Question #353

This week's apparatus consists of a dish of sand and an unsuspecting little ball bearing.

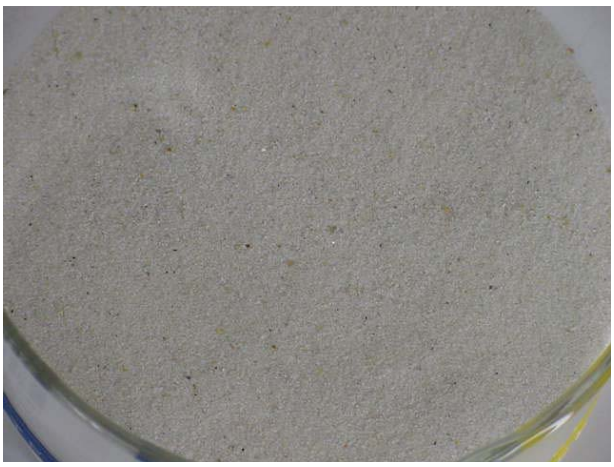
Question: The ball bearing will be held approximately a foot above the dish of sand and then released. Which of the following accurately describes how the ball will impact the sand below?

(a)

(b)

(c)

(d)



- (a) The tightly packed sand will cause the ball to stop as soon as it contacts the sand, and will cause the ball to sit flush with the top of the sand.

- (b) The ball will be somewhat buried in the sand but leave no imprint in its surroundings, since only a cross-sectional area of a circle will contact the sand.
- (c) The ball will nearly be buried completely, but leave an inwardly sloping "blast radius" in its wake.
- (d) The force of gravity will accelerate the ball so greatly that the ball will blaze its way into the sand; the impact will then cause the flying debris of sand to collapse inward and leave no visible visible trace behind of the impact.

Click here for Answer #353 after October 12, 2009.

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

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.