

# Electrical Conductors and Insulators



Electricity can travel easily through **electrical conductors**, but some materials do not let electricity pass through them. These are known as **electrical insulators**.

Watch this clip to see some materials that are electrical conductors or insulators.



# Electrical Conductors and Insulators



We know that metals are electrical conductors, but which other materials conduct electricity?

You are going to play a game to identify electrical conductors and insulators.

- Look at each material and decide if it is an electrical conductor or insulator.
- Hold up your conductor card or your insulator card to show your choice.
- Your teacher will reveal the answer.



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**Tap water**

An illustration of a grey metal tap with a cross-shaped handle. Water is shown dripping from the spout and forming a spray of blue droplets with white foam at the bottom. The tap is centered in a light blue rectangular area.

**Electrical Conductor**

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## Drinks Can



**Electrical Conductor**

# Electrical Conductors and Insulators



Paper



**Electrical Insulator**





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## 2p Coin

Two copper-colored 2p coins are shown side-by-side. The left coin is partially obscured by a black banner. The right coin is fully visible and shows the text "TWO PENCE" at the top, "ELIZABETH II" at the bottom, and "2013" at the bottom right. The central text "Electrical Conductor" is overlaid on the coins.

**Electrical Conductor**

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## Rubber Gloves

An illustration of a pair of rubber gloves. The left hand is wearing a pink glove, and the right hand is wearing a yellow glove. The gloves have a textured, dotted surface. They are positioned behind a black horizontal bar that contains the text "Electrical Insulator".

**Electrical Insulator**

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## Glass Window

A simple illustration of a window with a brown frame and a light blue background. The window is divided into two panes by a horizontal bar. The text "Electrical Insulator" is overlaid on this bar.

**Electrical Insulator**



# Conductors and Resistance

These items are all electrical conductors.



Some conductors make it easier for electricity to pass through them than others. All materials have some electrical resistance.

Resistance is the opposition to the flow of electricity through a material. Electrical insulators have a very high resistance and it is very hard for electricity to travel through these objects.

Electrical conductors have very low resistance and it is very easy for electricity to pass through them.

Different conductors have different levels of resistance, so even though they can all conduct electricity, some allow electricity to flow through easier than others.