

Coriolis Mini-Lab

Purpose: to observe how the Earth's rotation causes rotating water and wind currents in the Northern and Southern Hemispheres, affecting the motion of plastic debris in the ocean.

1. With your assembled Coriolis Earth top, begin with the Northern Hemisphere facing up. Place a small drop of water in the Atlantic Ocean near Greenland.
 - a. Before spinning your top, predict which direction you think the water will move.

- b. Paying careful attention to the direction of the arrow, spin your top in the direction of the Earth's rotation. Describe what happened to the water drop.

- c. Did the results of your experiment match your prediction? Why or why not?

d. Repeat the experiment from a different location in the Northern Hemisphere. Were your results the same or different? Explain

2. Flip your Coriolis Earth top over so that the Southern Hemisphere is facing up. Place a small drop of water near Antarctica.

a. Before spinning your top, predict which direction you think the water will move.

b. Paying careful attention to the direction of the arrow, spin your top in the direction of the Earth's rotation. Describe what happened to the water drop.

c. Did the results of your experiment match your prediction? Why or why not?

d. Repeat the experiment from a different location in the Southern Hemisphere. Were your results the same or different? Explain

3. The phenomenon you have just observed is called the Coriolis effect, named after a French mathematician who lived in the 1800s.

a. How might the Coriolis effect influence ocean plastics movement?

b. What questions do you have about the Coriolis effect?
