Analytical Physics Lab, Worksheet #4: DC Circuits & Kirchhoff's Laws
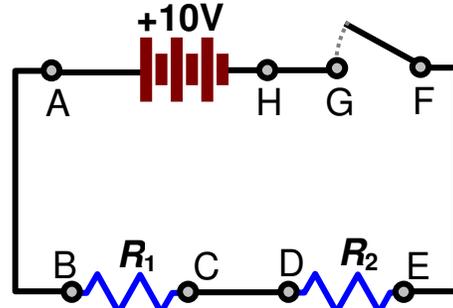
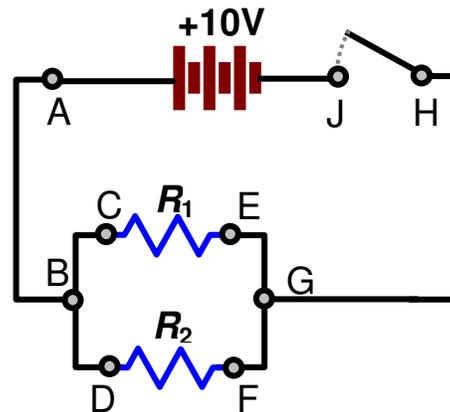Name:_____   Date of Lab:_____

Partner:_____

II. Voltage Measurements			I. Current Measurements	
$V_A - V_G$		V	I_{CD}	mA
$V_A - V_B$		V	I_{EF}	mA
$V_B - V_C$		V	I_{GH}	mA
$V_C - V_D$		V	I_{AB}	mA
$V_D - V_E$		V		
$V_E - V_F$		V	R_1	Ω
$V_F - V_G$		V	R_2	Ω
$V_G - V_A$		V		
$V_B - V_E$		V		

+10V

IV. Voltage Measurements			III. Current Measurements	
$V_A - V_J$		V	I_{GH}	mA
$V_C - V_E$		V	I_{EG}	mA
$V_D - V_F$		V	I_{FG}	mA
$V_A - V_B$		V	I_{AB}	mA
$V_E - V_J$		V		
$V_J - V_A$		V	R_1	Ω
			R_2	Ω

+10V

V. Voltage Measurements			V. Current Measurements	
$V_A - V_K$		V	I_{HJ}	mA
$V_C - V_E$		V	I_{EG}	mA
$V_D - V_F$		V	I_{FG}	mA
$V_G - V_H$		V	I_{AB}	mA
$V_B - V_H$		V		
$V_K - V_A$		V	R_1	Ω
			R_2	Ω
			R_3	Ω

+10V
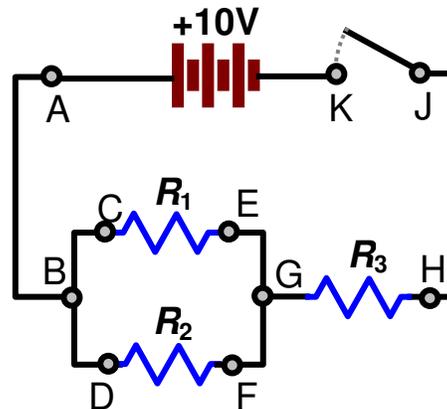
Consider a node having two connections, like node H in the last circuit. What is the relationship between currents I_{GH} and I_{JH}? Use a formula, and check your signs.

Rewrite your previous answer in terms of I_{GH} and I_{HJ} instead of I_{GH} and I_{JH}.

Similarly, consider a node having three (or more) connections, like node G in the last circuit. What is the relationship between currents I_{EG}, I_{FG}, and I_{HG}?