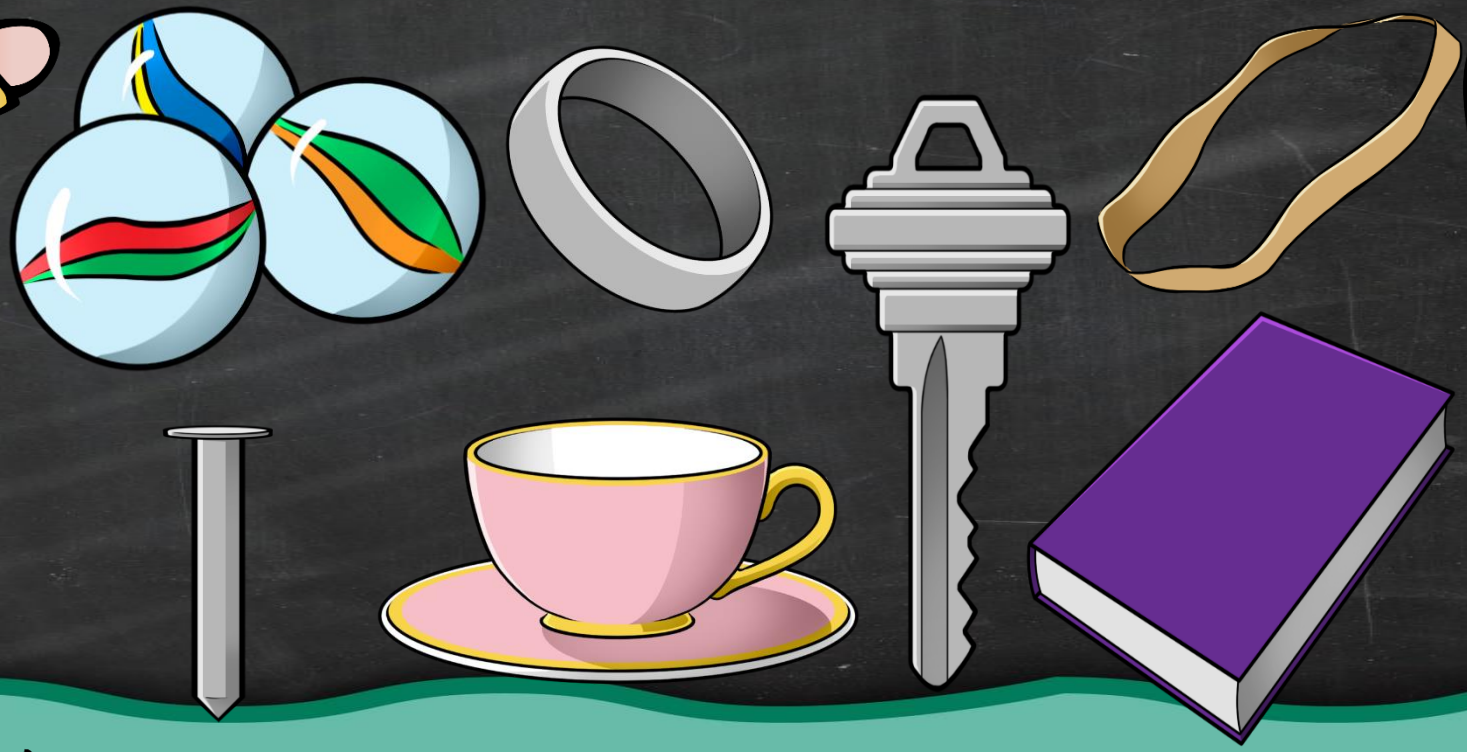
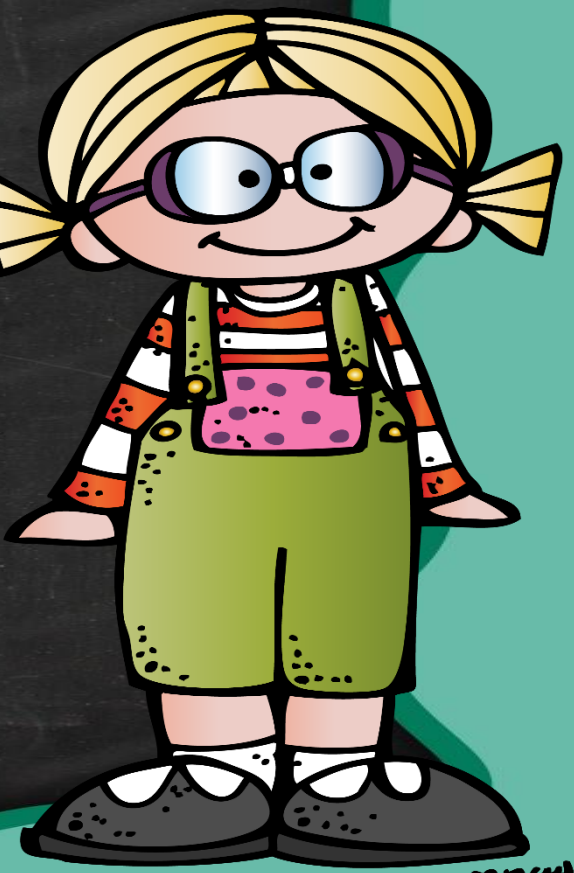
Conductors and Insulators





