Guiding Question: How does changing a circuit affect the values of resistance, voltage, and current?

Learning Goal: Use the interactive Circuit builder to find out how changes in circuits affect current, resistance, and voltage

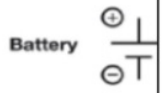
Agenda
1) Finish your CEE (20 Min of work time)
2) Turn in your CEE to Showbie
3) Exit Ticket in Showbie
4) Go Formative
5) Ohm's Law interactive part 1

Words of the day

6. Data

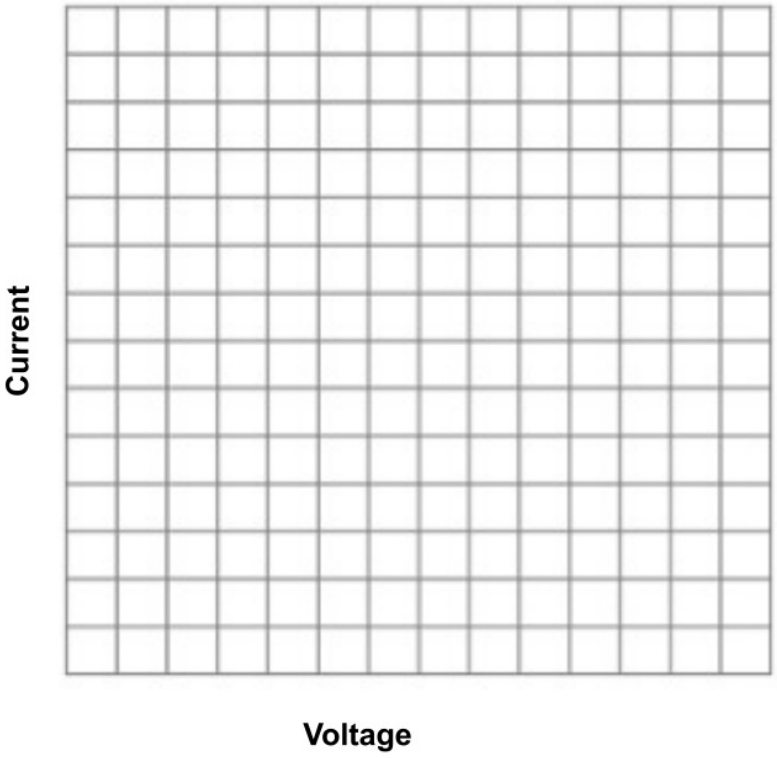
y **x for graph 1**

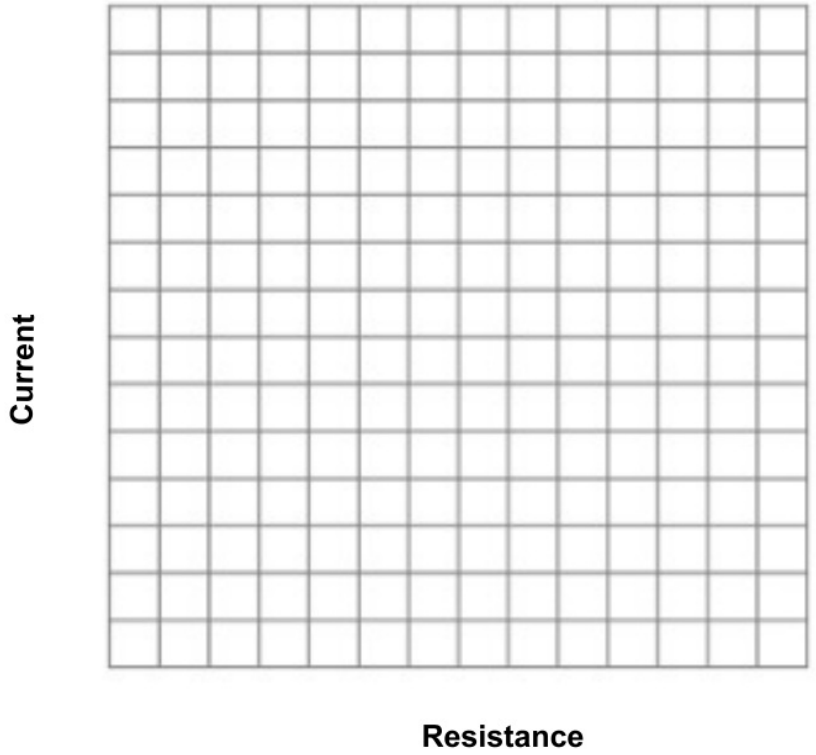
x for graph 2

	Circuit Diagram	What did you change?	Current 	Voltage 	Resistance 
Voltage					Do Not Graph
					Do Not Graph
					Do Not Graph
Resistance				Do Not Graph	
				Do Not Graph	
				Do Not Graph	

7. Graph

Make 2 graphs





Draw a best fit line

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8. Conclusion

Claim: Answer BOTH experiment questions

Evidence: Use NUMBERS from your data to support your claim

Explanation: Using what you know about resistors, current, and voltage explain why you got the relationships (Inverse or direct) for each of the experiment questions. Use the link from today's blog to help you

Errors: What mistakes are there because of the tools we used. NOT HUMAN mistakes.

