



What is Voltage?

Voltage is the force that make electrons move. The units of Voltage is the Volt (V)



Batteries

- Batteries provide a Voltage potential by converting chemical energy into electrical energy.
- 1 “AA” battery provides an average of 1.5 volts

Materials

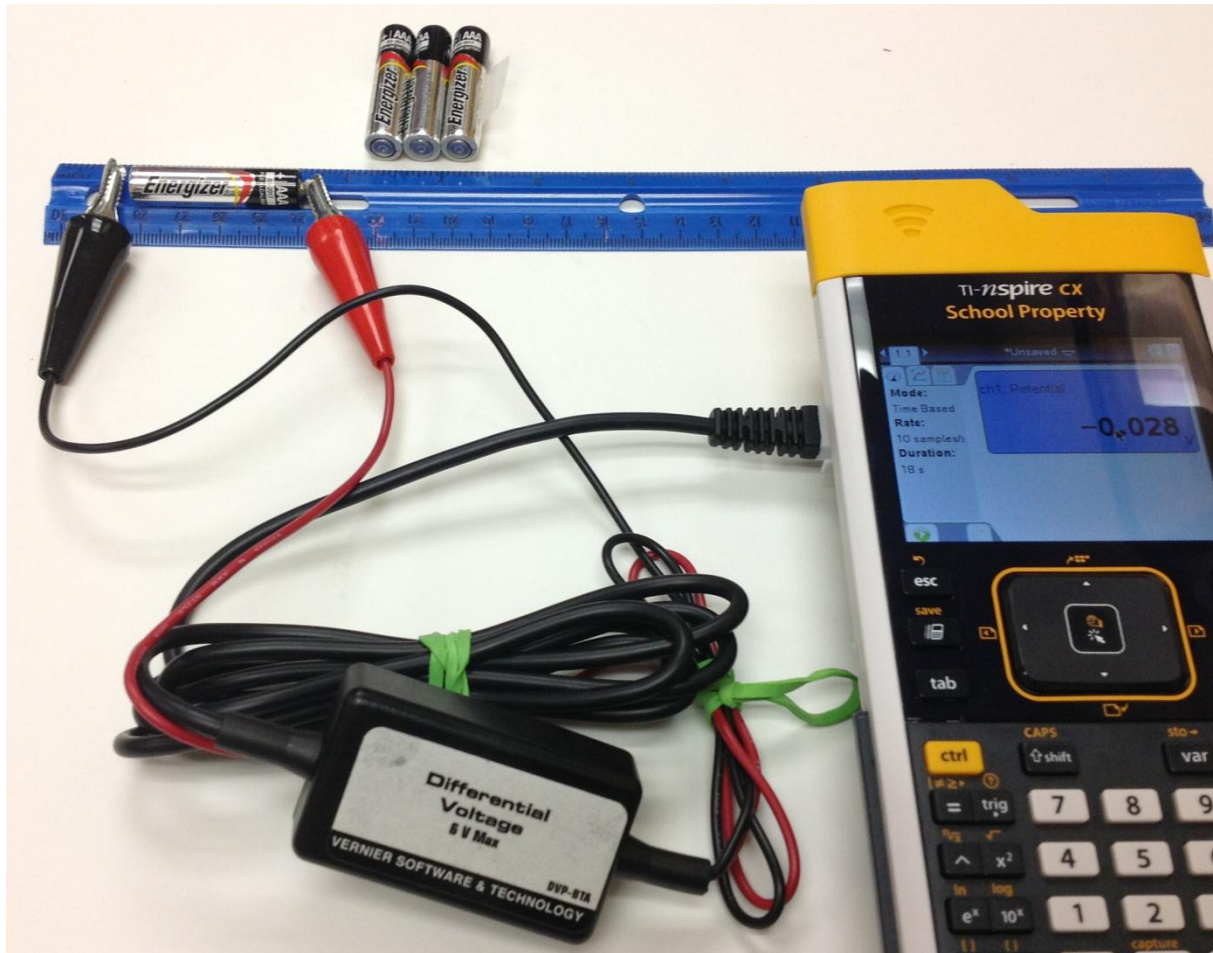
- Plastic Ruler
- Batteries
- Differential Voltage Sensor
- TI-nspire CX
- TI-nspire Lab Cradle



