



Save the Gulf (Feathers)


Goal: To connect youth with their local environment by learning about how water quality affects birds and other wildlife.

Ornithology

Adaptable for grades K-6

Mary Schneider, Education Intern
(608) 255-2473 (office)
educationintern@madisonaudubon.org

Rebecca Ressler, Director of Education
(608) 255-2473, ext. 555 (office)
info@madisonaudubon.org



This activity encourages students to think about how humans treat the environment, and how some actions can affect other species. It is also important to remember that water quality is important for all living creatures, not just those that live directly in it (like fish and frogs).

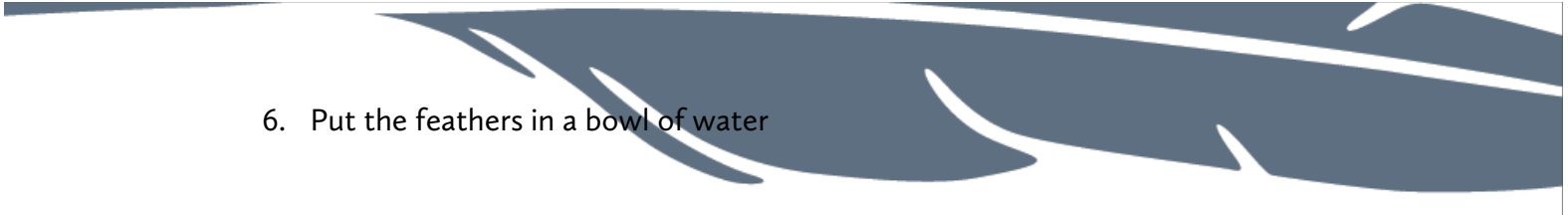
This lesson also teaches students how feathers work and how they are important for birds to keep clean. Feathers serve different functions than hair and fur do, so it is important to understand how feathers work and what they are used for.

Materials:

- Save the Gulf Kit
 - bowls/pans
 - feathers
 - oil
 - Dawn soap
 - Magnifying glasses

Introduce the activity

1. Review Ornithology
 - a. What is ornithology?
 - i. The study of birds
 - b. Today we are going to focus on studying feathers
2. What do birds need for survival?
 - a. Water
 - b. Shelter
 - c. Food
3. Clean water is important for birds, and is especially important for waterfowl (ducks, geese)
4. Take a look at the feather diagram with the students
 - a. Each feather is made up of a quill, multiple barbs, even more barbules, and millions of hooks.
 - i. Hooks are on the barbules
 - ii. Barbules are on the barbs
 - iii. Barbs are on the quill
5. Hand out feathers. Encourage students to make observations about their feathers using a magnifying glass

- 
6. Put the feathers in a bowl of water
 - a. Does the feather float or sink?
 - b. Does the feather keep its shape?
 - i. What does the feather look like?
 7. Take the feathers out of the water and put them to the side
 8. Add a teaspoon of oil to the water and put a new feather in
 - a. Does the feather float or sink in the oily water?
 - b. Does the feather keep its shape in the water?
 - c. Why is this important to our Mallards?
 9. Take the oily feather out of the water
 10. Try and clean the oily feather in clean water
 11. Add a drop of Dawn dish soap
 - a. Does the feather float or sink?
 - b. Does the feather keep its form?
 - c. Do ducks have soap in the wild?
 - d. How can we keep water clean for wildlife?
 12. When a bird's feathers get dirty/oily, their feathers no longer work the way they should.
 - a. The feathers become matted and moved from their proper positions, causing birds to be exposed to really hot or really cold temperatures.
 - b. Feathers in clean water float because the tiny hooks that keep each of the barbules connected stay "Velcro-ed" together
 - c. When feathers are exposed to oily water, the hooks no longer can keep the barbules connected, so the feathers no longer stay in their proper form.
 - i. Feathers are no longer waterproof
 - ii. Birds can now get too hot or too cold because their feathers are not protecting them anymore