

Step 1: Blow up a balloon and tie off the end.

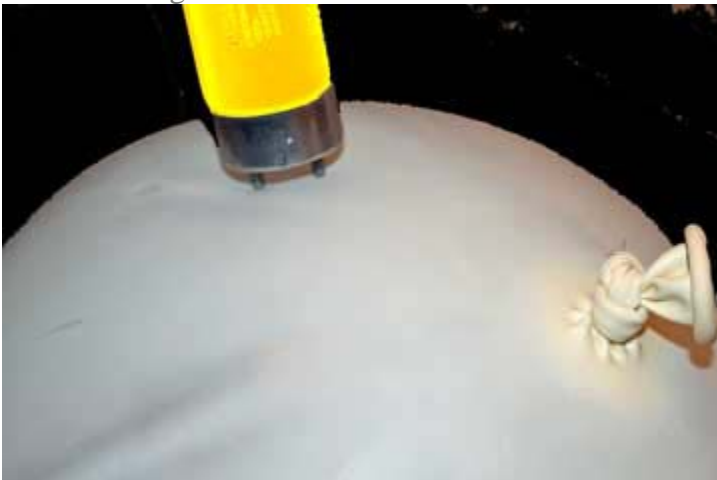


Step 2: Rub the balloon vigorously against the hair on your head.

Step 3: Go into a dark room.



Step 4: Touch the balloon against the two metal electrode prongs on the bottom of the fluorescent light bulb.



Step 5: Watch what happens when the static electricity discharges from the surface of the balloon into the fluorescent light bulb.

Step 6: Repeat rubbing the balloon to add more static electricity to the surface of the balloon. If careful, the balloon can be held against the light bulb as it is rubbed against hair. As the balloon surface builds up enough static electricity it will discharge into the light bulb frequently, resulting in light.

SCIENCE LEARNED

Extra electrons from the hair transfer to an area on the surface of the balloon giving it a negative charge. The majority of the surface of the balloon still has a neutral charge. If the balloon is rubbed for longer, more of the surface will build up a negative charge.

The fluorescent light bulb acts as an electrical circuit, allowing the electricity to discharge from the surface of the balloon into the light circuit. Inside the fluorescent bulb the electrons travel through the light tube they bump against mercury gas electrons. Eventually this causes the mercury gas electrons to release photons which is the source of the light. The light only occurs until all of the static electricity charge from the surface of the balloon where the light bulb electrode prongs are touching is used up. If you move the prongs to another area of the balloon surface you will see another light up in the bulb if there are still negative charged electrons there.