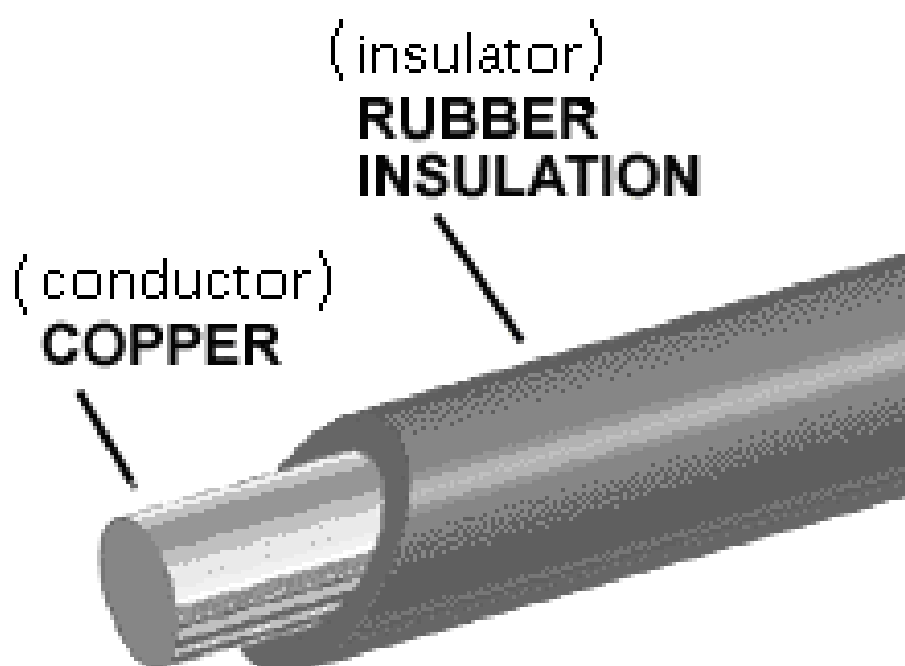


Science and Health

CLASSIFYING MATERIALS INTO CONDUCTORS AND INSULATORS





To the Learner

Good day!

In the previous module, you learned about the different parts of an electric circuit. One is the conductor. Now you will know what materials allow electric current to flow and which ones do not allow.



Let's Learn This

☺ Classify materials into conductors and insulators.



Let's Try This

Group the following materials under proper heading in the table below.

Aluminum	Silk	Wood
Rubber	Tin	Plastic
Silver	Lead	Steel
Dry papers	Water	Celluloid
Iron	Brass	Glass
Nickel		

Materials that ALLOW current to flow	Materials that DO NOT allow current to flow
1.	1.
2.	2.
3.	3.
4.	4.

<u>CONDUCTORS</u>	<u>INSULATORS</u>



Let's Study This

CONDUCTORS:

Current electricity flows along a path made of metal. Metals like silver, copper and aluminum wires are good conductors of electricity. The electric wire you used in the activity was made of copper wire. Conductors transport electricity from the source to the load.

INSULATORS:

An insulator is a safety device used to allow electric charges to flow along the right path only. Although electricity flows along a metal path, it cannot pass through insulators like rubber. The electric wire you used is covered or insulated with rubber or plastic materials. The insulator prevents a short circuit. A short circuit usually happens when current flows along the conductor bypassing the resistor or load.



Let's Do This

Do this activity with your teacher.

Problem: **What is a conductor?**

Materials: 1 glass with salt water labeled A
 1 glass with tap water, labeled B
 2 wooden skewers, 4 big metal paper clips
 2 dry cells, electrical tape
 2 small light bulbs
 Electrical wire (copper wire)

Procedure:

1. Secure wire on one end of the dry cell then secure the other end to the light bulb.
2. Use another wire and secure one end of it in the same bulb. Then attach another end to the paper clip.
3. Secure another wire on the end to the dry cell and attach another end of the wire to another paper clip.
4. Hang the two clips on the wooden skewers and hang it across glass A. See to it that the end part of the clips touches the water.
5. Do the same with glass B.
6. Answer the following questions.

