

LAB 4

Checkout Questions

Lab 4. The Coriolis Effect: How Do the Direction and Rate of Rotation of a Spinning Surface Affect the Path of an Object Moving Across That Surface?

Use the figure on the right to answer questions 1 and 2.

1. When viewing the motion of the Earth from above the North Pole, the Earth appears to rotate counterclockwise. A plane is traveling from Miami, Florida, to Pittsburgh, Pennsylvania. Both cities are located at approximately 80° W longitude. If the plane takes off and continues in a straight line, how will its path appear to an observer in Pittsburgh?
 - a. The path the plane takes will pass directly through Pittsburgh.
 - b. The path the plane takes will pass to the east of Pittsburgh.
 - c. The path the plane takes will pass to the west of Pittsburgh.

Map of North America



How do you know?

2. A plane is traveling due west from Philadelphia to San Francisco. Both cities are on almost the same latitude. Will the plane be subject to the Coriolis effect?
 - a. Yes
 - b. No

Explain why or why not.

3. Scientists use their imagination to help them plan investigations and to analyze the results.

- a. I agree with this statement.
- b. I disagree with this statement.

Explain your answer, using an example from your investigation of the Coriolis effect.

4. There is a difference between data and evidence in science.

- a. I agree with this statement.
- b. I disagree with this statement.

Explain your answer, using an example from your investigation of the Coriolis effect.

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5. Why is it important for scientists to think about issues related to quantity and scale as they plan or carry out an investigation? In your answer, be sure to include examples from at least two different investigations.

6. Why do scientists use models to understand and explain complex systems? In your answer, be sure to include examples from at least two different investigations.