Careful!

A man puts a piece of metal into an electrical outlet. This was the result of his dangerous act.

Why do you think the man suffered those terrible consequences?

_____

_____

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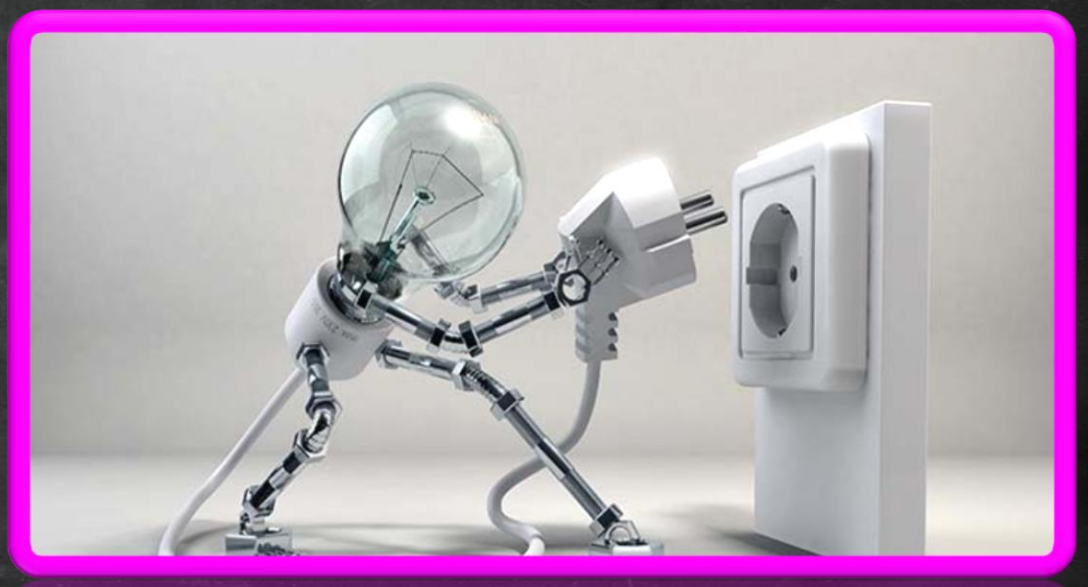
Objetive

- The man suffered those horrible consequences because electricity found a path in which it could flow to the man.
- Today we will talk about the ways in which electricity and heat can flow through certain objects.
- Today we will define and see examples of conductors.
- Today we will define and see examples of insulators.
- Be sure to take notes during our academic discussion.

