

Marine Science

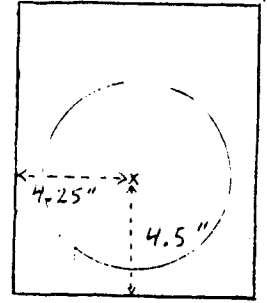
Investigation: C

Materials needed: compass (circle maker) paper (8.5" x 11") pencil or pen ruler

Instructions: measure from the bottom of your paper a distance of 4.5" up and make a small mark. From the side of your paper, measure a distance of 4.25" that will line up with the mark from above and place a small x, as in this diagram -->

With the compass, make a circle with the center at the x and having a radius of 4 inches.

Mark the small x at the center of your circle "N. pole". If the circle represents the earth, the earth would have to rotate in a counterclockwise direction for the sun to rise in the east. Just inside the circle, draw a curved arrow (at least 2 inches long) indicating counterclockwise rotation. Make the arrow heavy and dark enough so that it can be easily seen from the back side of your paper. Next, have your lab partner sit on the opposite side of the desk from your seat. Over a period of about 2 seconds, your lab partner will rotate the paper counterclockwise (about $1/2$ turn) while you pull your pencil from the x in the center of the paper directly towards you in a straight line, stopping at the edge of the circle. The best way to do this is to count out loud, "one thousand and one, one thousand and two". When you have drawn the line, place an arrow at the end showing the direction your pencil was moving. Next, you will draw a line from the edge of the circle to the center "x" in 2 seconds, while your lab partner is rotating the paper. Once again, place an arrow at the end of the line.



On the backside of your paper, use the compass to draw a circle with $r=4$ " using the "x" location on the other side as the center. Label the "x" on this side as "S. pole". Redraw the arrow (copy it by looking through the paper) showing direction of earth rotation. Note that the earth is rotating in the opposite direction. Again, draw an arrow from the x to the equator while the earth is rotating. Also, draw an arrow from the equator to the south pole while the earth is rotating.

If you were to walk on the arrows you drew in the south hemisphere, would you be walking to the right or to the left? _____

If you were to walk on the arrows you drew in the north hemisphere, would you be walking to the right or to the left? _____

DO NOT WRITE ON THIS!

Marine Science Ch. 5 Atmosphere

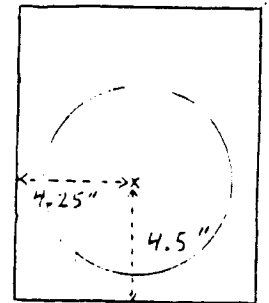
Investigation: Coriolis Force

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