

All About Endangered & Extinct Animals

Investigation Data Sheet



How Oil Spills Affect Animals

Human pollution is responsible for the loss of many animals. The oceans make up the biggest environment on Earth and oil spills are a big problem. When tankers have an accident, much of the oil they carry can be spilled into the water, causing sea animals and birds to die by the thousands.

Objective

Conduct an experiment to observe how an oil spill in the ocean might affect birds and their eggs.

Materials

- some water
- 3 feathers
- a dropper
- a timer
- the felt from a black permanent marker
- 2 clear plastic containers or dishpans
- some vegetable oil
- 3 hard-boiled eggs
- a hand lens
- an adult helper

Safety Notice: All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

Procedure

1. Since motor oil isn't a substance that you should experiment with freely, before you begin, you'll need an adult's help to create a similar substance. Allow the felt from a black permanent magic marker to soak in a container full of vegetable oil overnight. The next day, you should have a mixture with a similar color and feel to that of motor oil.
2. The next day, fill the other plastic container with water and add a dropper-full of the blackened vegetable oil to the water. Notice how the oil spreads out on the surface of the water. This is exactly how an oil spill spreads out on the surface of the ocean.

3. Now you will discover how an oil spill might affect the eggs in a bird's nest. Add more oil to the water and place three hard boiled eggs into the mixture. Wait five minutes, then remove one of the eggs from the oily water and peel off its shell. After 15 minutes, take a second egg out of the oily water and peel its shell. Then, after 30 minutes, peel the shell from the last egg and examine each egg with the hand lens. List your observations in the table at the bottom of the page
4. Now you will observe how an oil spill might affect adult birds — specifically, their feathers. Using a hand lens, look closely at a dry feather. Then dip a different feather in clean water for one to two minutes. Pull it out of the water and look at it through the hand lens. Does it look different than the dry feather? Dip a third feather into the container with the oily water for a minute. After you remove it from the oily water, examine the feather with the hand lens. List your observations in the table below.

Conclusions

- How were the eggs affected by the amount of time they spent in the oily water?

- How can oil-soaked feathers affect a bird's ability to survive?

- What can you conclude about the effect of oil on animals in the ocean?

		Observations
Egg	in oily water for 5 minutes	
	in oily water for 15 minutes	
	in oily water for 30 minutes	
Feather	dry feather	
	feather dipped in clean water	
	feather dipped in oily water	