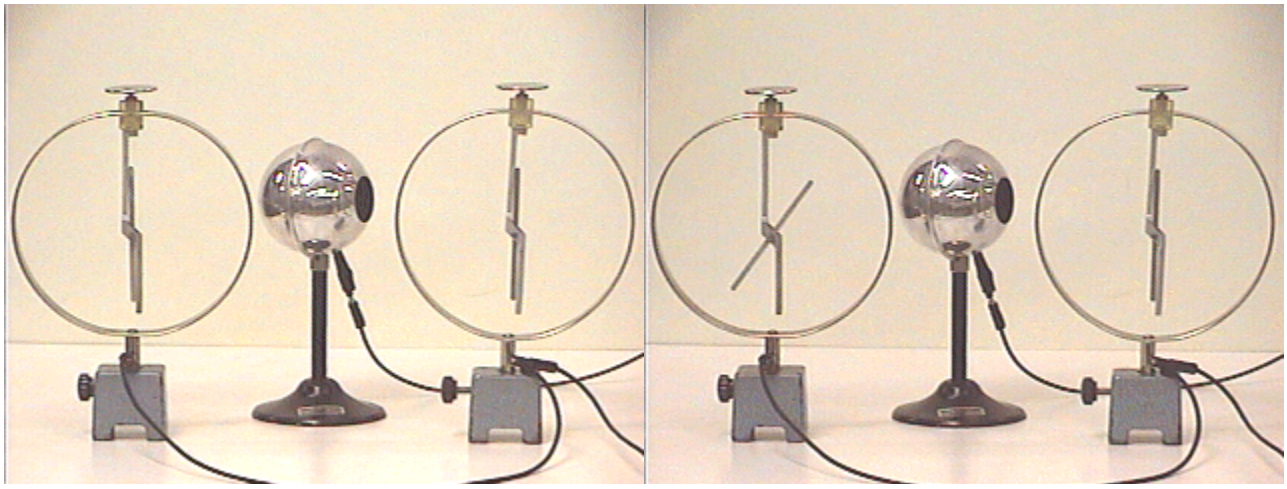
Answer #187

The answer is (a): only the electroscope at the left will show a deflection, as can be seen on two mpeg videos by clicking your mouse on the photographs below.



The video for the photograph at the left shows charging of the electroscope at the left by several quick charge transfers using the paddle to touch the outside of the sphere. The video at the right shows a single attempted charge transfer from the inside of the sphere to the electroscope at the right. Note that it is necessary to do the transfer to the inside of the sphere very carefully to avoid contact with the outside as the paddle is moved throught the hole. This charge transfer was recorded after about ten previous similar transfers, demonstrating that *no charge is found on the inside of the conducting sphere*.

This is consistent with the result found in the previous question: the charge on a conducting body is found on the outer surface, not within the conducting surface.

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Dr. Richard E. Berg by e-mail or using phone number or regular mail address
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