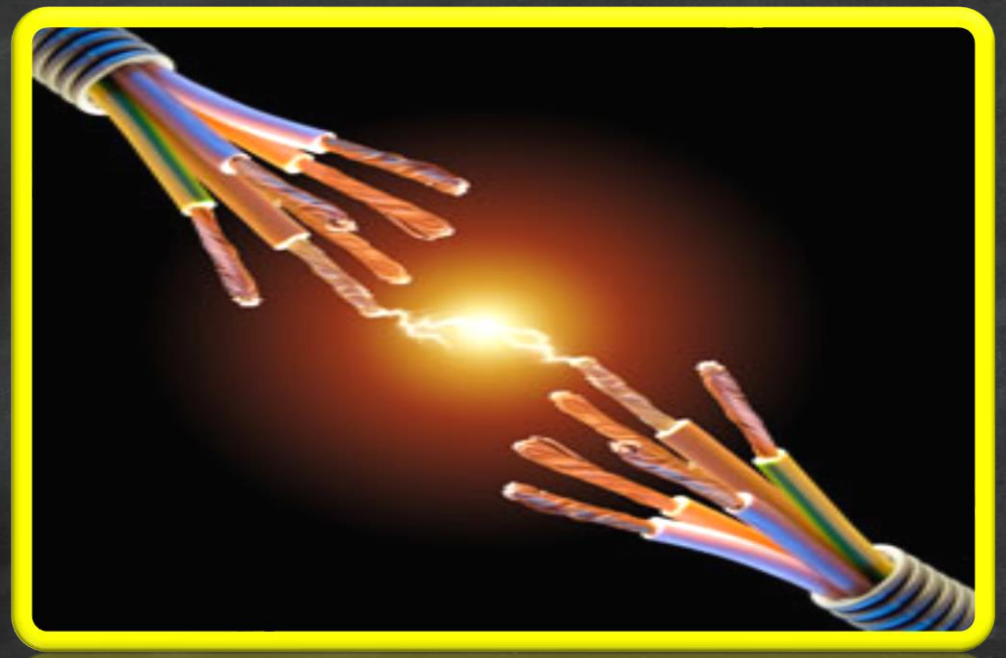
Conductors

- Conductors are made out of materials that allow electricity and heat to flow easily through them.
- A conductors temperature will rapidly increase when it is exposed to heat.



Conductores

Conductors are made up of atoms whose electrons can move away freely, as a result of this heat and electricity can flow easily through them.



Metals are Conductors

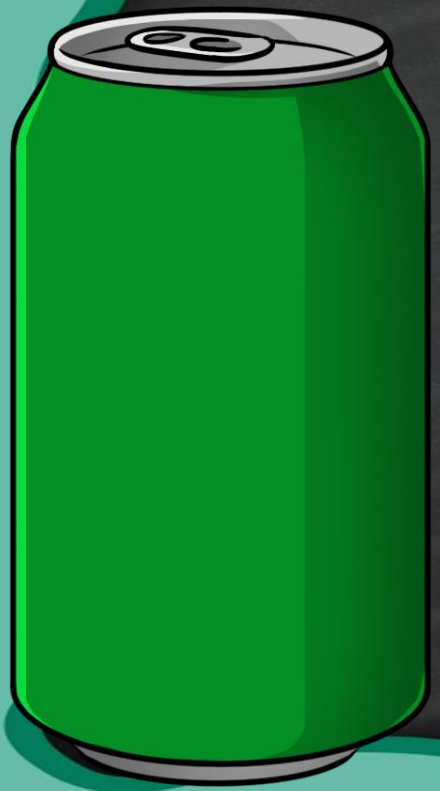
- Metals are conductors of heat and electricity.
- There are several types of metals.

Gold

- Gold is a conductor of heat and energy.

Aluminum

- Aluminum is a conductor of heat and electricity.



Silver

- Silver is a conductor of heat of electricity.

Copper

- Copper is a conductor of heat and electricity.

Steel

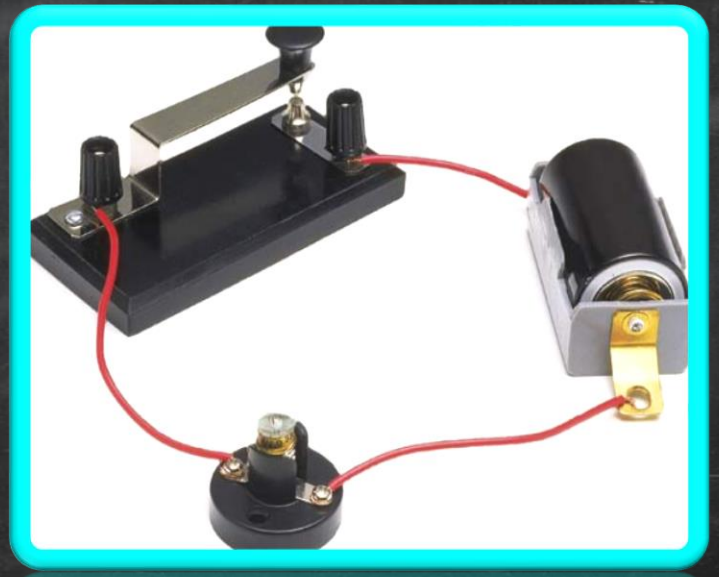
- Steel is a conductor of heat and electricity.

