

# Toxic Tide



Oiled gannet  
Photograph by SSPCA

Work with a partner.

Look at the photograph of the oiled gannet.

## **Discuss with a partner:**

What colour should a gannet be?  
What might have happened?

### **Investigate oil pollution at sea.**

Use the internet to research the effects of oil pollution on seabirds.

Find out:

- Where does the oil come from?
- Which areas are worst affected? Why?
- Which bird groups suffer most? Why?
- What effect does oil have on seabirds?
- What is done to rescue them? How effective is the treatment?
- What is being done to tackle the problem of marine oil pollution?
- What more could be done?

Use your findings to give an illustrated oral or written report.

# Toxic Tide



Oil causes damage to the internal organs, skin, eyes and lungs of marine animals.

It is especially dangerous to seabirds. When feathers become coated with oil it destroys the structure of the feathers and they lose their insulating properties. Birds become cold and waterlogged and unable to feed. Organisations like the SSPCA operate bird cleaning centres where rescued birds are cleaned using detergents and high pressure hot water. After they are cleaned, birds need a recovery period. During this time the birds complete the process by applying a wax from the preen gland at the base of the tail.

## **Investigate the effects of oil and detergent on feathers**

Use unwashed flight feathers from the tail or wings.

- Use a magnifying glass to examine a feather closely. Sketch the shape. Can you see the hooked barbules which “zip” the feather together?
- Immerse the feather in water. Shake to dry. Examine it. Did the water have a lasting effect? Sketch any differences. Are feathers waterproof?
- Immerse the feather in cooking oil. Shake. Examine it. Did the oil dry off? Sketch any differences.
- Immerse the feather in water again. Shake. Examine it. Is the feather restored to its original condition? Sketch. What does this tell you about the lasting effects of oil?
- Make a solution of mild detergent (washing up liquid and water). Wash the feather carefully to remove all traces of oil. Shake it. Examine it. Did the feather dry? What does this tell you about the effects of detergent?
- Wash your hands thoroughly after handling feathers.

Write up the results of your investigations. What conclusions can you draw about the different effects of oil and detergent on bird feathers? Find out more about the work of Middlebank Wildlife Centre where there is a cleaning centre for oiled birds.