

Date: \_\_\_\_\_ Names: \_\_\_\_\_

## THE CORIOLIS EFFECT

**INTRODUCTION:** If you could throw a ball straight up in the air, high enough that it would take six hours to come back down, would it land in your hands? What would happen during those six hours that would make it land some distance away from you?

**OBJECTIVE:** The earth spins on its axis in a counterclockwise (eastward) direction. Because of this rotation, the movement of wind systems, rockets, hurricanes, and so on across the surface of the earth is affected. This effect is due to the spinning of the earth and is called the CORIOLIS EFFECT. In this activity, we will investigate how the rotation of the earth affects wind system movement across the northern and southern hemispheres.

### PROCEDURE:

1. Inflate your balloon to a reasonably large size.
2. Around its middle, draw a line to represent the equator.
3. Label the northern and southern hemispheres on your "globe."
4. On the northern hemisphere section, draw in a sketch of North America, and on the southern hemisphere, draw in a sketch of South America.
5. One partner should hold the balloon and rotate it in a counterclockwise direction.
6. Another partner should begin with the marker at the "North Pole" and attempt to draw a line from the North Pole half way to the equator (while the globe spins beneath).
7. Place an arrow on the end of this line so its direction can be determined.
8. The next line should begin at the equator and head halfway toward the North Pole.
9. Place an arrow on the end of the line so its direction can be determined.
10. Repeat this process for the southern hemisphere, only draw the line up from the "South Pole" toward the equator (as the globe rotates counterclockwise).
11. Next begin at the equator and draw the line toward the South Pole.
12. On the diagram below, sketch your results. Be sure to draw arrows to show which way your lines are heading.



Spins counterclockwise  
(eastward)

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QUESTIONS:

1. Wind systems that originate at the North Pole veer in what direction?

2. Wind systems that originate at the equator and move northwards veer in what direction?

3. Hurricanes in the northern hemisphere (near the equator) spin in what direction?

4. Wind systems that originate at the South Pole veer in what direction?

5. Wind systems that originate at the equator and move southwards veer in what direction?

6. Hurricanes in the southern hemisphere (near the equator) spin in what direction?

7. The ball that you threw in the air six hours ago is going to come down in what direction from you?

