AP-C

Electricity & Magnetism
Induction
LR Post Lab

Name _____

Teacher _____

Period _____

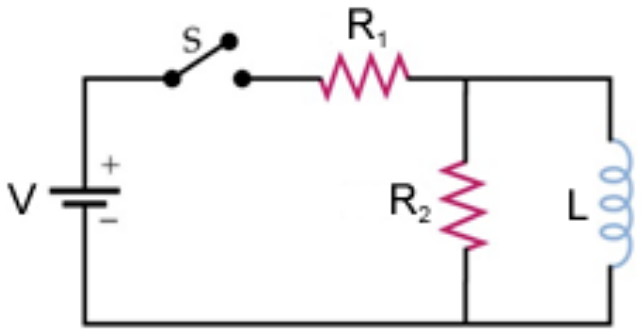
Purpose

Materials computer and internet
http://phet.colorado.edu/new/simulations/sims.php?sim=Circuit_Construction_Kit_ACDC

Background Tipler Chapter 30-8
http://hyperphysics.phy-astr.gsu.edu/hbase/electric/induct.html#c1

Directions

1. Construct the circuit shown below.



2. Set the values of the circuits elements to

V = ***5 volts***

R_1 = ***1 ohm***

R_2 = ***4 ohms***

L = ***1 henry***

Place voltmeters and ammeters in the circuit to measure the currents and voltages in step number 3

Place a voltage chart across R_2.

3. Experimentally determine the following:
   - Case I – The switch is just closed.
   - Case II – The switch is closed for a long time (time > 4-5 L/R)

	Case I	Case II
Current – i_1		
Current – i_2		
Current through Switch		
Potential – V_1		
Potential – V_2		

4. Experimentally determine the voltage across R_2 immediately after the switch is opened.