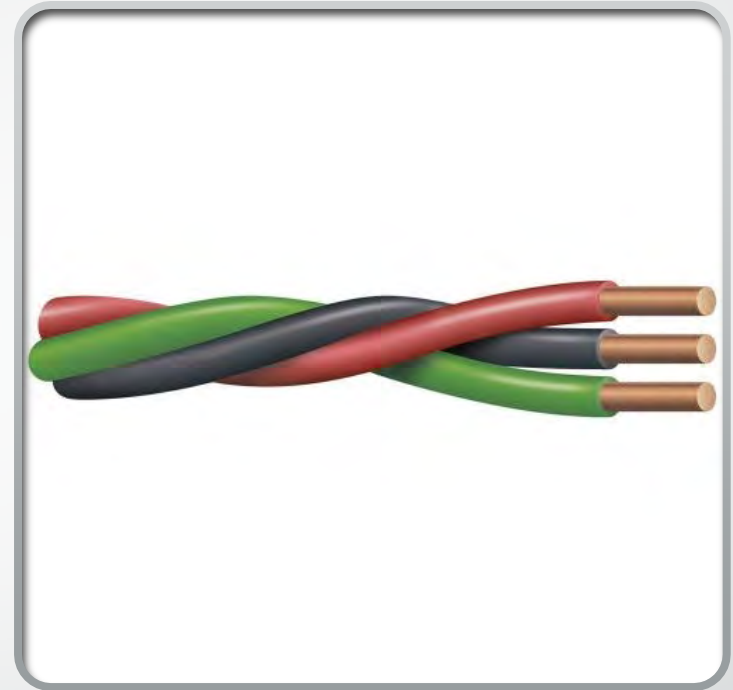


# SAFETY APPLICATIONS IN DAILY LIVES

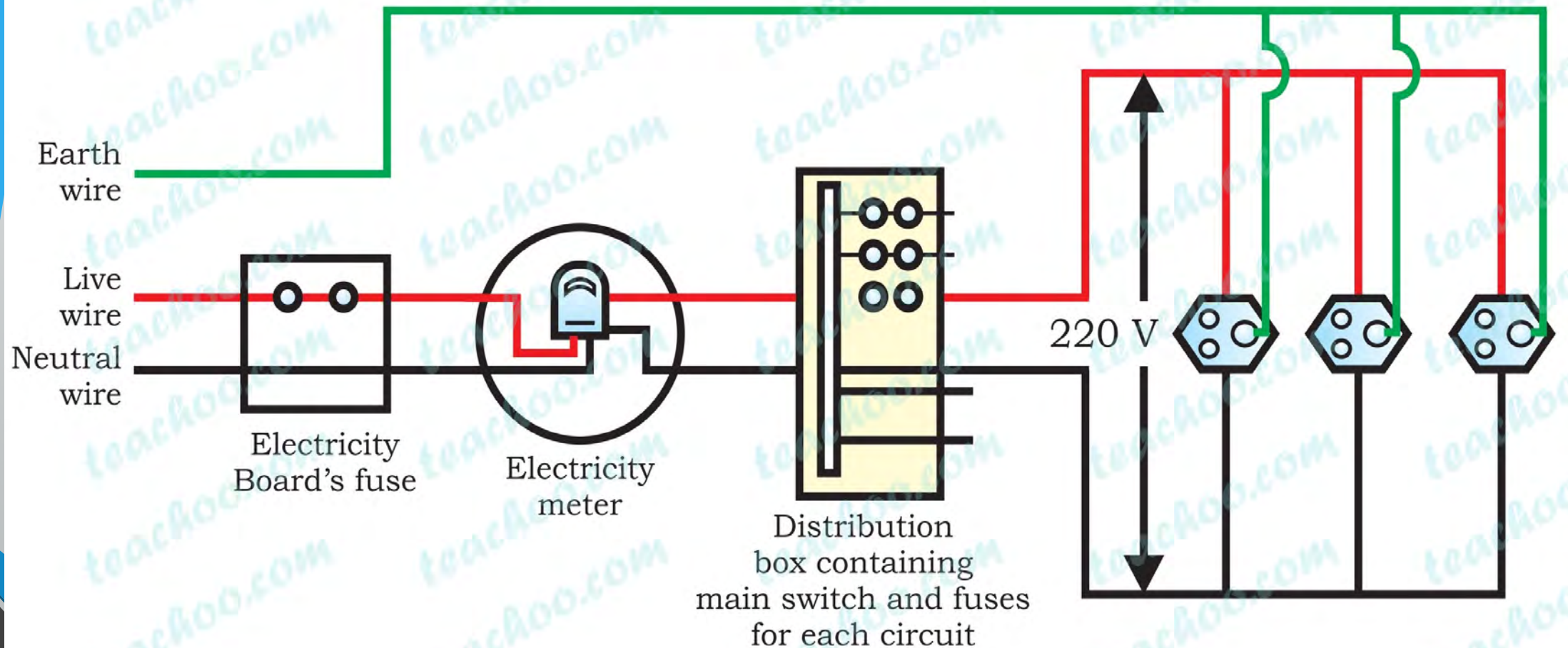
A Short Presentation from Varun Gaur

# THE THREE WIRES

- 1. Red Wire: It signifies the phase level of the electric circuit. Shouldn't be connected with another red or black wire.
- 2. Black Wire: Plays the neutral wire role in electric circuit. It can connect with black wire only.
- 3. Green Wire: Stands for Earthing/grounding for the electric circuit. It can connect with green wire only. Used for Socket Purpose
- Any other connections from above will heat the wire



