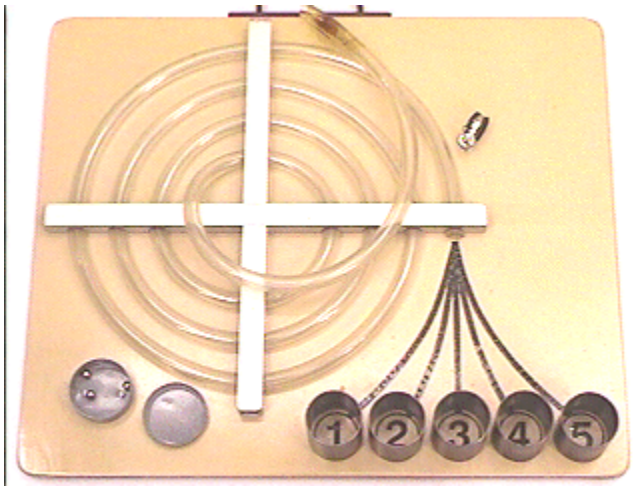
Answer #44

The answer is (c): the ball will go in a straight line tangent to the spiral at the point it leaves, and will hit number 3 (region b). This is shown on an mpeg video by clicking your mouse on the photograph below.



This experiment has been used to determine how young children develop an intuitive understanding of Newton's laws of motion. When you twirl a ball on the end of a string and let go of the string, less than careful observation may lead you to believe that the ball actually starts to move away from you in a trajectory similar to 4 or 5 in the photograph. Try this experiment and carefully observe what happens: when it is released the ball must move in a **straight line** in the direction that it was moving when it was released.

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For questions and comments regarding the *Question of the Week* contact Dr. Richard E. Berg by e-mail or using phone number or regular mail address given on the Lecture-Demonstration Home Page.