# THE OILY BIRD

Objective:

To investigate the effect of refined and crude oil on bird feathers.

Background:

Bird feathers serve numerous important functions. They are vital for retaining body heat and allow for controlled flight. The color of feathers also helps with species and sex identification. What happens when these feathers are coated with oil? In this investigation, we will attempt to determine the effects of crude and refined oil on the structure and function of feathers.

Materials:

feathers (from various bird types)
liquid detergent solution (Dawn)
very small paint brushes
light weight crude oil
motor oil (5w-30)
beakers
specimen bowls
paper towels
dissecting scopes

Procedure: (Work in pairs!)

1. After selecting a feather from the available samples, observe the fine structure of the feather using a dissecting microscope.

2. Adjust a faucet so that the water comes out in a slow, steady drip. Allow the drops to hit the outside (convex) surface of the feather. Observe what happens for about a minute.

3. Float the feather in a specimen bowl with water for about a minute.

Observations (steps 1-3): _____

B. Once coated with oil, do birds have any means of cleansing themselves? Explain.

C. Did the detergent solution seem to be effective in cleaning the oil from the feather? Explain.

D. Did the final float and drip tests indicate that the detergent had returned the condition of the feather back to normal? Explain.

E. Can you propose a better method of oil removal than a detergent wash? Explain.

F. After comparing results with your classmates, does it appear that crude oil and refined motor oil effect the feathers in the same manner and to the same degree? Explain.