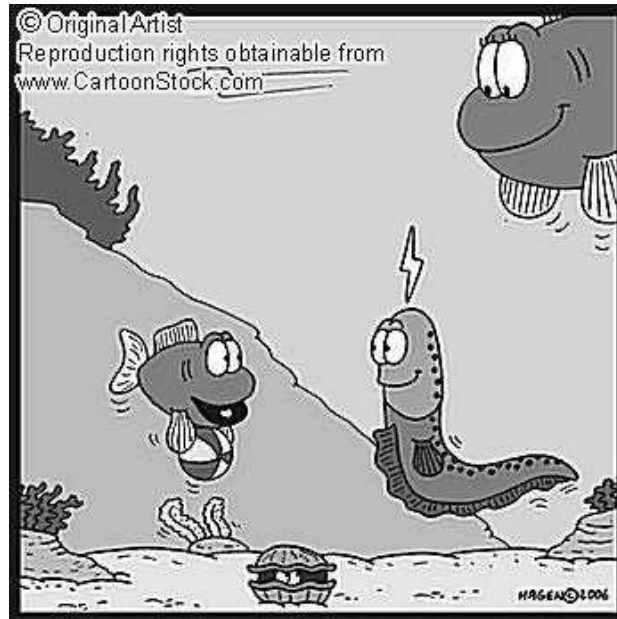


Conductors & Resistors

Some materials allow current to pass through them easily while others do not.

Conductors

A material that allows electric current to pass through it easily is called a conductor. Metals are conductors of electricity. However, some are better than others.



I'm usually not allowed to play with electricity,
but I'm sure Mum won't mind me playing with you...

Water is also a very good conductor. This is why water and electricity don't mix!

Resistors

- A material that slows the passage of electrical charges is called a resistor.
- Resistors are able to slow the amount of current that flows. The greater the resistance of the material, the greater the amount of energy the electrons give up as they pass through it.
- Electrons give up their energy as heat and light.
- This characteristic is what makes them so useful in many household electrical devices.
- Resistance - a situation in which some electrons are allowed to pass while others are not.



A variable resistor is a device that can be used to control (or vary) the amount of current in an electrical circuit. This is done by increasing or decreasing the distance the electrons must travel from source to load.



Insulators

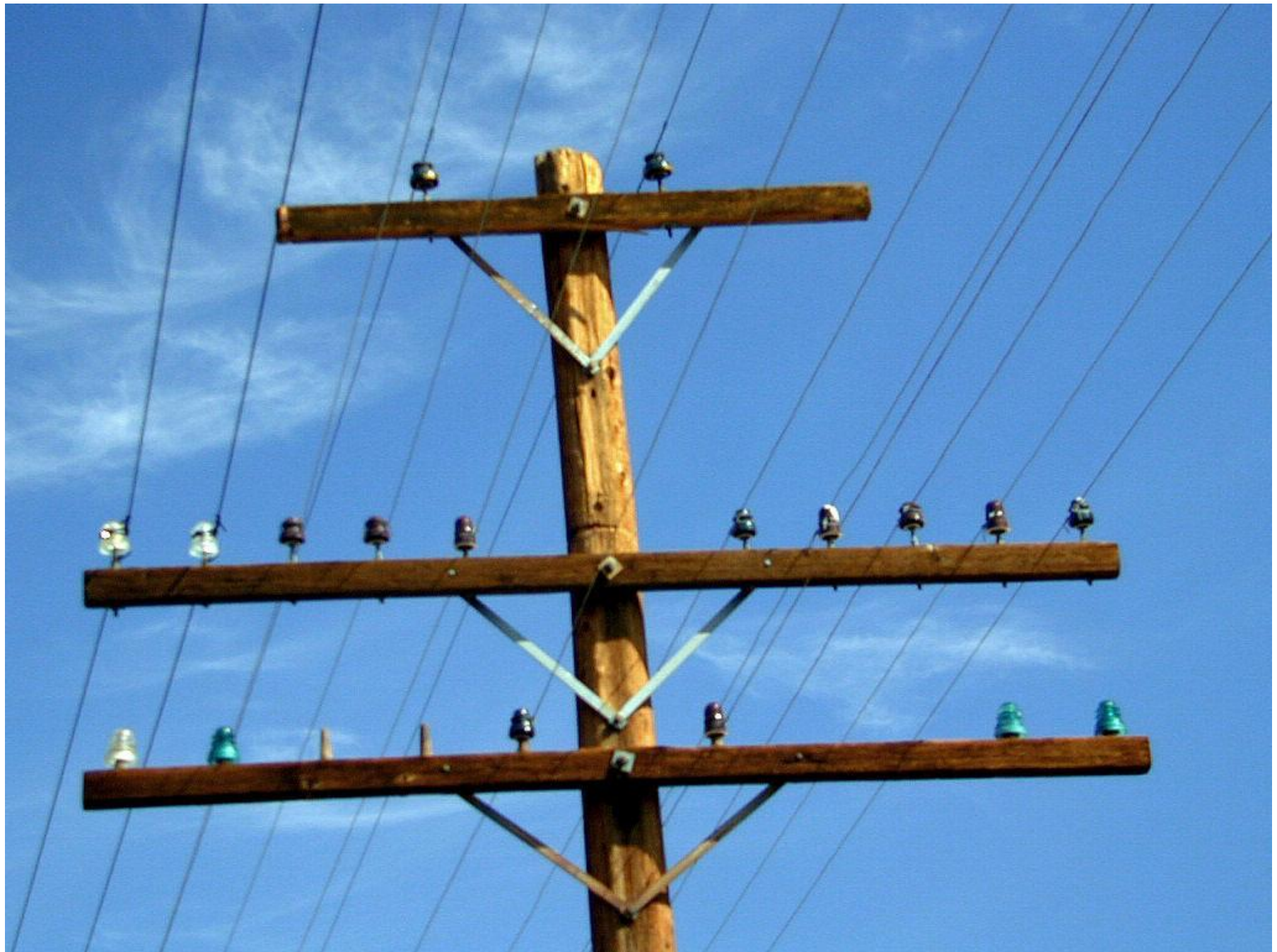
A material that does not allow electrons to pass easily from one material to the next is called an insulator.

Insulators are used to protect us from electrical shocks.

They create a barrier that keeps the electrons traveling along a path from source to load. Without this barrier many of the electrons would fly off of the conducting wires and be lost to the environment. As a result the electrical current would be greatly reduced.

Materials that make good insulators are: Plastic, Glass, Fiberglass, Rubber





Discovering Conductors, Resistors & Insulators

Material Tested	Conductor	Resistor	Insulator
copper wire			
wood splint			
nichrome wire			
glass rod			
plastic stick			
aluminum foil			
pencil lead (graphite)			

