OHM'S LAW

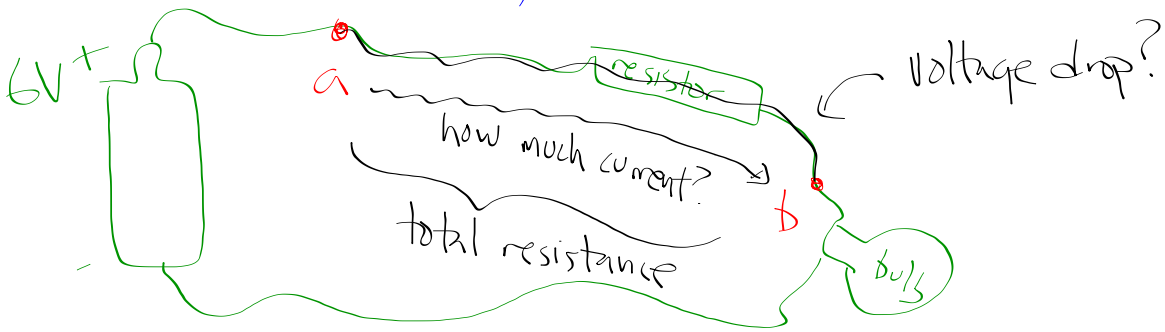
$V = I \cdot R$ → Ohms, Ω

V → Volts, J/C

I → Current → Amperes (amps) C/s

$V_{ba} = I_{a \to b} \cdot R_{a \to b}$

(V_{ba} = voltage change) ($I_{a \to b}$ = current through a section) ($R_{a \to b}$ = total resistance)



Measuring voltage

set dial to
AC (power socket)
DC (everything else)
set high
1st & adjust downwards

+ ⊕ POLARITY

+ O red lead (positive)

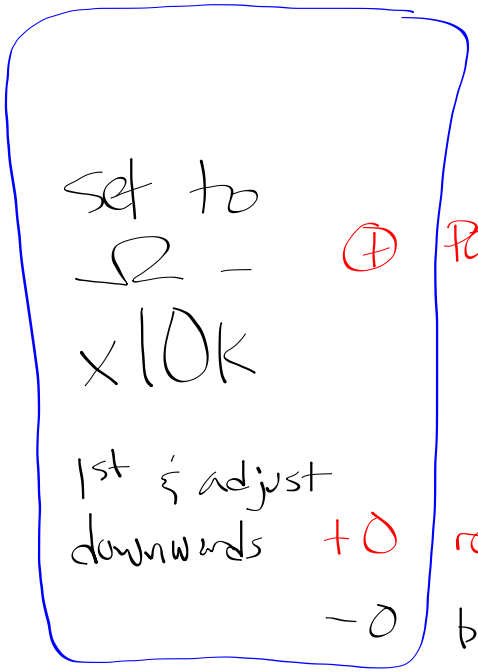
− O black lead (negative)

Put red lead at higher voltages & black lead at lower voltages.

Meter will tell you

V_{ba}

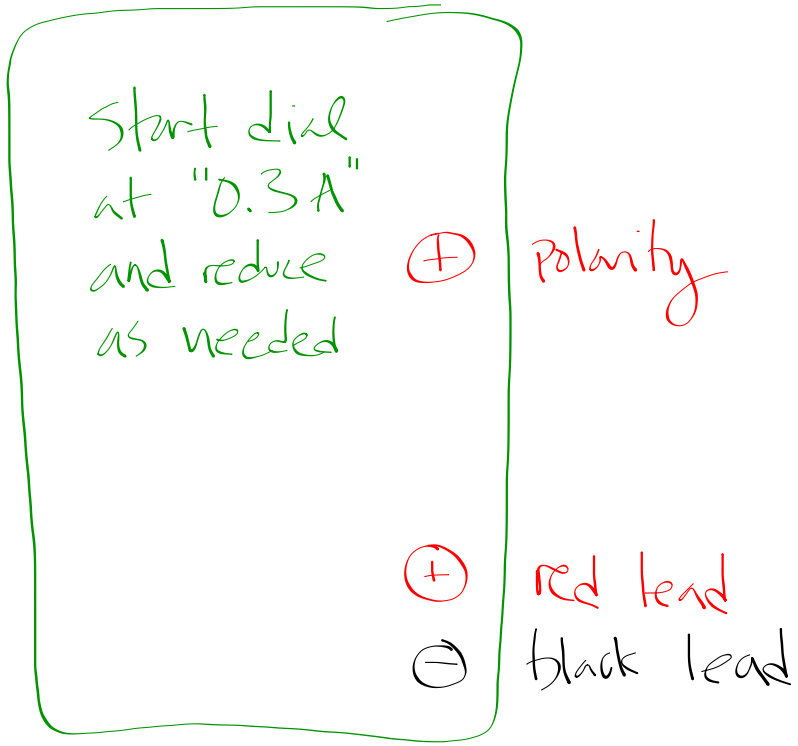
Measuring Resistance



You have to measure resistance of a disconnected component/path.

