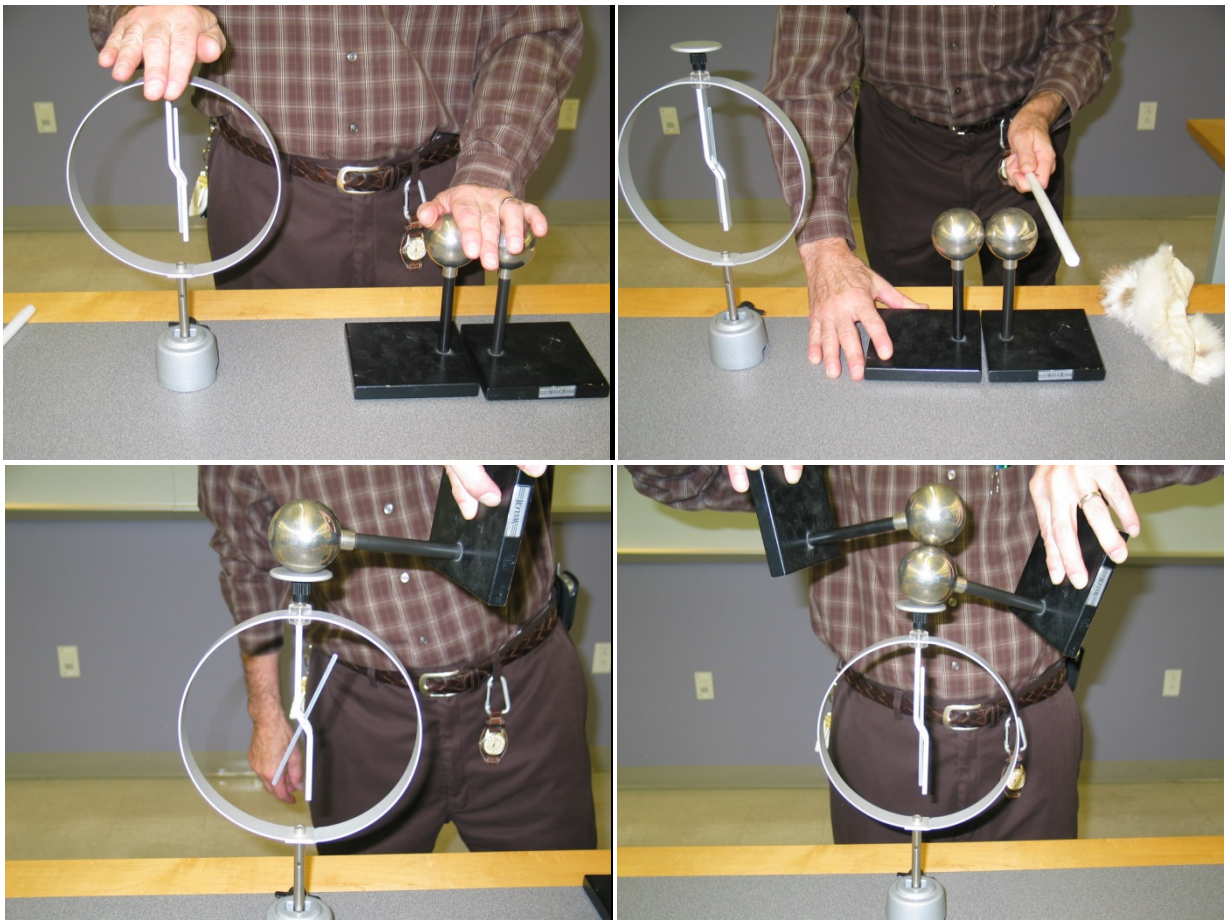
Induced Charges are Equal and Opposite



Purpose: To demonstrate that net charge induced on an object is equal and opposite to the charge induced on an object in contact with it.

Location: room 146, shelf L2; spheres on L3

Ground both spheres and the electrometer by holding your hands firmly on them and show the students the there is no charge on either sphere by holding each in turn to the top of the electrometer. Then, charge the Teflon^{R} rod using the fur and hold it near the spheres while they are in contact (2nd photo). Remove one sphere, with the rod still near the other, and touch it to the electroscope, showing that is has acquired a net charge (3rd photo). Finally, touch the other sphere to the first sphere to show that the net charge on the two of them is zero, implying they have equal but opposite charges.