Modeling the Coriolis Effect Lab:

The Coriolis Effect was named by the French professor of mechanical engineering. The Coriolis Effect is a major topic in earth science, as it exerts great influence on the movement of winds and water currents across the earth.

Purpose:
Students need to picture this phenomenon clearly before they can comprehend the Coriolis effects interplay with other forces that affect weather systems.

Materials:

* 1 ballo0n (round)
* 2 permanent markers (different colors , readable when applied to balloons)

Task:

1. Blow up a balloon (one each pair of students).
2. With a marker, draw the equator on the balloon and label the North and South Poles.
3. Draw parallel lines north of the Equator that correspond to 30°N, 60°N, and 90°N. Draw parallel lines south of the Equator that correspond to 30°S, 60°S, and 90°S. 5.
4. Label where your 5 different winds are and get them checked by your teacher. Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. While 1 partner rotates the earth balloon, the other examines the movement of the earth from the North Pole perspective and from the South Pole perspective. Answer questions 1 and 2.
6. While 1 partner continues to rotate the balloon steadily from left to right, the other slowly tries to draw a line straight south from the North Pole to the equator, using the other marker. While the earth continues to rotate, 1 partner tries to draw a line straight north from the South Pole to the equator. Answer questions 3 and 4.
7. As you look down from the North Pole toward the equator, which way is the balloon spinning, clockwise or counterclockwise? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. As you look up from the South Pole toward the equator, which way is the balloon spinning, clockwise or counterclockwise? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. What happened when you tried to draw a straight line from the North Pole to the equator?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. What happened when you tried to draw a straight line from the South Pole to the equator?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Predict what would happen if you again drew lines in the Northern and Southern Hemispheres but with the earth rotating in the opposite direction.

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1. Look up the Coriolis Effect, what is it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How does the lab demonstrate the Coriolis Effect?

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1. How does the Coriolis Effect impact the movement of hurricanes in the Northern and Southern Hemispheres? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_