

Electricity and magnetism

Charged rod and finger

Electrostatic force

You will need....

- ✓ a clock glass
- ✓ a non-conducting rod e.g. a plastic ruler
- ✓ a wooden ruler (metre stick)
- ✓ Van de Graaff generator
- ✓ cloth

So what happened?

The rod follows your finger around. The charged object induces a redistribution of electric charge on nearby objects, repelling similar charges and attracting opposite charges.

What next?

1. Investigate the electrostatic effects produced when using other materials and different combinations of charged and uncharged objects.

Background:

A charged object will be attracted to a neutral object causing a redistribution of electric charge.

Follow these steps:

1. Charge the rod using the cloth and balance it on the clock glass. Bring your finger close to one end of the rod (not the end you were holding when you were charging it) (Photo 1).
2. Next, balance the wooden ruler on the clock glass. Charge the plastic rod and bring it near the wooden ruler (Photo 2).
3. Then balance the wooden ruler on the clock glass. Charge yourself using a Van de Graaff generator. As you bring your finger near the ruler the force of attraction will cause the rod to move (Photo 3).



Photo 1



Photo 2



Photo 3