Additional Conductors

- All conductors are NOT metals.
- People, wax, trees and water are also conductors.

How do we use conductors?

- Conductors are used to transfer electricity in environments such as homes and buildings.
- To build electrical circuits.



Insulators

- Insulators do NOT allow electricity and heat to flow freely through them.
- Various types of materials can be classified as insulators.





Insulators

- The atoms of insulators are not easily freed and are stable, preventing or blocking the flow of heat and electricity.

Rubber

- Rubber can be classified as an insulator because it blocks the flow of electricity and heat.

Styrofoam

- Styrofoam can be classified as an insulator because it blocks the flow of heat and electricity.

Plastic

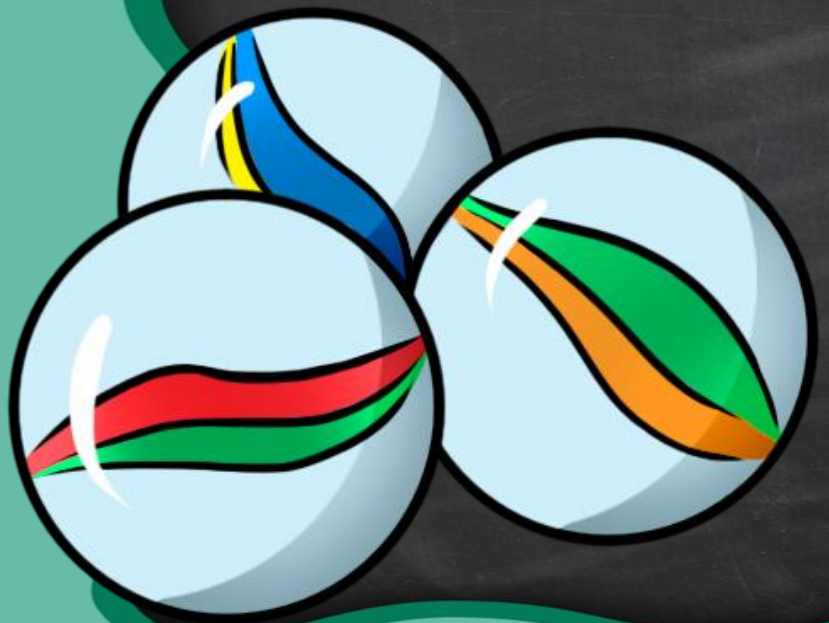
- Plastic can be classified as an insulator because it blocks the flow of heat and electricity.

Wood

- Wood can be classified as an insulator because it blocks the flow of heat and energy.

Glass

- Glass can be classified as an insulator because it blocks the flow of heat and energy.

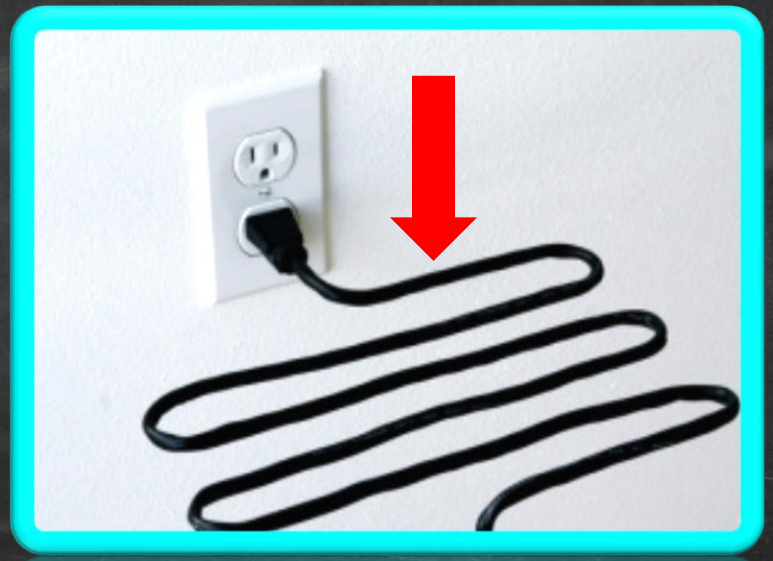


Cotton

- Cotton can be classified as an insulator because it blocks the flow of heat and electricity.

