

## Topic Page: [electroscope](#)

Definition: **electroscope** from *Philip's Encyclopedia*

Instrument for detecting the presence of an electric charge or radiation. The commonest type is the gold-leaf electroscope, in which two gold leaves hang from a conducting rod held in an insulated container. A charge applied to the rod causes the leaves to separate, and the amount of separation indicates the amount of charge.

Summary Article: **electroscope**

From *The Columbia Encyclopedia*

device for detecting electric charge invented by Nollet in 1748. There are various types of electroscopes. The most common has a cylindrical metal case closed by two round, flat, glass faces. A charge sensor is mounted within the case and electrically insulated from it and is joined to an external terminal by a conductor, e.g., a metal rod. The sensor consists of two leaves of metal foil (usually gold) or a metal vane mounted so that it can freely rotate about a metal rod. If a negatively charged body is brought near the terminal of the electroscope, it will cause electrons to be repelled into the sensor; a positively charged body attracts electrons out of the sensor. In either case a net charge is induced on each part of the sensor, and the two leaves will fly apart or the vane will swing away from the rod. If the electroscope is given a known charge by conduction, e.g., by touching its terminal with a negatively charged rod, it can then be used to identify an unknown charge. If the unknown charge is like that on the electroscope, when it is brought near the terminal the leaves or vane will move even farther; while if it is opposite that on the electroscope, the leaves or vane will fall toward the uncharged, neutral position. The charged electroscope can also be used to detect ionizing radiation. The charge on the sensor will be neutralized by oppositely charged ions formed by the radiation from the surrounding air molecules; the rate of discharge provides an indication of the intensity of the radiation.

**APA**

Chicago

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Electroscope. (2018). In P. Lagasse, & Columbia University, *The Columbia encyclopedia* (8th ed.). New York, NY: Columbia University Press. Retrieved from <https://search.credoreference.com/content/topic/electroscope>

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## APA

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## Chicago

"electroscope." In *The Columbia Encyclopedia*, by Paul Lagasse, and Columbia University. 8th ed. Columbia University Press, 2018. <https://search.credoreference.com/content/topic/electroscope>

## Harvard

Electroscope. (2018). In P. Lagasse & Columbia University, *The Columbia encyclopedia*. (8th ed.). [Online]. New York: Columbia University Press. Available from: <https://search.credoreference.com/content/topic/electroscope> [Accessed 18 October 2019].

## MLA

"electroscope." *The Columbia Encyclopedia*, Paul Lagasse, and Columbia University, Columbia University Press, 8th edition, 2018. *Credo Reference*, <https://search.credoreference.com/content/topic/electroscope>. Accessed 18 Oct. 2019.