

## 21.2: Conductors and Insulators

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**Def: Conductors** are materials that allow charges to flow freely throughout the material.

**Def: Insulators** are materials that do not allow charges to flow freely.

Most metals are conductors, and most nonmetals are insulators.

**Induced Charges** By bringing a positively charged object near the conductor, electrons are attracted near the charged object. As such, the conductor will develop a slight negative charge on the side near the object, and a positive charge on the side away from the object, caused by the electrons being drawn away from that area. Likewise, a negatively charged object will induce a positive charge on the side nearest to it by repelling nearby electrons.

This effect can also happen in insulators, although to a much lesser degree, which is why you can pick up paper scraps with a charged comb.