In which glass did the bulb light? Why?

What kind of liquid is the best conductor? Why?



Let's Do More

Multiple choice.

Underline the letter of the correct answer.

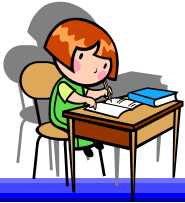
1. Materials through which electricity pass easily are called.
 - a. insulators
 - b. conductors
 - c. non conductor
 - d. metallic
2. Which of the following group of materials are good conductors of electricity?
 - a. Copper, silver, gold, glass and zinc.
 - b. Iron, copper, silver, gold and nickel.
 - c. Wood, paper, leather cloth and plastic.
 - d. Gold, paper, leather cloth and plastic.
3. Which of the following groups are insulators.
 - a. Leather, book, paper, plastic.
 - b. Silver, gold, nickel, iron.
 - c. Nylon cord, cotton cord, wire.
 - d. Glass, zinc, copper, gold.
4. Materials that do not transmit electricity and heat are called?
 - a. conductor
 - b. insulator
 - c. iron
 - d. wire



Let's Remember This

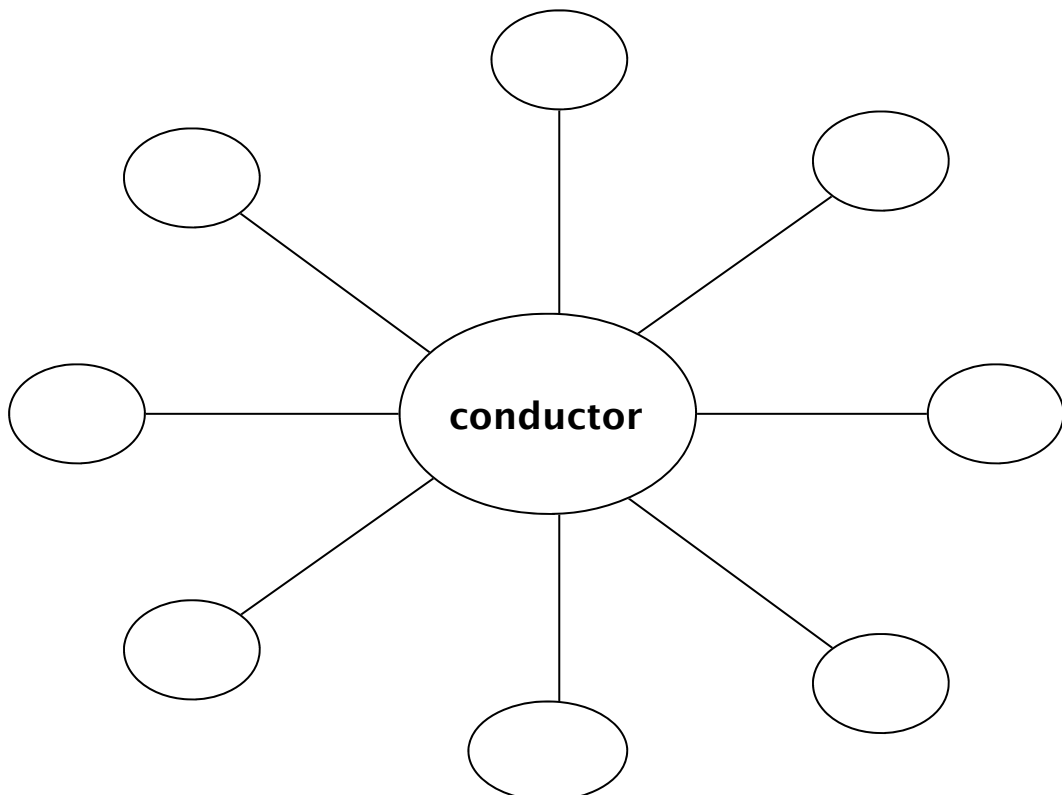
What is the difference between *conductors* and *insulators*.

