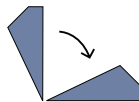
4. Fold the lower left and right sides to meet the center crease.



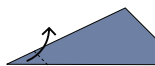
5. It looks like an ice-cream cone. Now fold the top point down, as shown.



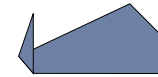
6. Fold the right side over to meet the left side.



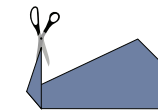
7. Put your finger on the bottom point as you turn the whale sideways.



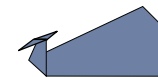
8. Fold the end point up to make a tail.



9. Like this.



10. Make a short cut through the end of the fold in the tail. Fold the edges of the tail outwards.



11. Like this.



12. Draw eyes, fins and any other patterns you like.

Origami illustrations courtesy Matt McIntosh, NOAA

Sea Turtle Facts

👉 Sea turtles have been on the planet since the early Mesozoic era almost 180 million years ago! They survived the great dinosaur extinction during the Cretaceous era, and flourished until recent times.

👉 There are six species of sea turtles commonly found in the United States in the Atlantic, Gulf of Mexico, and Pacific:

- * Leatherback
- * Loggerhead
- * Kemp's Ridley
- * Hawksbill
- * Green
- * Olive Ridley

👉 Sea turtles eat a variety of organisms, including algae, seagrasses, sponges, crustaceans, jellyfish and mollusks.

👉 Sea turtles have a unique life history. They are highly migratory, often swim long distances, live long lives, take a long time to reach maturity, and crawl ashore to dig nests and lay eggs.

👉 Leatherback, loggerhead, and Kemp's ridley turtles are only found in the U.S. Atlantic and Gulf of Mexico.

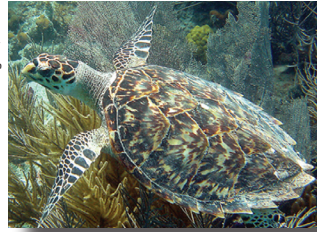
👉 In the Atlantic, Green and hawksbill turtles are found more commonly south of Virginia.

Caroline Rogers, USGS



Green Turtle

Caroline Rogers, USGS



Hawksbill Turtle

👉 What's the problem? Sea turtles are threatened by:

- * Accidental capture by commercial fisheries
- * Loss of habitat and nesting areas due to coastal development
- * Being hit by ships
- * Overfishing of important food items such as mollusks, and crabs
- * Killing turtles and their eggs for food

👉 NOAA and the U.S. Fish and Wildlife Service are working together to conserve and help marine turtles recover, along with other federal agencies, state partners, coastal communities, private individuals, and other nations.

👉 Some things being done to conserve sea turtles:

- * Requiring certain types of fishing vessels to use fishing gear that prevents accidental capture of sea turtles
- * Protecting prime nesting habitat along key coastal areas

- * Requiring dredges to use equipment that protects turtles, and restricting dredge activities in certain areas where sea turtles are abundant
- * Requiring plans to reduce the chances of sea turtles being trapped in coastal power plants
- * Supporting regulations to control artificial lights near turtle nesting beaches (artificial lights can disorient sea turtle hatchlings)
- * Working with other countries to conserve sea turtles throughout their range

👉 How are sea turtles doing? None of the five species found in the Atlantic and Gulf of Mexico have met recovery plan goals. The Kemp's ridley has shown a long-term, strongly increasing trend in the number of nesting females (which is the most common way to measure population status). Sadly, thousands of dead sea turtles continue to wash ashore along the U.S Atlantic and Gulf coastline each year.

For more about sea turtle biology, status and the threats that face them: Visit NOAA's National Marine Fisheries Service Web site: <http://www.nmfs.noaa.gov/pr> and the U.S. Fish and Wildlife Service Web site: <http://northflorida.fws.gov/SeaTurtles/seaturtleinfo.htm>.



Humpback whale breaching

☞ Whales are the largest animals that ever lived on the Earth. They are even larger than the dinosaurs of prehistoric times.

☞ All whales belong to a group known as cetaceans (seh TAY shuhnzh). There are two types of whales—toothed (odontocete) and baleen (mysticete). Baleen is a special filter that whales use to sieve tiny food particles from the water.

☞ Today, there are 78 species of whales swimming in the oceans around the world; 67 species are toothed and 11 are baleen.

☞ Whales are large, intelligent, marine mammals. They breathe air through a blowhole into lungs, are warm-blooded, and give birth to their young as opposed to laying eggs.

☞ Many cetaceans, especially baleen whales, migrate over very long distances each year. They travel, sometimes in groups (pods), from coldwater feeding grounds to warm-water breeding grounds. Gray whales make the longest seasonal migration of any of the whales—about 12,500 miles each year!

Whale Facts

☞ The biggest whale is the blue whale, which grows to be about 94 feet (29 m) long—the height of a 9-story building. These enormous animals eat about 4 tons of krill (microscopic floating animals) each day, obtained by filter-feeding through baleen.

☞ The smallest whale is the dwarf sperm whale, which as an adult is only 8.5 feet (2.6 m) long.

☞ Adult blue whales have no predators except man. Almost all species of baleen whales were exploited by the commercial whaling industry from the 1700s to the mid-1900s. Several species of both toothed and baleen whales were hunted close to extinction. Most populations have not yet recovered from intense hunting and still face threats to their survival from human activities.

☞ Many baleen whales are in danger of being hit by ships, particularly the critically endangered Northern right whale.

☞ Being tangled in various types of fishing gear is a serious threat to several species of cetaceans.



Killer whale shyopping

☞ NOAA works to protect and conserve whales because all whales are pro-

ected under the Marine Mammal Protection Act, and some are also protected under the Endangered Species Act.

☞ NOAA's efforts to protect and conserve whales include legislation, National Marine Sanctuaries and other marine protected areas. NOAA also works with the U.S. Fish and Wildlife Service on issues concerning whales and other cetaceans.

Want to Do More?

- For more information, visit:
<http://www.noaa.gov/whales/> and <http://www.nmfs.noaa.gov/pr/species/mammals/> – NOAA's whale related programs
<http://sanctuaries.noaa.gov/> – NOAA's National Marine Sanctuaries
<http://mpa.gov/> – NOAA's marine protected areas
<http://www.fws.gov/> – U.S. Fish and Wildlife Service