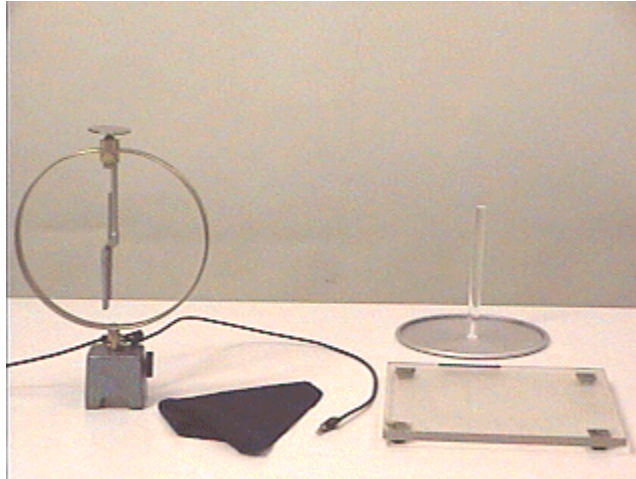


Answer #190

The answer is (a): the charge on the electroscope will be about the same, as seen in an mpeg video by clicking your mouse on the photograph below.



The pie pan is charged by the process of *induction* in this demonstration. Very little microscopic contact is made with the plastic, so virtually none of the excess charge contained in the molecular structure of the plastic plate is transferred to the pie pan. By grounding the pie pan, Gwen is allowing the charged plastic electrophorus plate to *push similar charge out of the pie pan to ground* without affecting the charge on the plastic. The charge on the pie pan is therefore opposite in sign to the charge on the electrophorus plate.

Because the charge on the electrophorus plate is not diminished in this process, the pie plate can be repeatedly charged without having to rub the wool on the plastic to re-charge the plastic.

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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](#).