Unit 23.1 – 23.5

In Unit 22 → lots of observations

→ some measurements

⇒ Developed concepts, knowledge

So far, we have used only small lightbulbs.
We could also have used toaster, hairdryer, computer, etc.

For all cases, we would like to know:

→ potential difference, ΔV, across each element (bulb, etc.)

→ current, I, through each element <u>and</u> battery

Next 2 class – develop ways to calculate ΔV and I.

Today's class – continue to measure ΔV (and observe I by brightness):

– practice connecting circuits and making measurements with voltmeters.
– continue reinforcing our knowledge.

⇒ lots of predictions.

So, what <u>do</u> we know?

Charge: – a property of an object (electron, proton, ion)

Current: – amount of charge (not # of objects) passing a location each

second. $I \equiv \dfrac{q}{\Delta t}$

Wires: – conductors
– equipotential surfaces
→ electric potential is same everywhere on a wire

Batteries: – source of constant potential difference, ΔV, regardless of
– circuit connected to it
– current through it

Bulbs: – provide resistance
– need a ΔV across a bulb to light it
→ need a ΔV across a bulb to cause a current through the bulb
    (cause)   (effect)
– two bulbs in series have more resistance than a single bulb
– two bulbs in parallel have less resistance than a single bulb