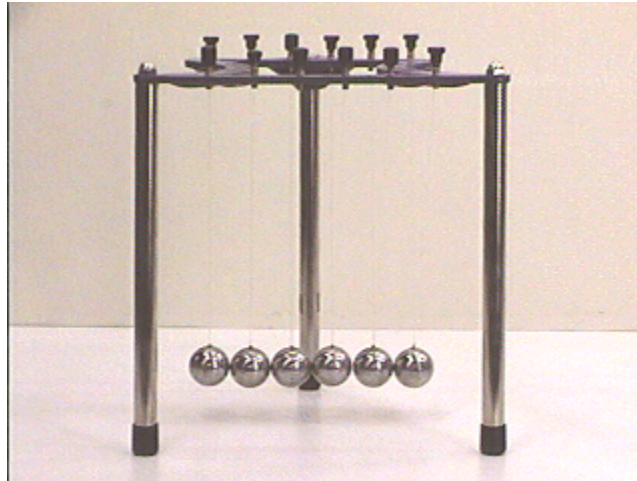
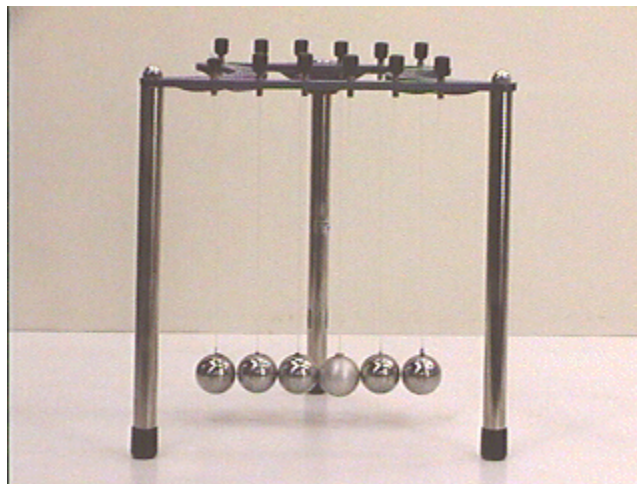


## Question #29

Most people are familiar with the standard "collision balls" apparatus. Six identical steel balls are suspended in a row; lifting one of the end balls and releasing it causes the one on the opposite side to move away, then fall back, causing the original ball to do the same, etc. This action can be seen on an mpeg video by clicking your mouse on the photograph below. The motion satisfies all of the requirements of conservation of energy and linear momentum during the various collision processes.



Now suppose that we modify this apparatus, as seen in the photograph below, so that one of the balls (the fourth from the left) is made from aluminum rather than steel, and therefore no longer has the same mass.



In this case, how will the collision balls apparatus work? In particular, will it work the same way as the equal mass collision ball apparatus? Will the ensuing motion be one ball moving up on one side, then the other side, back and forth?

- (a) Yes!
- (b) No!

Click here for [Answer #29](#) after September 11, 2000.

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[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](#).