



SOTEAG

Teacher Notes

Activity: Exploring the effects of oil spills on birds

Summary

Children will listen and discuss the story 'Oil Spill' by Mervin Berger. Children will use a magnifying lens to examine dry feathers, wet feathers and oiled feathers. Children will name and describe the characteristics of the feathers (if old enough). The children will be guided through explaining how the feather helps birds keep warm. They will place the feather in water, describe it, and then place it in the container containing the water, oil and food colouring. They will observe and discuss the differences to the water and to the feather. Children will then attempt to clean the feather with water and then with the container containing water and detergent and discuss their findings.

Materials per class

- Oil Spill book by Melvin Berger (1)
- Large beakers for teacher demonstrtion (3)
- Small tubs for pupils (30)
- Magnifying lenses box (25 small, 5 medium, 2 large and 4 enclosed magnifying lenses)
- Tweezers (12)
- Pocket microscope (box of 6)
- Pipettes (30)
- Toothbrushes (12)
- Vegetable oil
- Food colouring
- Feathers
- Detergent
- Stickers



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SOTEAG Teacher Instructions

1. Read the Oil Spill book by Melvin Berger to your group. Discuss the book.
2. Half fill the 3 large beakers with water. Leave beaker 1 half full of water. Add a few pipettes worth of oil and food colouring to beaker 2 and add some detergent to beaker 3. These beakers are for teacher demonstration purpose only. Ensure the pupils can see these beakers.
3. Fill all the small pots half full of water and hand out 3 small pots to each small group.
4. Hand out a bird feather to each child. Examine and describe the feather.
5. Dip the feather into the first tub of water. Record observations after putting the feather in the water (e.g. shape and weight changes, does the water roll off the feather?).
6. After a discussion about the feathers in water – ask the pupils to add the oil (5 pipettes) and the food colouring (2 pipettes) to the water in pot number 2 using the pipettes provided. Now ask the children to dip their feather in the oiled water.



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7. Discuss: How does the water look? Where is the layer of oil? Is the feather different now? Dry? Wet? Heavy? Light? How might this impact the bird?

8. Allow time for shared observations, and then gain responses to specific questions.

9. Discuss your findings and the impact of the oil spill on the bird feathers.

10. Now use pot number 3. Using the toothbrushes, try to clean the feathers with water. Discuss what happens (most of the oil will remain on the feather). Now add 2 pipettes worth of detergent to pot number 3, and give it a stir. Dip the oiled feathers into pot 3, and then try to clean the feather with the toothbrush and detergent. Discuss what happens. The oil should start to come off the feather.

11. Highlight to the pupils that an animal friendly detergent is used to clean oiled sea birds after a real oil spill. Discuss the importance of wildlife response after an oil spill to save the lives of as many sea birds as possible.





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Context for use

This activity is ideal to start teaching children about:

- Animals
- Habitats
- Local environment
- Environmental issues

Time

1 hour

Subject Areas

Geography, Environmental Science, Biology and Chemistry

Resource Type

Classroom

Age

Primary School





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SOTEAG 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 animals, in this case, birds.
3. Children will work with partners or 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

Use vegetable oil or olive oil because they are non-toxic for use by children but it can still convey some of the properties of oil found in an oil spill. Explain to the children that the oil found in the sea from an oil spill is toxic.

This activity has an emphasis on vocabulary, especially the solubility of substances. Ensure that children vocally engage in this experiment rather than just observe.

Work together in pairs to encourage discussion and analysis.

Assessment

This will be done through teacher observation. The teacher will circulate and monitor groups as questions are asked. The teacher should look for appropriate use of materials, 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.