



Animal Husbandry

K-3 Classroom Activities

A Shrimpy Home

OBJECTIVE

Students will demonstrate how changes in an environment can affect the survival of an animal.

ACTION

1. Discuss as a class what an animal needs to survive (food, shelter, water). What happens when an animal can't find one of these?
2. Divide your class into student groups and distribute the brine shrimp eggs. Have students touch a few. Explain that these are eggs and, given the proper living conditions (oxygen and salt water), they will hatch.
3. Distribute soda bottles and markers. Students should label bottles as numbers one, two, and three.
4. Have students fill bottles with water. Explain that the brine shrimp eggs need salty water and students should estimate how much salt to add to each bottle. Students write on the front of each bottle how many teaspoons of salt they added. Each bottle should have a different concentration. (While student groups are working, assemble one additional bottle following the water directions given on the brine shrimp eggs package.)
5. Have students stir water and add eggs. Set bottles together on a table out of the sunlight. (Best hatching at 80°F.)
6. Observe for at least five days. Students can use magnifying lenses for better viewing. Which salt concentration seemed to support more brine shrimp? What was the best environment?

BACKGROUND INFORMATION

Animals constantly adapt to the changing world around them. Sudden changes in weather temperatures, food supplies, or physical environment can cause significant decreases in animal or plant populations. Some animals adapt well to a variety of environments while others depend on specific food sources or living conditions. Some animals can change homes or food items while others can't. For example koalas eat only certain eucalyptus leaves while skunks scavenge for and eat almost any type of food.

MATERIALS

For each student group:

- 2 teaspoons (4 gm) brine shrimp eggs (available from biological supply company or aquarium store)
- 6 liters of bottled drinking water
- course salt
- three 2-liter plastic soda bottles with tops cut off
- magnifying lens
- waterproof markers
- measuring teaspoon

For teacher:

- 2 teaspoons (4 gm) brine shrimp eggs
- 2 liters of bottled drinking water
- course salt
- one 2-liter plastic soda bottle with top cut off



SeaWorld San Diego keeps its saltwater aquariums clean by filtering water through sand and gravel filters. Clean water is important to the health of animals, like this sandtiger shark that swims in the Shark Encounter attraction.

This activity appears in the SeaWorld Education Department K-3 Endangered Species Teacher's Guide



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A Slick Operation: Oil Spill Lab

OBJECTIVE

Given the materials listed below, the students will be able to demonstrate and discuss the effects of oil on a bird's feathers and discuss a variety of ways humans might be able to remove it.

ACTION

1. Fill the bowls with water. In the first bowl pour a slick of oil on the surface. Leave the second bowl as plain water. Label the other three bowls #1-3. Dissolve a table-spoon or two of one of the detergents in each bowl. Do not let the students see which solution is in which bowl. (They are secret or "mystery" solutions.)
2. Give each student three feathers and have them examine each feather's texture and weight. Have the students dip their feathers in the oil and then examine them. Discuss how oil changed each feather and the effects that oil might have on a bird.
3. Ask the students to hypothesize about ways to remove the oil.
4. Have the students try to wash off the feathers in the plain water. Ask them to describe what happens to the feathers.
5. Next, have the students try to wash their feathers off in each of the detergent solutions. They should try one feather per detergent. Ask the students to write down which detergent (solution #1, #2, or #3) worked the best. Let the students compare their results and record them on a chalkboard or other large writing surface.
6. Reveal the names of the detergents and show the containers they were in.
7. Discuss what would happen to a bird in an oil spill. Why are feathers important to birds? How do birds clean their feathers? What might happen if the bird ingested the oil?

BACKGROUND INFORMATION

Oil spills can be devastating for marine animals. Marine birds like penguins and pelicans rely on clean feathers for waterproofing and insulation. When fouled with oil, the birds try to clean their feathers. Sadly, the birds often die of starvation, of hypothermia, or from ingesting the toxic oil.

Hubbs-Sea World Research Institute scientists have studied ways to clean oil from fouled marine animals. In this activity, your students perform a similar study.

MATERIALS

- large clean feathers (three per student. Examples: gulls, ducks, parrots—from the beach, pet stores, local zoos, ponds, or craft stores)
- vegetable oil
- five large bowls
- water
- three types of detergent (preferably a mild hand soap, a powdered laundry detergent, a grease-cutting dishwashing detergent)
- paper
- pencils

DEEPER DEPTHS

Test other hypotheses that the students suggested to remove the oil. Try this experiment again, substituting materials such as leather, hair, or fur for feathers. Try different types of oils and detergents.

Investigate why and where oil spills occur. What kinds of animals are found in these places?



When a large iron-ore carrier sank off the west coast of South Africa, oil gushed into the sea, and thousands of African penguins were fouled with oil. Rescuers transported the oiled penguins to Cape Town in cardboard boxes for rehabilitation. SeaWorld bird experts flew in to help rescue and rehabilitate the penguins, a threatened species.