

Circuits & Ohm's Law: Dynamic Electricity & Electrical Engineering



<https://www.youtube.com/watch?v=alhk9eKOLzQ>

1. What were some of the mistakes being made by the students in the video?

2. a) How could we make the light bulb shine brighter?

- b) How could we make the light bulb shine less brightly?

3. If the battery has a voltage of 1.5V and the total resistance of the circuit is 5Ω , what do we expect the current intensity to be?

4. The simple circuit from the video involved a battery and a light bulb connected in series. Draw this circuit with a voltmeter positioned to read the voltage across the light bulb and an ammeter positioned to read the current.



5. a) In the video, chemical energy from the battery was transformed into electrical energy and then into light by the light bulb.

What type of energy transformations are happening in each of the following situations?

Device	Transformation
Bluetooth Headset	→
Vacuum Cleaner	→
Solar Panels	→

- b) Give an example of a device where the following energy transformations occur.

Transformation	Device
Mechanical → Electrical	
Chemical → Electrical	
Electrical → Thermal	

6. Not all circuits are connected in series; parallel circuits are an alternate way to connect devices in an electrical circuit. What are the advantages and disadvantages of a parallel circuit compared to a series circuit?

Advantages	Disadvantages