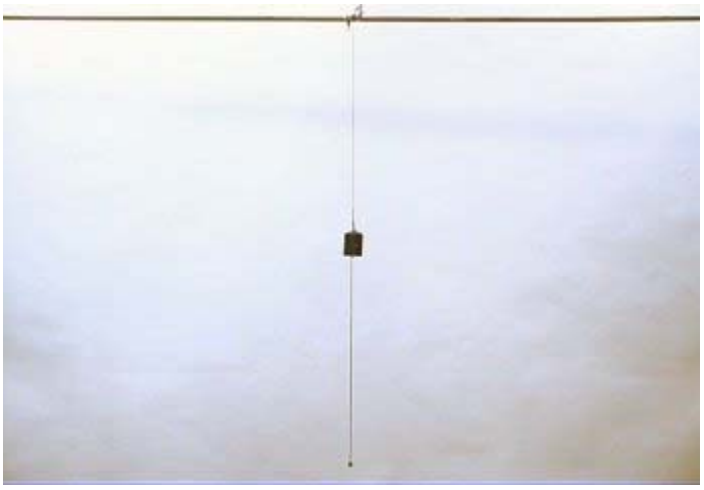
Question #245

The double pendulum shown in the photograph below uses masses of 1000g (top) and 10g (bottom), where the length of each pendulum from its suspension point to the center of mass the same. This means that if the two pendula were supported from the same point their periods would be the same.



Now suppose that the small pendulum is removed from the large pendulum, and the large pendulum is given a gentle push, as seen in an mpeg movie by clicking your mouse on the photograph. The motion of the large pendulum is small for this amount of push, as seen in the video.

Now suppose that the small mass is again hung from the large mass and the large mass is given the same push as in the video above. What will the small mass do?

With the small mass hanging from the large mass, a small push on the large mass will:

- (a) immediately cause the small mass to swing wildly.
- (b) cause the small mass to swing wildly after a short time.
- (c) cause the small mass to follow the motion of the large mass.
- (d) not cause the small mass to move.

Click here for Answer #245 after March 13, 2006.

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

For questions and comments regarding the *Question of the Week* contact

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