# Domestic Electric Circuit



# Description

- The all supply goes to Live/Red Wire (carrying Voltage Supply/ 220-230V AC and current).
- Then it goes to electric fuse (I will explain its role later). After that it reaches for Electricity Meter (To **measure the amount of electricity or gas that you use**; a meter between the incoming electric power or gas lines and the point of distribution at Residential homes or offices).
- Then the whole supply goes to load, where every load tends to drop potential difference until and unless it turns for 0 volts.
- Keeping in mind that current divides in parallel, and remains same in series, the circuit is united after passing through each load of every houses. And for that Neutral/Black wire is used.



BUT WHY IS GREEN WIRE IS USED?  
DOES IT HAS SOME ROLE PLAY!!??

# IMPORTANCE OF EARTHING/GREEN WIRE

- Green wire is used for grounding the current differences between Live and Neutral Wires.
- These residual amount of currents are then grounded (as obvious after its name)
- Ultimately, it **reduces the risk of electrical overload and fires** by redirecting excessive electricity during a short circuit.



# DESIRE OF ELECTRIC FUSE



- An electric fuse is an electric device which interrupts the flow of current in an electric circuit. Small in size, but again big role!
- It is installed in a circuit to stop the flow of excessive current.
- Drawbacks
  - When it blows off, the replacing of fuse takes time, which is an annoying thing for customers and people.
  - Also, its less sensitive.

# SAFETY IN THE MODERN WORLD: MCB / MINIATURE CIRCUIT BREAKER

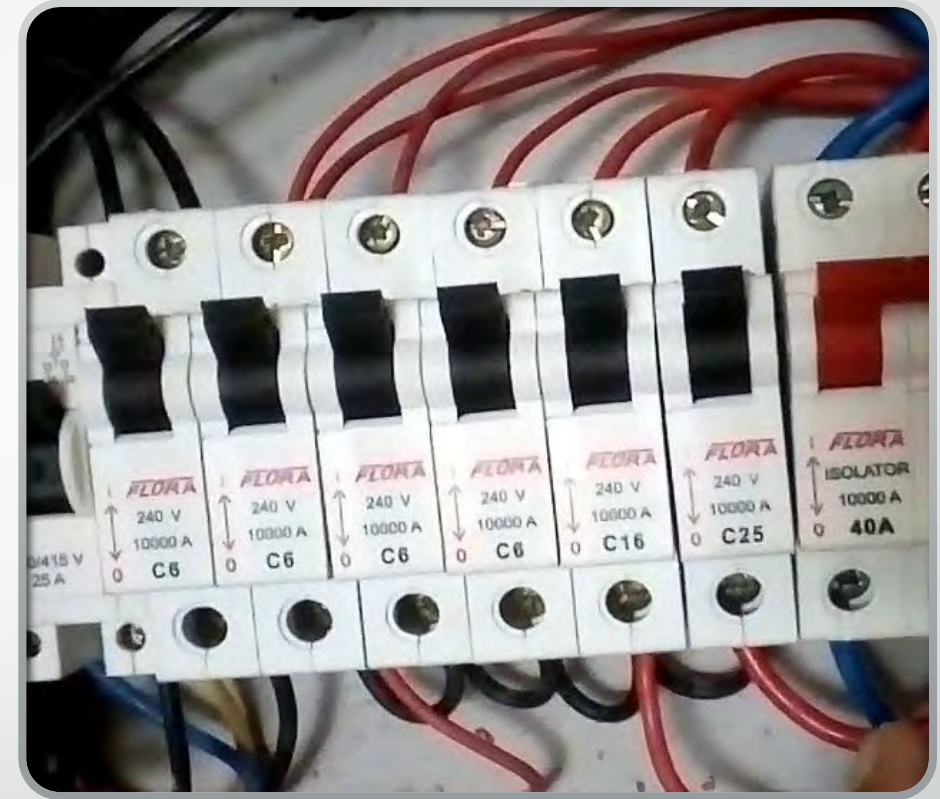
- Main function of this is to protect an insulation or appliance against sustained overloading and short – circuit faults.
- So whenever load of any domestic area will exceed than limit, it trips off.
- MCBs are classified into different types according to tripping over the range of fault current. They are: Type B, C, D, K, Z.
- Drawbacks: Costly





# SAFETY IN THE MODERN WORLD: RCCB/ Residual Current Circuit Breaker

- It works on the principle of Kirchoff's law, ie, Sum of incoming current = Sum of Outgoing Current.
- So if X amounts of incoming current goes to the domestic load, and there's X/1000 amount of current difference between the incoming & outgoing source, then it trips off.
- Advantage over MCB: It can adjust the trip current whereas MCB doesn't.





# THANK YOU!

---

Have a Nice Day!