

Electrostatic Induction

Electrostatic induction can be demonstrated using small pieces of paper and a polythene rod. The rod is negatively charged prior to the experiment by vigorously rubbing it with a cloth. It is then placed over the pieces of paper as shown in the diagram below. The pieces of paper jump up through the air to the polythene rod and "stick" to it. This is because when the negatively charged polythene is brought close to the paper, the negative electrons in the paper are repelled downwards. The upper side of the paper becomes positively charged and is therefore attracted towards the negative rod. An everyday example of this is when dust is attracted to a negatively charged TV screen. Things can also be charged by induction as shown in the diagram below: When the polythene rod is brought up close to the cap of the electroscope, electrons are repelled. If someone's finger is touching the cap, the electrons will flow to earth via the person's body. If the finger is then removed so that the electrons cannot return, the rod can be taken away and the electroscope will be left positively charged. The gold leaf therefore rises because it is repelled from the rod which has the same charge as the leaf.

About the Author

Source: <http://crampuppy.com>