Conductors are materials that transmit electricity and heat while Insulators are materials that do not transmit electricity and heat.

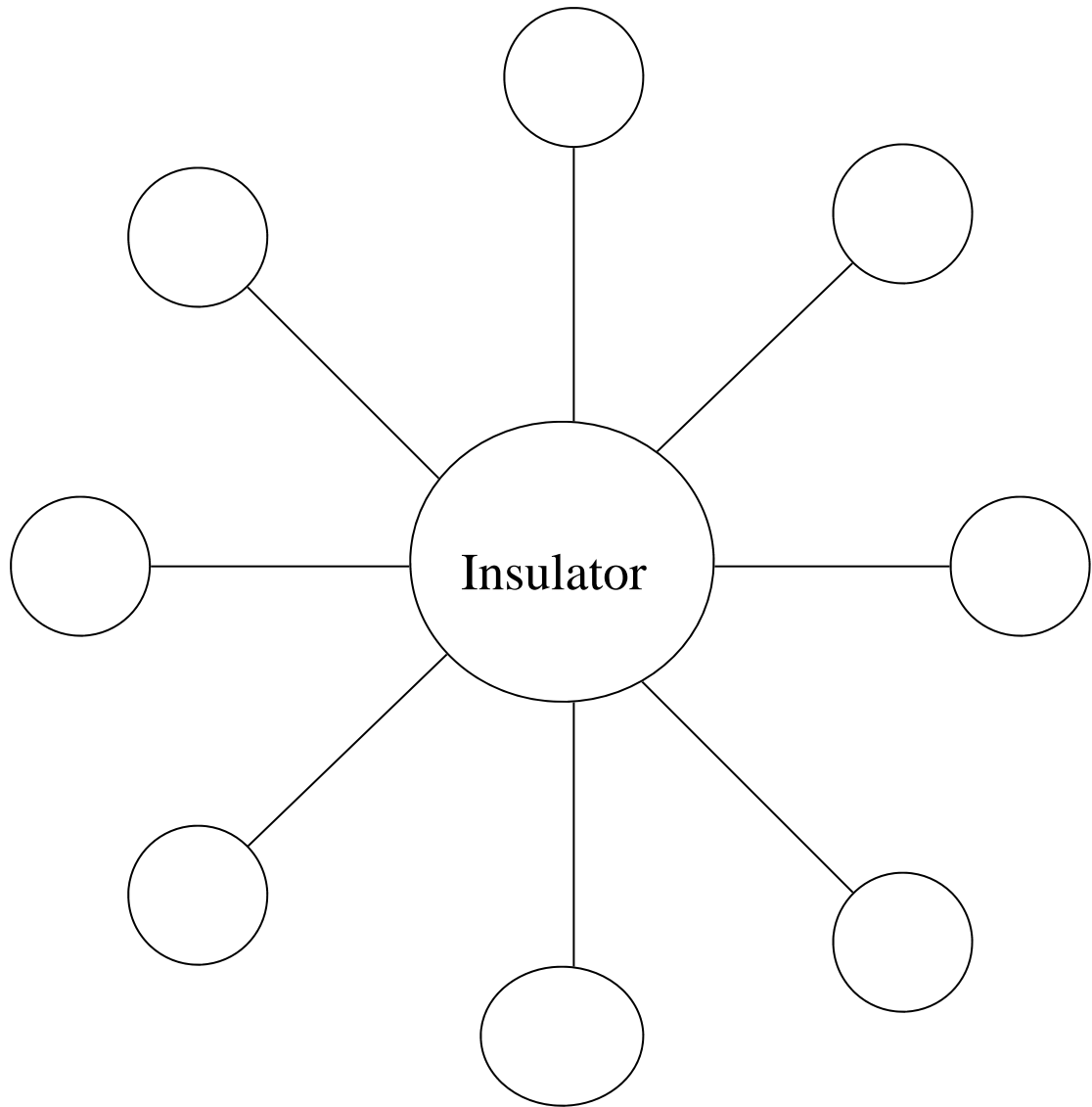


Let's Test Ourselves

- A. Complete the concept web by writing an example of conductor in the circle.

