

Water off a duck's back

Oil is a major cause of pollution. Oil and water are immiscible liquids i.e. they do not mix. Oil is less dense than water and floats on the surface. Prior to this investigation, it may be useful to demonstrate this fact to children by adding some cooking oil to a half filled jar of water. Let the children shake the contents to see what happens. Leave it to settle and return to it later. They could also try adding a drop of water onto a bird's feather to see what happens.

Birds spread oil from special glands over their feathers to keep them waterproof. The children could remove this oil from the feather using washing up liquid. The feather could be allowed to dry and the water drop test tried again. The children could discuss the implications of their findings. They will notice the feathers are no longer waterproof. When cleaned, after oil pollution incidents, it takes time for birds to re-waterproof their feathers using oil from their preen glands.

SAFETY

CHILDREN MAY SUGGEST OTHER SUBSTANCES TO CLEAN THE FEATHERS. CHECK IN THE A.S.E. 'BE SAFE' HANDBOOK AS TO THEIR SAFE USAGE.

COMMUNICATING TO OTHERS

Write a newspaper report of an oil pollution disaster and how the wildlife was rescued and cleaned.

EXTENSIONS

Children could research other pollutants of rivers and lakes.

They could find out about major oil pollution disasters e.g. Braer Tanker off the Shetlands, Exxon Valdez, Amoco Cadiz.

MATERIALS

Disposable gloves

Soap powder

Feathers

Soap

Hair shampoo

Vegetable oil (to pollute the feathers)

Washing up liquid

Old toothbrushes

Sponges

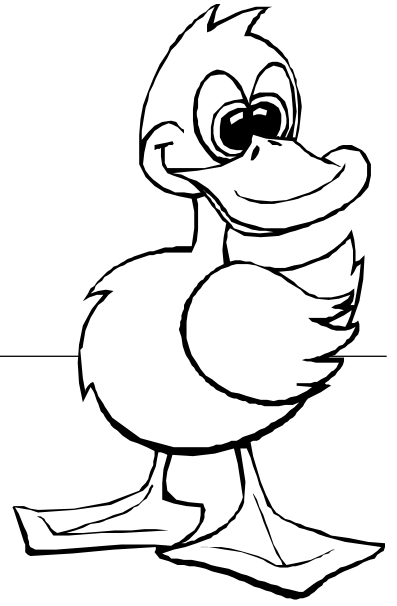
Cotton wool

Scrap fabric

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DISCUSS

What may happen when oil is spilled into rivers, lakes and seas?



How will this affect the wildlife there?

Which is the best substance for cleaning birds' feathers?

Which is the best method for cleaning the feathers?

Devise some investigations to find out.