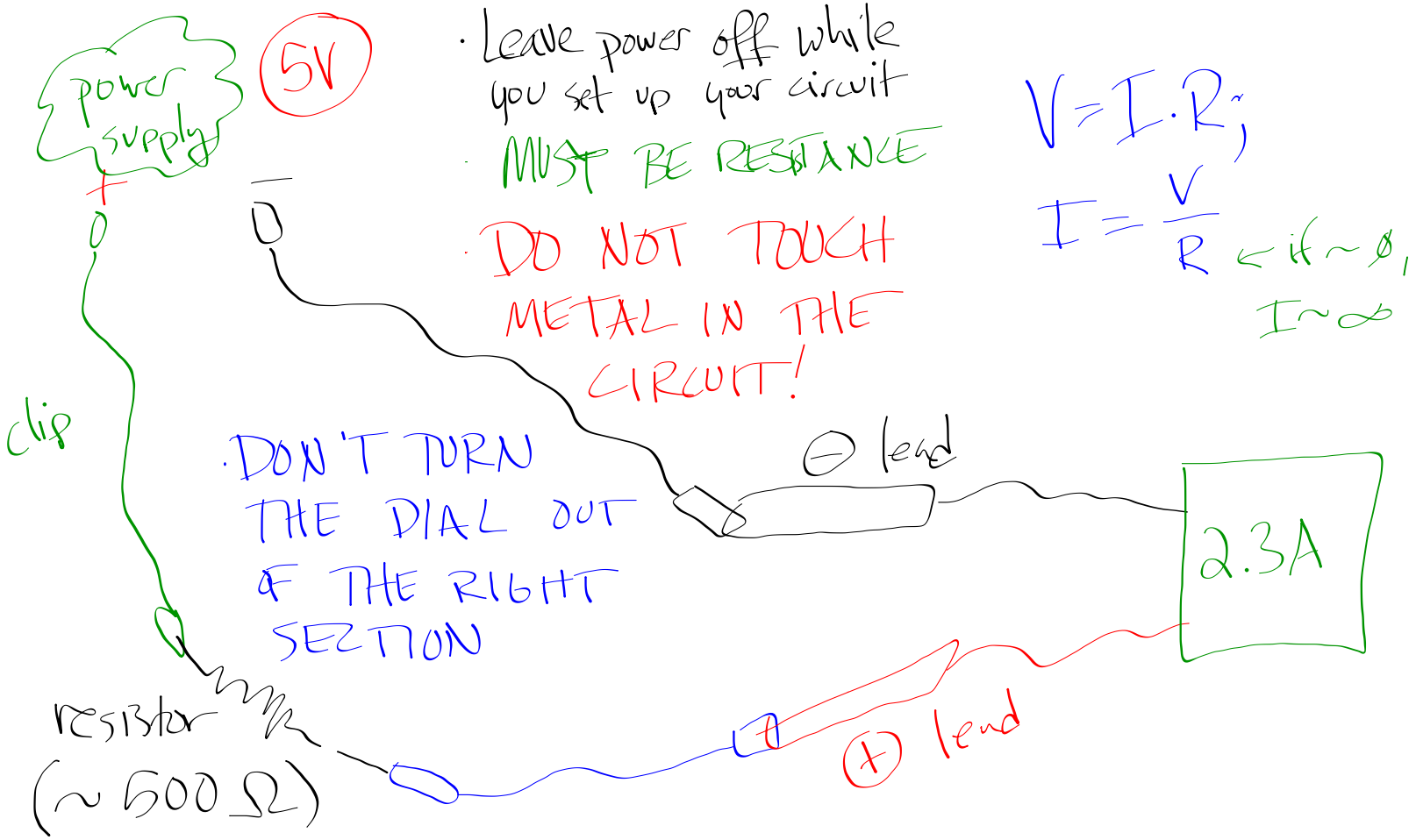
- NO LIVE CIRCUITS
- ONLY ONE PATH

Measuring current



The meter will be part of your circuit!

You'll break your circuit, then use the meter like wire. (Red goes closest to ⊕, black goes closest to ⊖)


power supply
5V
+
−
clip
resistor
(~500Ω)
• Leave power off while you set up your circuit
• MUST BE RESISTANCE
• DO NOT TOUCH METAL IN THE CIRCUIT!
• DON'T TURN THE DIAL OUT OF THE RIGHT SECTION
⊖ lead
⊕ lead
2.3A
V = I · R
I = V/R ← if ~ 0, I ~ ∞