Name:	
Class:	

Grade 9 Science Parallel and Series Circuit Lab #3 – Measuring Voltage

Outcomes Covered

- rephrase questions in a testable form related to series and parallel circuits (208-1)
- use an ammeter and voltmeter to measure current and voltage in series and parallel circuits (209-3)

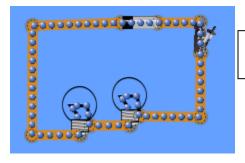
<u>Purpose:</u> For this lab activity you will use an online circuit simulator to build series and parallel circuits. You will use a voltmeter to measure voltage to investigate some of the similarities and differences between series and parallel circuits.

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 Voltmeter to measure the voltage across the battery when the switch is <u>open.</u> **Record your findings in the data table provided.**

Step 3

Close the switch.

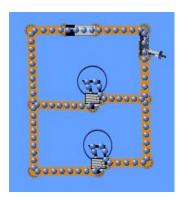
Use the Voltmeter to measure the voltage across the following points.

- a) Across the Battery
- b) Across the Switch
- c) Across Light Bulb #1
- d) Across Light Bulb #2

Record your findings in the data table provided.

PART B – PARALLEL CIRCUITS

<u>Step 1</u> 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 volt meter to measure the voltage across the battery when the switch is <u>open.</u> **Record your findings in the data table provided.**

Step 3

Close the switch.

Use the Voltmeter to measure the voltage across the following points.

- a) Across the Battery
- b) Across the Switch
- c) Across Light Bulb #1
- d) Across Light Bulb #2

Record your findings in the data table provided.

Name:			
Class:			
Date:			

Grade 9 Science Parallel and Series Circuit Lab #3 – Measuring Voltage Worksheet

Data Tables

Part A - Series Circuit

Switch Open or Closed	Location of Measurement	Voltage (V)
Switch Open	Across the battery	
Switch Closed	a) Across the Battery	
	b) Across the Switch	
	c) Across Light Bulb #1	
	d) Across Light Bulb #2	

Part B - Parallel Circuit

Switch Open or Closed	Location of Measurement	Voltage (V)
Switch Open	Across the battery	
Switch Closed	e) Across the Battery	
	f) Across the Switch	
	g) Across Light Bulb #1	
	h) Across Light Bulb #2	

Analysis Questions

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

- 2) Write a statement comparing the voltage measured at different points in parallel circuits.
- 3) Choose a question to investigate about parallel and series circuits. Investigate your question and report on your findings.
- a) Question:
- b) Findings: