Name: _____
Class: _____

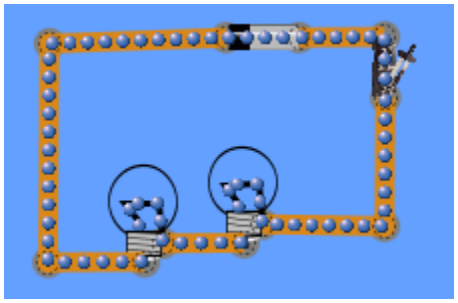
Grade 9 Science
Parallel and Series Circuit Lab #2 – Measuring Current

Purpose: For this lab activity you will use an online circuit simulator to build series and parallel circuits. You will use an ammeter to measure current to investigate some of the similarities and differences between series and parallel circuits.

Directions
Go to Mr Fifield's Corner Page http://www.mrfifieldcorner.weebly.com
Then on "Circuit Construction"
When the page open click on "Run Now" to open the simulator.

PART A – SERIES CIRCUITS

Step 1
Build the following Series Circuit



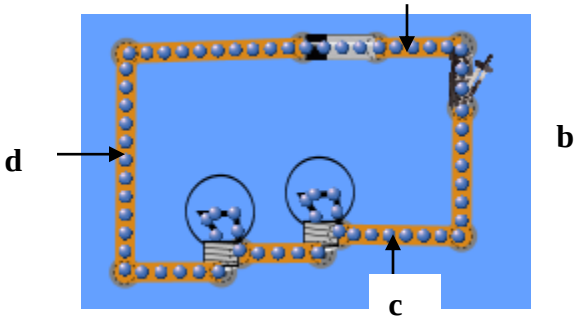
Series Circuit 2 Bulbs

* Double check that the Battery Voltage is set to 9V and the Light Bulb to 10V

Step 2
Use a non-contact ammeter to measure the current after the battery when the switch is open. **Record your findings in the data table provided.**

Step 3
Close the switch.
Use the non-contact ammeter to measure the current in 4 different places around the circuit.

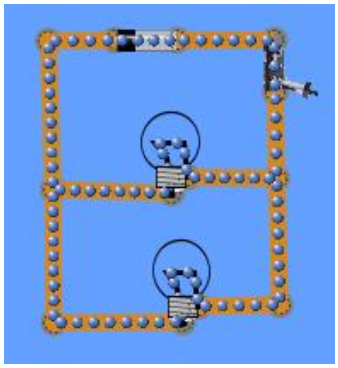
a) After the battery
b) After the switch
c) Between the light bulbs
d) After the 2 light bulbs



Record your findings in the data table provided.

PART B – PARALLEL CIRCUITS

Step 1
Build the following Parallel Circuit



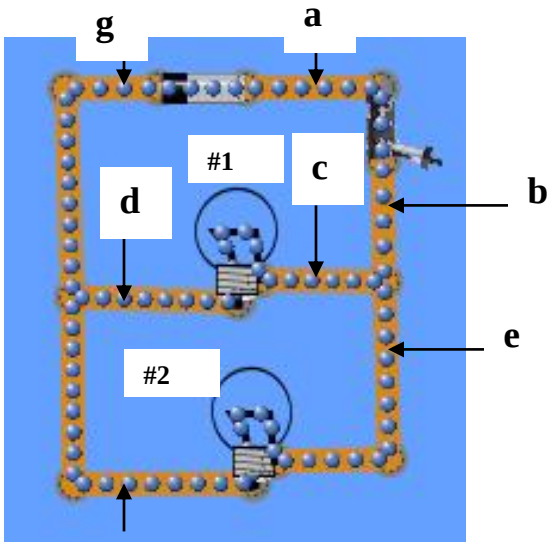
Parallel Circuit–
Two Bulbs

* Double check that the Battery Voltage is set to 9V and the Light Bulb to 10V

Step 2
Use a non-contact ammeter to measure the current after the battery when the switch is open. **Record your findings in the data table provided.**

Step 3
Close the switch.
Use the non-contact ammeter to measure the current in 7 different places around the parallel circuit.

a) After the battery
b) After the switch before light bulb #1
c) After the path has branched before light bulb #1
d) After light bulb #1
e) Before light bulb #2
f) After light bulb #2
g) At the end of the circuit before the battery.



Record your findings in the data table provided.
Name: _____
Class: _____
Date: _____

Grade 9 Science
Parallel and Series Circuit Lab #2 – Measuring Current
Worksheet

Data Tables

Part A – Series Circuit

Switch Open or Closed	Location of Measurement	Current (A)
Switch Open	After the battery	
Switch Closed	a)After the battery	
	b) After the switch	
	c) Between the light bulbs	
	d) After the 2 light bulbs	

Part B – Parallel Circuit

Switch Open or Closed	Location of Measurement	Current (A)
Switch Open	After the battery	
Switch Closed	a)After the battery	
	b) After the switch before light bulb #1	
	c) After the path has branched before light bulb #1	
	d) After light bulb #1	
	e) Before light bulb #2	
	f) After light bulb #2	
	g) At the end of the circuit before the battery.	

Analysis Questions

1) Write a statement comparing the current measured at different points in series circuits.

2) Write a statement comparing the current measured at different points in parallel circuits.

3) Based on what you learned about series and parallel circuits in lab #1 and #2, write a list of the similarities and differences that you have observed between parallel and series circuits.