

HOW THE ELECTROSCOPE WORKS

The presence of an electric charge can be detected by an electroscope. It is made of two thin metal leaves attached to a metal rod with a knob at the top called a probe. The leaves are allowed to swing freely from the rod. When the device is not charged, the leaves hang straight down.

Detecting Positive and Negative Charges

If a negatively charged item touches the probe, electrons travel down the rod into the leaves. Both leaves become negatively charged as they gain electrons. When this happens the leaves have similar charges and they repel each other.

If a positively charged item touches the probe, electrons are conducted out of the leaves and onto the rod. The leaves repel each other because each leaf becomes positively charged as it loses electrons.

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4. Blow up a latex balloon and tie it off. Rub the balloon in your hair or on your clothes and touch the probe with the balloon. Record what happens when you move the balloon toward and away from the probe.

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5. Explain what is happening inside of the electroscope when the leaves separate.

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6. Rub a glass rod with silk. The rod will become positively charged. Touch the probe with the charged rod. Describe what happens to the leaves.
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