How do we use insulators?

- Insulators are used to protect people from the flow of electricity of an electrical cord.
- They are also used to protect us from heat.
- Locate insulators in your home and think about how they are used.



In Conclusion...

- Today we learned about the characteristics of conductors and insulators.
- We analyzed several examples of conductors and insulators.

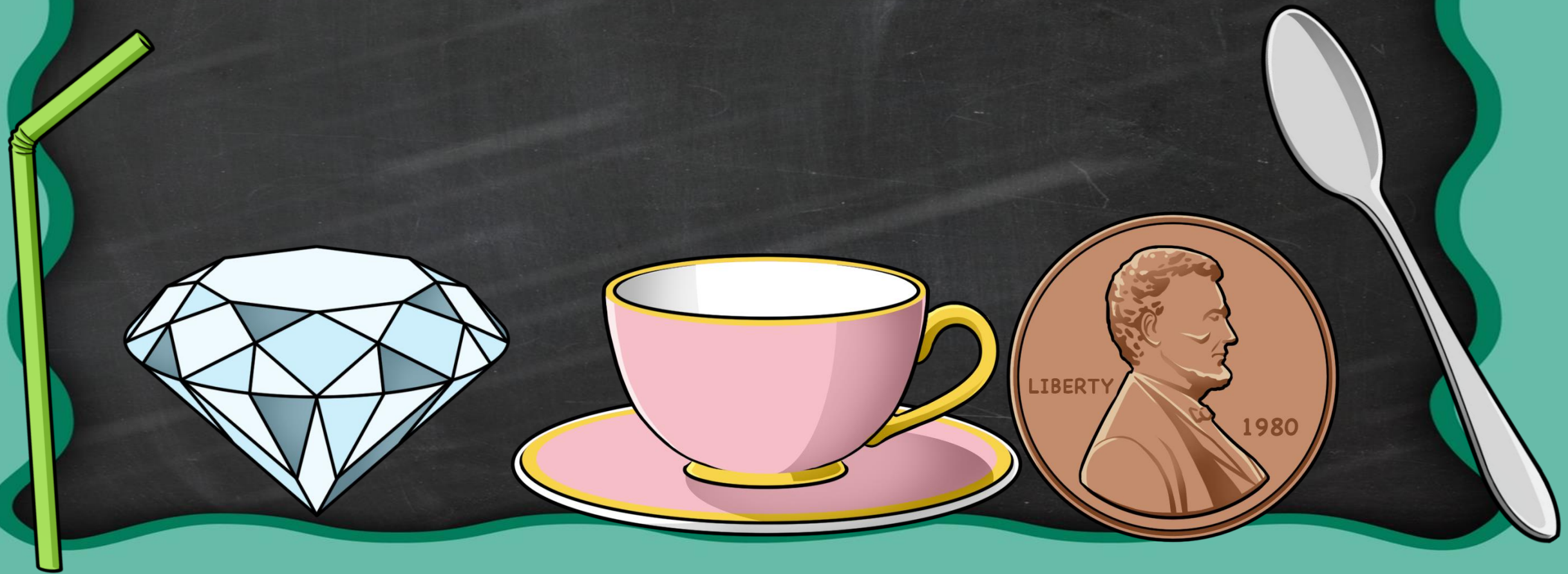
Which cup would be better able to keep in the heat of a hot drink? Explain your answer

Glass Cup

Styrofoam Cup

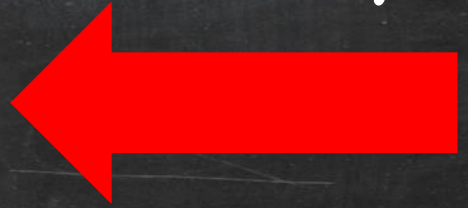
Metal Cup

Mini-Quiz
Conductors and Insulators



Conductors …

a.) Block the flow of heat and electricity.
b.) Only let heat flow through them.
c.) Produce heat and electricity.
d.) Allow heat and electricity to flow freely through them.



