

Caribou

Avoid that Sinking Feeling

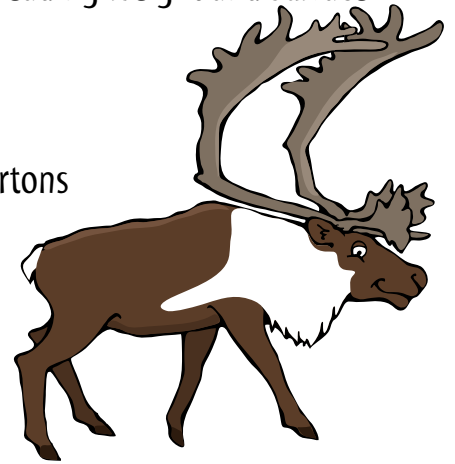
What you need!

- Kitchen sink or large basin filled with water
- Empty 2 litre milk carton
- Empty 500 ml or 1 litre milk carton
- A bunch of pennies
- Scissors
- Ruler

It's no accident that caribou have big feet. They spend a lot of their lives in deep snow, and big feet act a bit like snowshoes. It's all about spreading weight and surface tension.

What you do:

1. With scissors cut both cartons 2 cm from the bottom.
2. Float both carton bottoms in a sink or basin filled with water.
3. Alternate adding pennies to each carton.
4. Record how much money it takes to sink each one.



Ask yourself

- Which carton sinks first?
- Why do you think this is?
- What is holding up the cartons as you add pennies?
- What is the advantage of 'floating' to a caribou or other animal?



What did you find out?

The 2-litre carton bottom will stay afloat with the same number of pennies that will sink the smaller carton. Why? This happens because the mass of the pennies is distributed over a larger area of the water's surface and the surface tension of the water holds up the larger carton. Caribou use this same principle to float through snow. Their big feet spread out their weight so that they do not sink as deeply.

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Specific Learner Expectations (SLE)

Grade 5 Topic C: Classroom Chemistry.

SLE 5: Recognize that the surface of water has distinctive properties and describe the interaction of water with other liquids and solids.

Grade 2 Topic B: Buoyancy and Boats.

SLE 2: Alter or add to a floating object so that it will sink, and alter or add to a non-floating object so it will float.