The Coriolis Effect of Wind

**Purpose**
To learn how the Earth's rotation affects the winds

**Procedure**
1. Make a small hole in the ball using the large needle or screwdriver.
2. Tie yarn to a wooden matchstick and push the matchstick through the hole so that the matchstick is inside the ball.
3. Tie the other end of the yarn to the center of a ruler and lower the ball into the water (5 or 10 gallon fish tank or 5 gallon bucket).
4. Hold the ball under the water until it becomes full of water.
5. Use your hand to spin the ball a few times until you get a consistently smooth spin.
6. Fill an eyedropper with food coloring.
7. As the ball is spinning in the water, drop the food coloring at the top of the ball where the string enters the ball.
8. Observe the effects and record your observations in the science journal.

**Conclusion**
1. How does the spinning of the ball relate to the Earth?
2. Explain what happens to the food coloring "currents" of wind flowing down from the top of the ball where the string enters the ball.

**Materials**
- hollow plastic ball (tennis ball size or larger)
- scissors
- thread
- 5 or 10 gallon fish tank or a 5 gallon bucket
- ruler
- wooden matchstick
- food coloring
- eyedropper
- pencil
- screwdriver or large needle
- science journal
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Answer Key

1. How does the spinning of the ball relate to the Earth?

The spinning of the ball relates to the rotation of the Earth. The location of the yarn entering the ball represents how the Earth spins on its axis at the poles.

2. Explain what happens to the food coloring "currents" of wind flowing down from the top of the ball where the string enters the ball.

The food coloring "currents" flowing down from the top (pole) of the ball are deflected by the Coriolis effect.