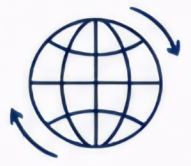




OBSERVING THE CORIOLIS EFFECT WITH A SPINNING WATER DRAIN



The Coriolis effect is caused by Earth's rotation. It makes moving objects (like air and water) appear to curve. In this experiment, you will observe the effect using water spiraling down a drain in different directions.

Name: _____

Date: _____

Location: _____



OBJECTIVE

Observe how the direction of water swirling down a drain changes when the initial spin is reversed, modeling the Coriolis effect.



MATERIALS

- Sink with a central drain
- Clear water
- Food coloring (optional)
- Small cup or container
- Stopwatch or timer
- Notebook and pencil



BACKGROUND

On Earth, the planet's rotation causes moving air and water to turn relative to the surface. In the Northern Hemisphere, motion is deflected to the right; in the Southern Hemisphere, to the left. While this effect is subtle in small-scale experiments, you can observe a similar behavior in a spinning drain.



PROCEDURE

1. Clear the sink and ensure the drain is unobstructed.
2. Fill the sink with water so the depth is a few centimeters.
3. Add a few drops of food coloring near the outer edge of the water to help visualize the motion.
4. Spin the water **CLOCKWISE** by gently swirling your hand around the outer edge of the sink for 5–10 seconds. Remove your hand.
5. Observe the direction the water spirals down the drain. Record your observations.
6. Let the water settle, then repeat the steps.
7. Spin the water **COUNTERCLOCKWISE** using the same method.
8. Observe and record the direction the water spirals down the drain.

TOP VIEW – LOOKING DOWN INTO THE DRAIN

CLOCKWISE SPIN
(Northern Hemisphere model)



Water spirals down
clockwise (to the right).

COUNTERCLOCKWISE SPIN
(Southern Hemisphere model)



Water spirals down
counterclockwise (to the left).



RESULTS

Trial	Initial Spin Direction	Direction Water Spiraled Down the Drain	Notes
1	Clockwise		
2	Counterclockwise		

What did you notice?



THINK MORE

1. Why do you think the water changed direction when you reversed the spin?

2. How is this experiment like what happens with winds and ocean currents on Earth?

3. What real-world examples can you think of where the Coriolis effect is important?



FUN FACT: Hurricanes in the Northern Hemisphere spin counterclockwise, while hurricanes in the Southern Hemisphere spin clockwise. This is due to the Coriolis effect!