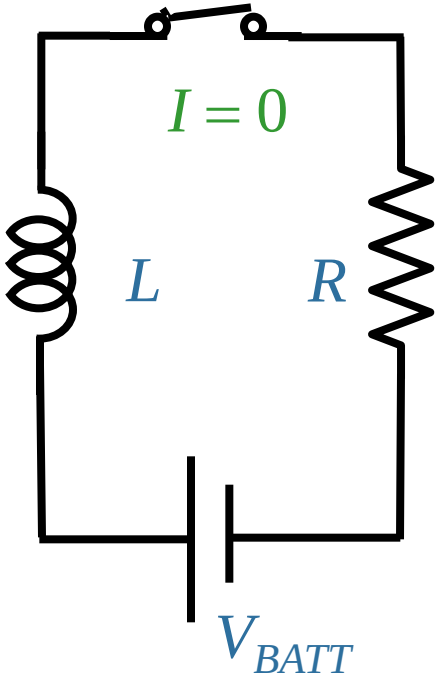
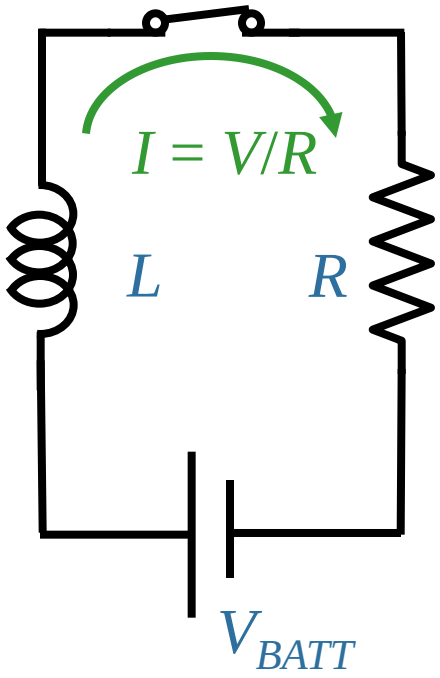
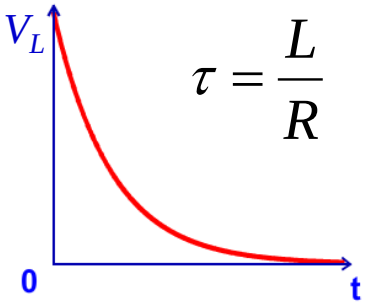
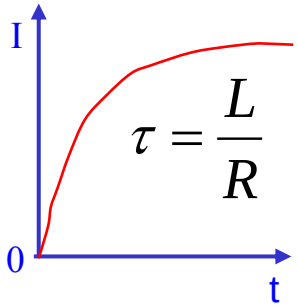
How to think about RL circuits Episode 1:

When no current is flowing initially:









At $t = 0$: I_L unchanged

$I_L = 0$
$V_R = 0$
$V_L = V_{BATT}$
(L is like an open circuit)

At $t >> L/R$: $V_L = 0$

$V_L = 0$
$V_R = V_{BATT}$
$I = V_{BATT}/R$
(L is like a wire)