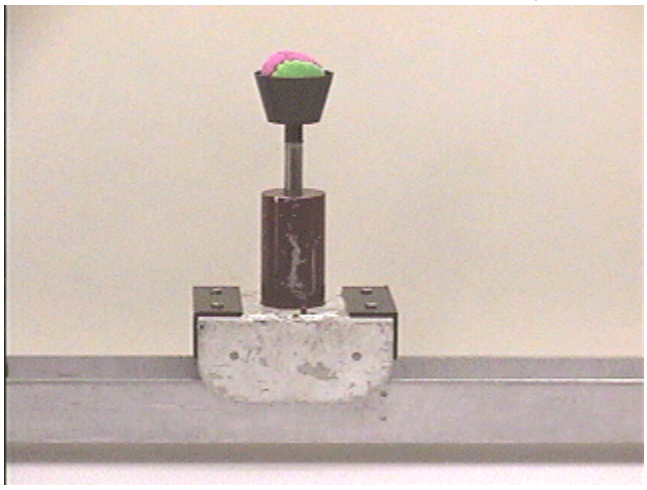
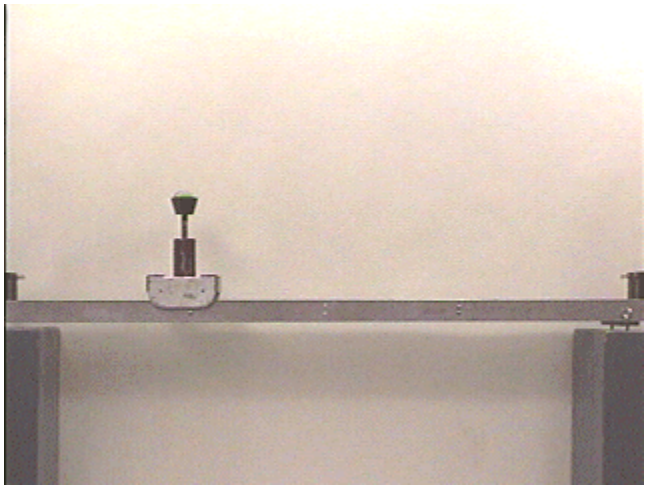
Question #6

A funnel cart, as seen in the photograph below, consists of a cart with a funnel mounted on it. It is constructed with frictionless wheels (We can do this in physics.) so that it will roll with a constant speed along the straight level track in the photograph. A spring in the funnel can be compressed so that if a ball is placed in the funnel, and the funnel then compressed and released, the ball will be ejected directly up and fall back into the funnel. The ball is HEAVY, so air resistance is negligible.



When the cart is pushed from left to right along the track, a trip on the track hits a cam connected to the funnel, ejecting the ball when the cart gets to the location at which it is shown in the picture below, as the cart moves along the track.



When the ball is ejected in this manner, where will it fall?

- (a) The ball will fall in front of the funnel.
- (b) The ball will fall behind the funnel.
- (c) The ball will fall IN the funnel.

Click here for Answer #6 after April 3, 2000.

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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.