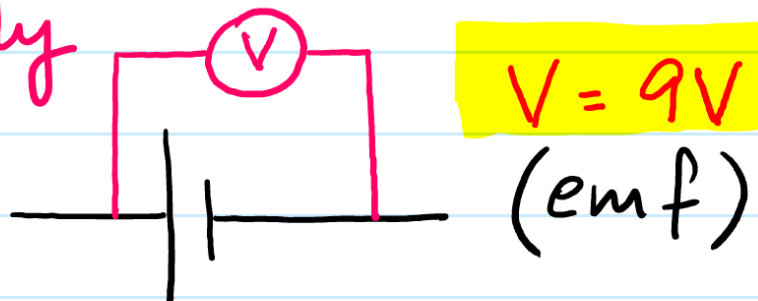
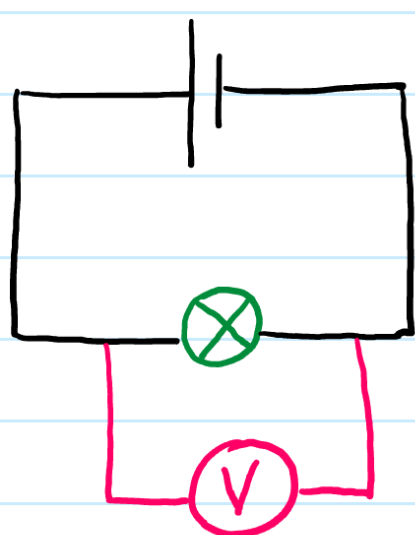


How can we determine whether or not a battery has Internal resistance r how can we calculate its value experimentally



$9 - 8 = 1V = \text{Lost volts}$

confirms presence of "r"



$V = 8V$
(Terminal Potential diff).

$V \approx E$

Lost volts

$v \approx 0$

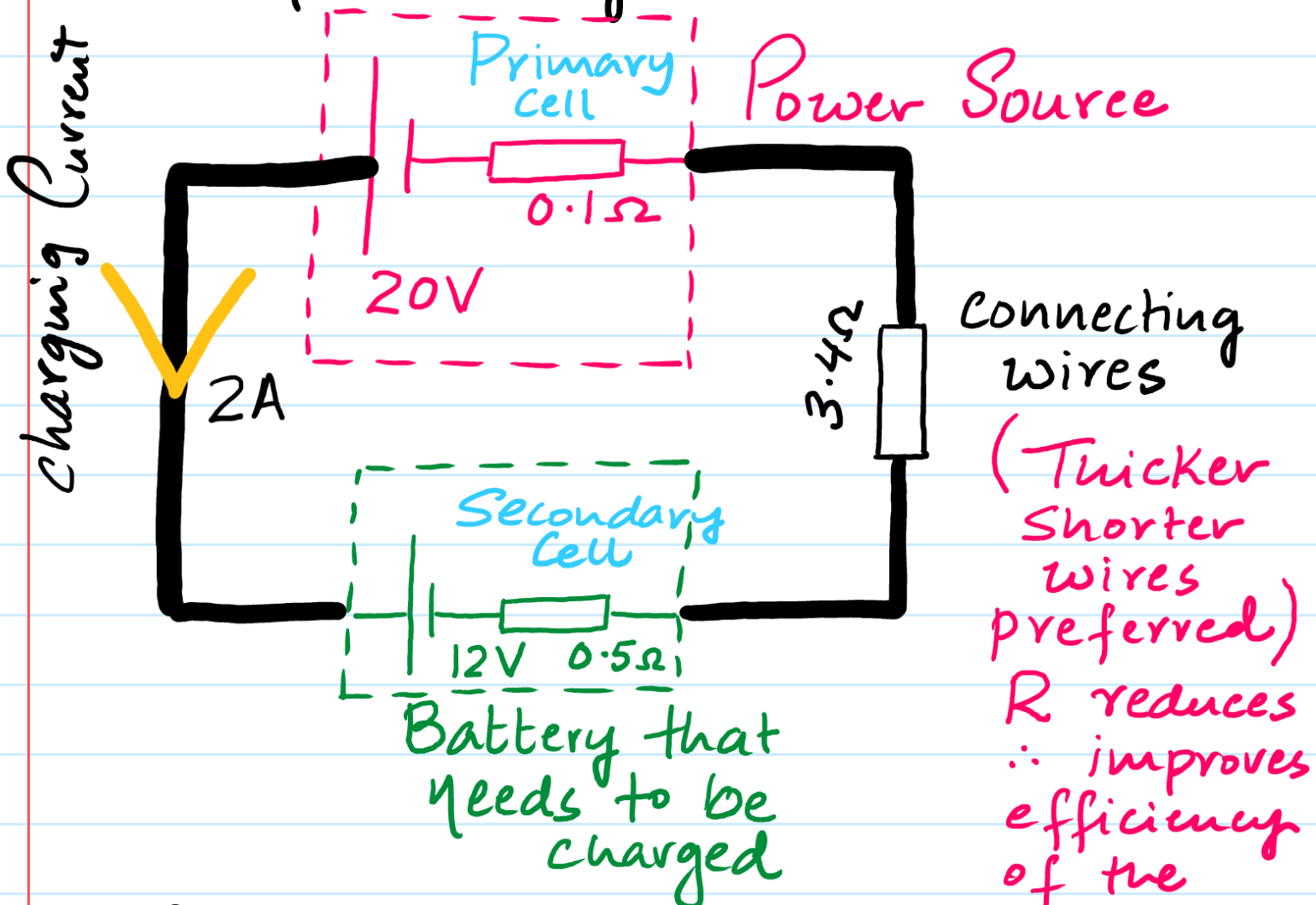
\therefore negligible internal Resistance.

How to charge an uncharged battery using a Power Source.

Practical Applications

① Power Bank connected to mobile phone

② Jump starting a Car.



(i) Cal charging Current.

$V = IR$

$20 - 12 = I(0.1 + 3.4 + 0.5)$

$8 = I(4)$

$I = 2A$

(ii) Cal Power Supplied by the Primary cell

$P = IV$ (for Power Supplied)

$P = (2)(20) = 40W$

(iii) Cal Power dissipated in the circuit

$P = I^2 R$

$P = (2)^2 (0.1 + 3.4 + 0.5)$

$P = 16W$

(iv) How efficient is the charging process

Power stored by the secondary cell = $40 - 16 = 24W$

efficiency = $\frac{24}{40} \times 100 = 60\%$ or 0.6