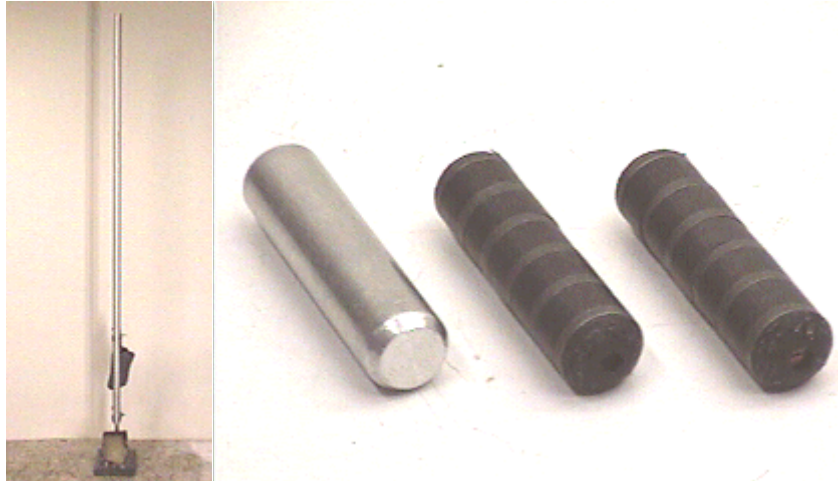


## Question #126

Photographed at the left is a vertically mounted aluminum tube, and at the right three cylinders that can be dropped through the tube.



The cylinder at the left of the picture is solid aluminum. The other two cylinders consist of six magnets each (lighter rings) with non-magnetic spacers between each magnet (darker rings), but with one significant difference between them. The set of magnets in the center of the picture has opposite poles of two magnets adjacent to each other in each case (NS-NS-NS-NS-NS-NS), whereas that at the right of the picture has like poles adjacent to each other (NS-SN-NS-SN-NS-SN). When the three cylinders are dropped through the tube, will they fall at the same rate or will they fall with different times? Rank them in order of speed, with the fastest first.

When the cylinders in the picture at the right above are dropped through the aluminum tube, rank them in order of time taken to fall through the tube:

- (a) aluminum cylinder.
- (b) magnets with unlike poles adjacent.
- (c) magnets with like poles adjacent.

Click here for [Answer #126](#) after November 4, 2002.

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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](#).