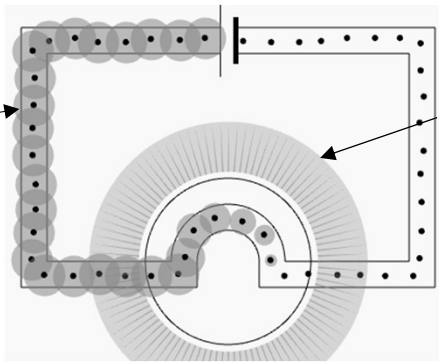


Energy and voltage – what batteries run out of

We imagine the charges carry (red) energy

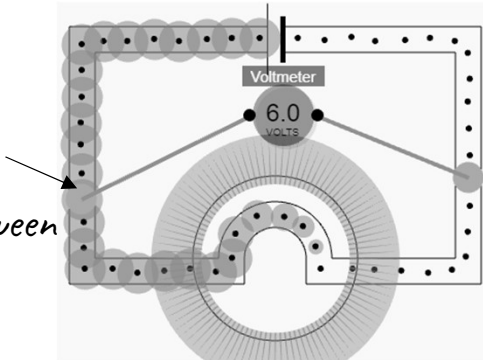


Energy gets shifted from the battery through the bulb into the thermal store of the surroundings

☺ The amount of energy associated with a charge is called the voltage or potential at that point. Potential decreases through the bulb to zero on the far side. Charges don't get used up, but energy spreads out thinner and thinner.

Measuring voltage – comparing potentials

Voltmeters measure the difference in potential between two points



The potential difference across the bulb is the same as the p.d. across the battery

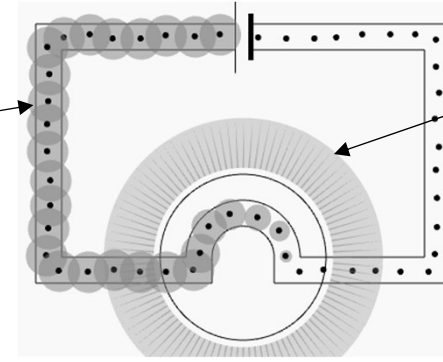
☺ Potential difference in volts is the number of joules of energy shifted per coulomb of charge passing through a component.

Voltmeters are connected in parallel so they can sample the potential at two points.

potential difference = energy shifted / charge (moving through a component)

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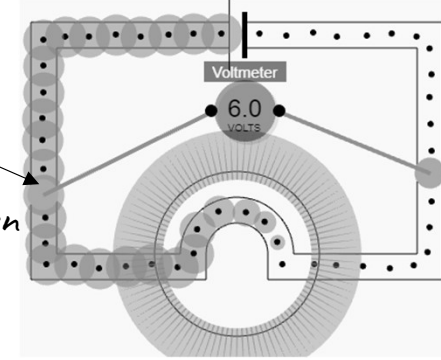


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