

TSAAPT

Texas Section of the American Association of Physics Teachers

Connecting physics teachers in the state of Texas

Dancing Tinsel

What to do?

Rub the piece of Styrofoam with the piece of wool. Drop the pie plate onto the Styrofoam and then briefly touch the pie plate. You might feel a slight shock. Hold the pie plate by the Styrofoam cup with the flat side up. Drop the piece of tinsel on the pie plate. You should see it repel. See if you can keep the tinsel in the air.

What's going on?

The Styrofoam becomes negatively charged when rubbed with the wool. Placing the pie pan on the Styrofoam and touching it makes the pie plate charged. When the tinsel is dropped onto the pie plate it acquires the same charge as the pie plate and is repelled.

How do I build it?

Materials: Piece of Styrofoam (the thick kind like used in wall insulation), a piece of wool, tape, a Styrofoam cup, a piece of Christmas tree tinsel or something similar such as a small piece of aluminized mylar.

Assembly: Attach the bottom of the Styrofoam cup to the inside of the pie plate with tape to serve as a handle

Enrichment

If you hold your hand above the tinsel and pie plate, then the induced dipole in your hand will attract the tinsel.