Insulators…

a.) Only allow heat to flow through them.
b.) Block the flow of heat and electricity.
c.) Produce electrical energy.
d.) Allow heat and energy to flow freely through them.

Does the following picture represent a conductor or insulator?

Insulator

Does the following picture represent a conductor or insulator?

Conductor

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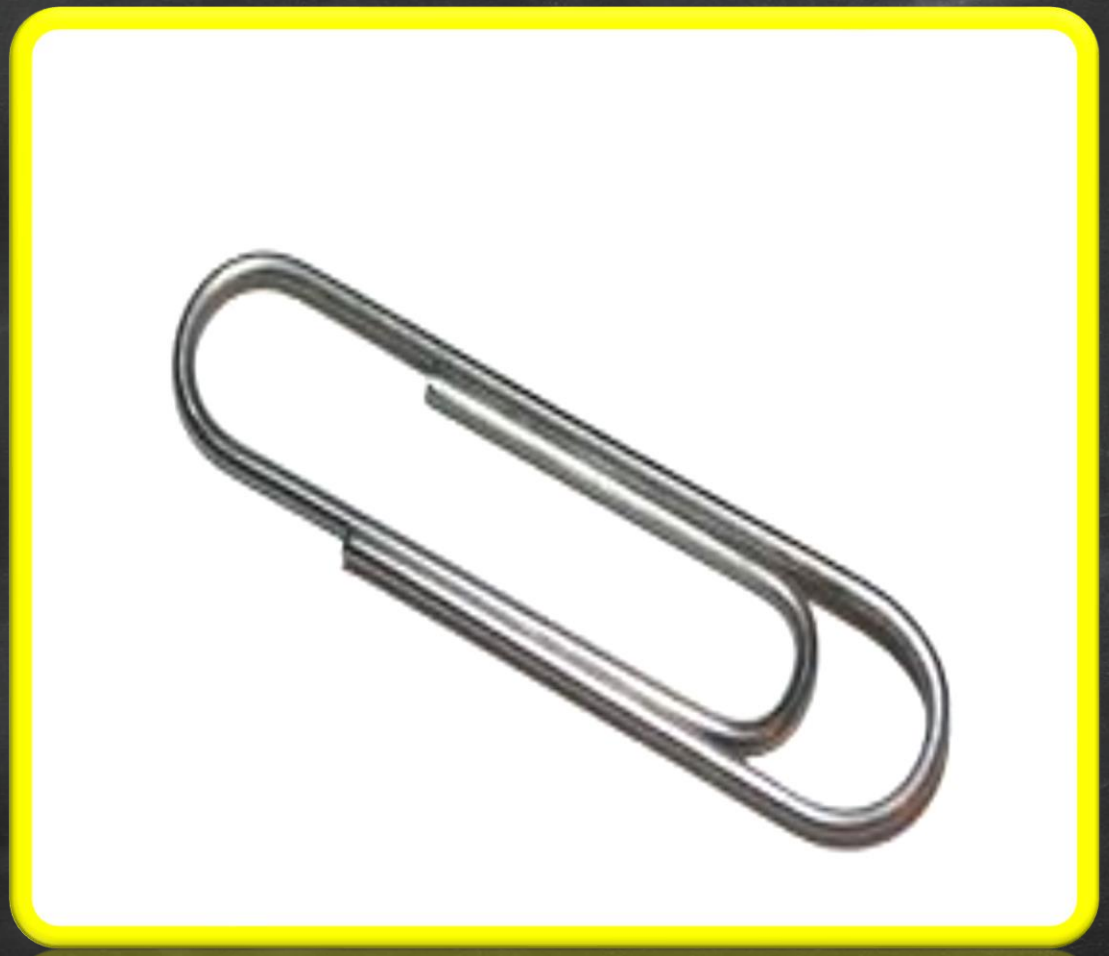

Conductor

Does the following picture represent a conductor or insulator?

Insulator