Further Investigations: What do you want to do next with regards to electricity?

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Exit Ticket Ohm's Law Lab

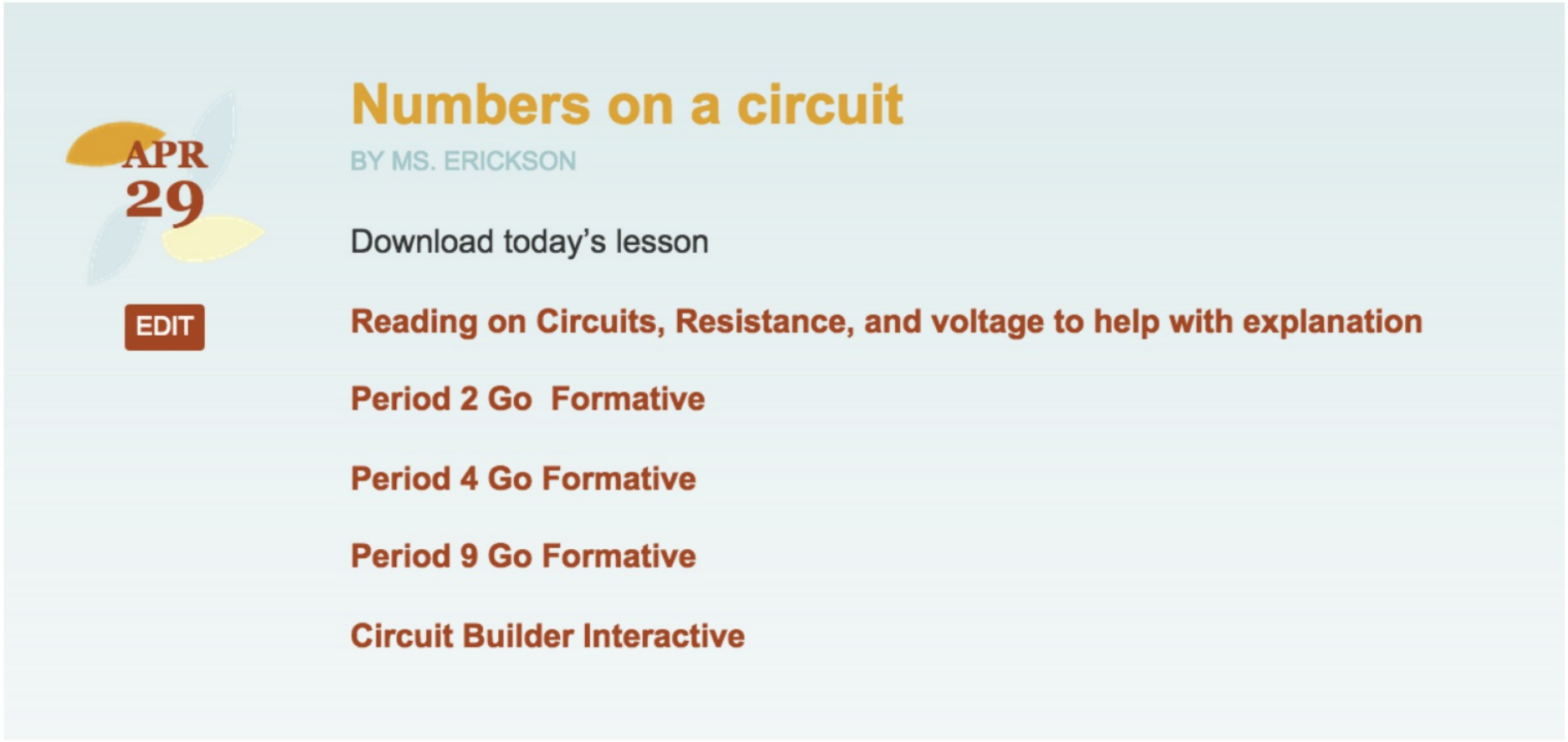
1. What happens to the value of the current when voltage is increased?