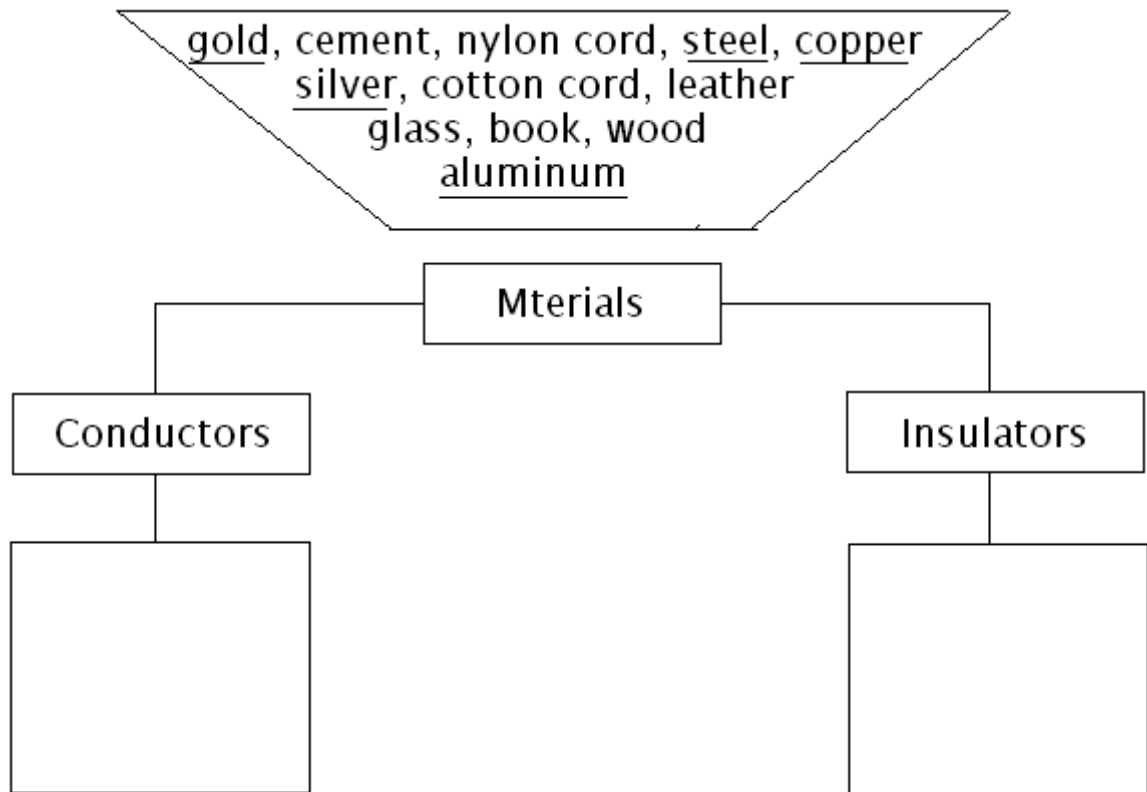


- B.** Complete the concept web by writing an example of insulator in circle.



C. Classify the following materials accordingly.

Write them under its proper column.



Check your answer with the answer key, if you got high score congratulations it means you understood our lesson and you are now ready for the next module.

My score

Science Fact File

That Alessandro Volta invented the first battery in 1800. This device gave the world its first continuous reliable source of electric current.



Answer Key

Let's Try This

Materials that ALLOW electricity to flow		Materials that DO NOT allow electricity to flow
Aluminum	Tin	Rubber
Lead	Celluloid	Wood
Silver	Steel	Dry paper
Iron	Brass	Glass
Nickel	Water	Plastic

Let's Do More

1. B

2. B

3. A

4. B

Let's Test Ourselves

A and B → Answers vary

C.

Conductors

Gold, steel,
copper, silver,
aluminum

Insulators

Nylon cord, dry paper,
Glass, book,
wood cotton cord,
leather, cement