



**SOTEAG**

SHETLAND OIL TERMINAL  
ENVIRONMENTAL  
ADVISORY GROUP

## Teachers Notes

### Activity: The effect of oil on animals – ice cube experiment

#### Summary

Children will investigate the impact of oil on sea animals using ice cubes. Children will use dry and oiled cotton balls to examine how oil effects the temperature of the cotton ball (sea animal). Children will observe and describe the difference in temperature that they can feel when they touch all 4 cotton balls. The children will be guided through the experiment and the teacher will discuss the impact of oil on the sea animals and how the oil prevents them from keeping warm.

#### Materials per small group

- Two ice cubes
- Four plates
- Four cotton balls
- Vegetable oil

#### Instructions

1. Split the class into groups of 4 plus children to encourage discussion amongst groups.
2. Ensure that each group has two ice cubes, four small plates, four cotton balls and a small tub of vegetable oil.
3. Put 1 ice cube onto two plates.
4. Soak two cotton balls in vegetable oil. Put one of the cotton balls on top of one of the ice cubes and put the other oil-soaked cotton ball onto an empty plate.
5. Put a dry cotton ball onto an empty plate and place another dry cotton ball on top of an ice cube.
6. Let all four plates sit for 20 minutes.
7. Ask the children to pick up the two dry cotton balls (the one that is on the ice cube and the one that is on the plate). Ask the children to describe the temperature – which one is colder?
8. Now ask the children to pick up the two oil-soaked cotton balls (the one that is on the ice cube and the one that is on the plate). Ask the children to describe the temperature – which one is colder?
9. Now ask the children to pick up the two cotton balls that are on the ice cubes. Again, ask the children to describe the temperature – which is colder?
10. Imagine that these cotton balls are animals e.g. birds or otters. If there is an oil spill it is very important that there is a plan in place to help rescue these animals who might find it hard to keep warm if the oil gets onto their body.
11. Discuss: How did they find this exercise?
12. Allow time for shared observations and discuss the importance of monitoring and responding to an oil spill.

## **Context for use**

This activity is ideal to start teaching children about:

- Sea animals
- Habitats
- Local environment
- Environmental issues

**Time:** 1 hour

**Subject Areas:** Geography, Environmental Science and Biology

**Resource Type:** Classroom

**Age:** Primary School

## **Learning Goals**

1. Children will use their sense of touch and sight to make accurate observations.
2. Children will identify clean water as an important habitat for animal survival.
3. Children will work in small groups to facilitate discussions and shared observations.
4. Children will discuss and learn about the importance of environmental monitoring and environmental response in the case of an oil spill.

## **Tips**

This activity has an emphasis on hands on understanding. Ensure that all children feel all the cotton balls so that they can see the link between oil and animal body temperature.

Work together in small groups to encourage discussion and analysis.

## **Assessment**

This will be done through teacher observation. The class will be split into small groups, but the teacher will lead the activity as a whole class. The teacher should look for appropriate participation, reasonable responses and inferences, accurate observations and thoughtful, reflective ideas. Provide specific praise and feedback to those children who are performing at or above expectations. Additional questions and guidance will be offered to those who may be struggling.