2. Is the relationship between current and voltage a direct or inverse relationship?

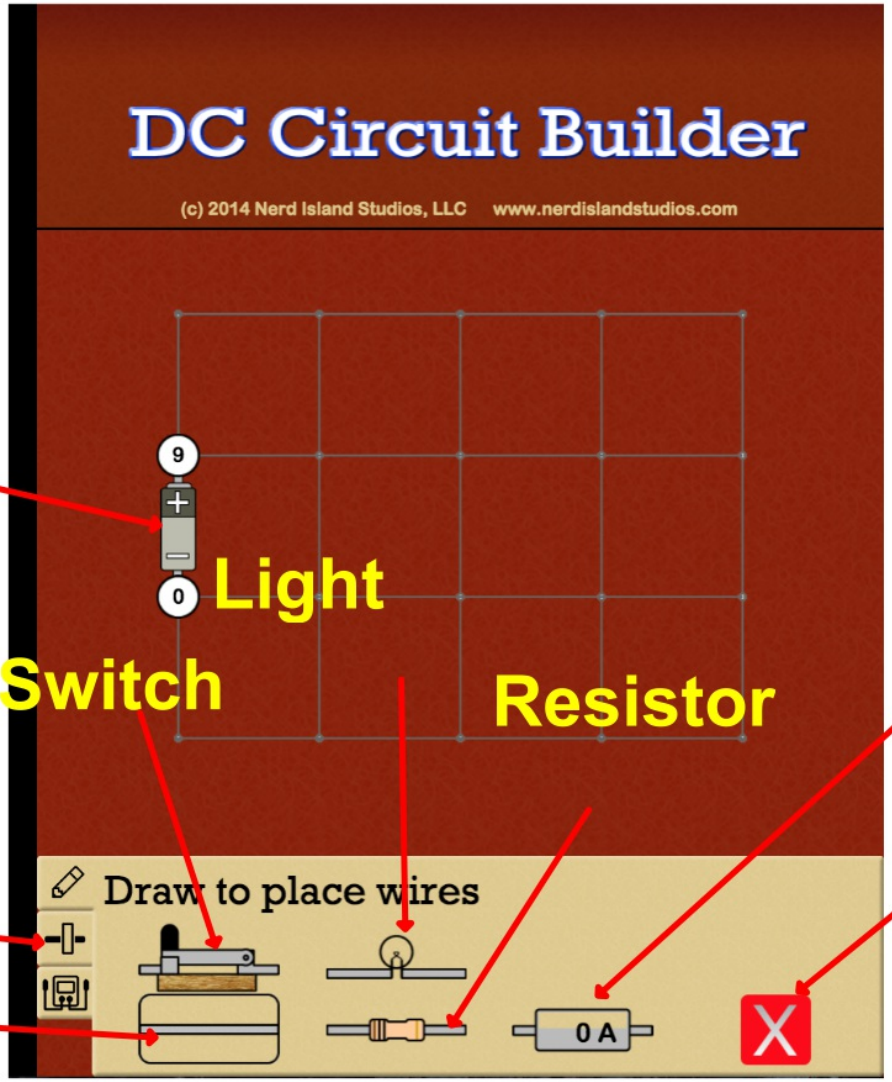
3. What happens to the value of current when resistance is increased?

4. Is the relationship between current and resistance a direct or inverse relationship?

Go to today's lesson and find your period's GO formative.



Open Circuit Builder Interactive from Conceptual Physics Website



Your battery

Light

Switch

Resistor

Get a current Value

Change the voltage

Wire

Erase a part

Use the DC Circuit Builder to complete

Circuits iPad Interactive PART 1

Go to http://simbucket.com/circuitbuilder/

1. Make a Series Circuit with at least 2 light bulbs using the tools. Tap on the part you want to add then tap on a line to place it on the circuit board. The battery is already placed for you. DRAW YOUR CIRCUIT HERE using the symbols for circuit diagrams.

2. Tap on the battery tab  to change the voltage of the battery. Complete the table below for 1 of your light bulbs.

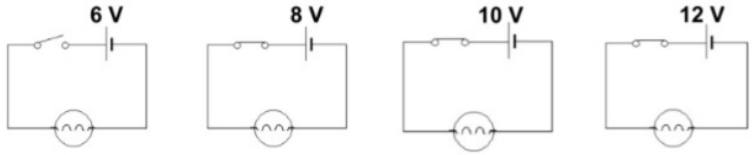
a.

Voltage of Battery	Estimated Area of bulb #1	Estimated area of bulb #2
9 V		

b. Make a claim about the relationship between voltage of the battery and the brightness of a light bulb.

c. In a series circuit the brightness of light bulbs is the same/different (Circle one).

3. Use the diagrams below and what you learned in #2 to answer the following questions.



a. Which bulb is the brightest?
b. Which bulb is the dimmest?
c. Which bulb is not on?

4. The numbers on the diagram show the VOLTAGE at each point in the circuit, what happens to the voltage after the current goes through the first light bulb?

5. Replace the wires before and after the current goes through the lightbulbs with a ammeter  . How is the value of the current affected by the lightbulbs?

6. **CONCLUSION** In a series circuit the current DOES/DOES NOT change but the VOLTAGE DOES/DOES NOT change when going through a light bulb or resistor.