

## **Guided Inquiry: Determining Relationship between Current & Potential Difference**

Page 567 in your textbook will be very helpful. **\*\*Mrs. H. Will talk about wiring in voltmeter\*\***


**Purpose:** \_\_\_\_\_

Steps:

1. Build a circuit on pHet Circuit Builder(DC only) like Figure 1.

Notice that ammeters are wired in \_\_\_\_\_(series/parallel) and voltmeters are connected in \_\_\_\_\_(series/parallel) .

Did you notice that the +ve end of voltmeter is attached closer to +ve end of battery?

What does the symbol  mean? \_\_\_\_\_ So you have a choice of what to insert there.

What did you insert for  \_\_\_\_\_

2. Notice you are starting with 2 batteries. Take your measurements and begin the data chart.

<b>Situation</b>	<b># batteries</b>	<b>Current (A)</b>	<b>Potential Difference (V)</b>
1			
2			
3			
4			
5			

3. Change the number of batteries for situation #2, #3, #4, and #5. So...you will have a different amount of batteries each time. Take the potential difference and current readings each time. Complete the chart.

### **Analysis:**

Do a), b), c) . If you know how and have time, you can plot the graph with computer. If you don't know how, use the graph paper provided.

**\*\*If you don't know what slope is, please tell Mrs. H \*\***

- e) What is the relationship between current and potential difference? Answer by finishing the 'as' statement:  
As the current increases, the potential difference \_\_\_\_\_

### **Extra:**

IF you have a circuit with loads in it, does the relationship determined in (e) above still hold?

What do think? (hypothesis) \_\_\_\_\_

Try it! Answer (conclusion)

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