



#1: Oily Ducks!

Materials Needed:

- Paper Bag—cut to look like feathers—two for each student
- Cooking Oil (Vegetable, Canola, etc)
- Paint Brushes
- Pipette or straw
- Water
- Plastic table cloth or trays for each student at their work space



“Hey everyone! I’m Ernie Earth. Do you have a favorite animal? I love all animals. We need to keep the earth healthy so that they will have a nice place to live forever! Today we’re talking about ducks.”

Preening Background Info:

Ducks (and many other birds) have a special skill called preening! This is something they do to clean their feathers using their beak. They activate a preen gland which releases an oily substance all over their body. This oil acts as an insulator—or something that can keep them warm and, mostly, waterproof!

However, if water has been polluted with chemicals, trash, or oil—then the ducks can end up ingesting and swallowing some of those hazards while preening which can make them very sick!

Today we’re going to experiment with how preening works and then think about how to keep the water clean so that ducks and other birds won’t get sick from preening.

Preening experiment:

- Set out one paper bag feather and use your pipette or straw to drip some water onto it. This paper bag feather represents a bird that did not preen. What do you notice? Does the water absorb into the paper bag? Do you think this bird would stay warm in the water?

- Take another paper bag feather and use your paintbrush to cover it with oil. This paper bag feather represents a bird that was able to preen. Then try using your pipette or straw to drip water onto the paper bag feather. How is this feather different? If you lift up your feather, what happens to the water?



(Junior Scientists at The Children's Museum of New Hampshire explore preening)

How does it work?!

The paper bag feather that was covered in oil was able to shed the water easily! That is because oil and water don't mix. When a bird is able to get a good covering of its oily substance—it's able to stay dry in the water—much like if we wear our rain coats, we're able to stay dry outside too because our rain coats do not absorb water.



“What can YOU do to keep water clean so that ducks and other birds can preen safely and not get sick from ingesting hazardous chemicals?”

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