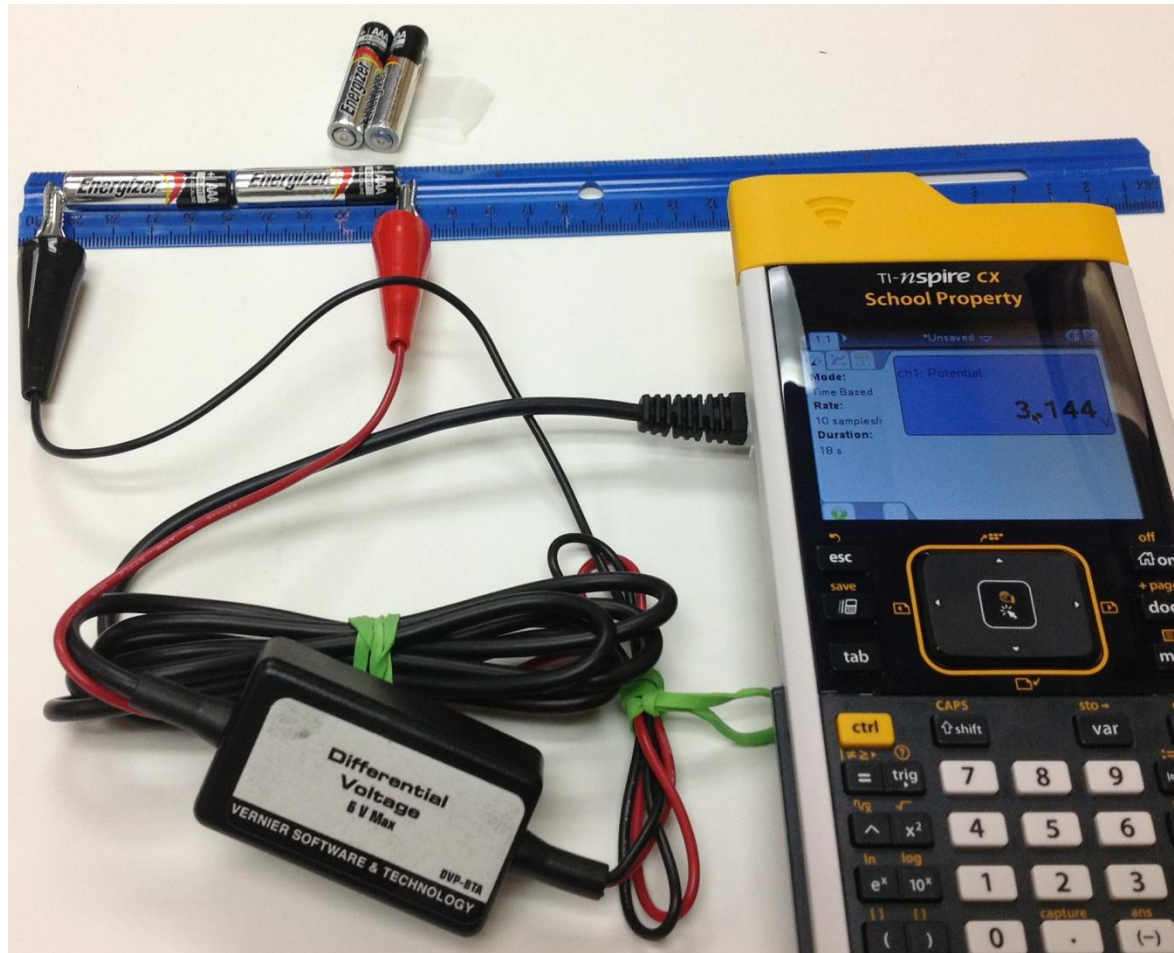
Batteries In Series

- Connect the Voltage sensor to channel 1 of the TI-nspire Lab Cradle
- Place the plastic ruler facing up on top of the table
- Place 1 “AA” battery in the groove of the plastic ruler
- Place the black lead of the Voltage sensor on the negative (-) side of the battery, and the red lead of the Voltage sensor on the positive (+) side of the battery to measure the Voltage of the battery. Record the Voltage of the battery in the table provided
- Place 2 “AA” batteries in series (1 in front of the other) in the groove of the plastic ruler
- Measure the Voltage of the batteries connected in series and record the measurement in the table provided
- Repeat the process for 3, 4 and 5 batteries connected in series.
- Answer the questions

Steps



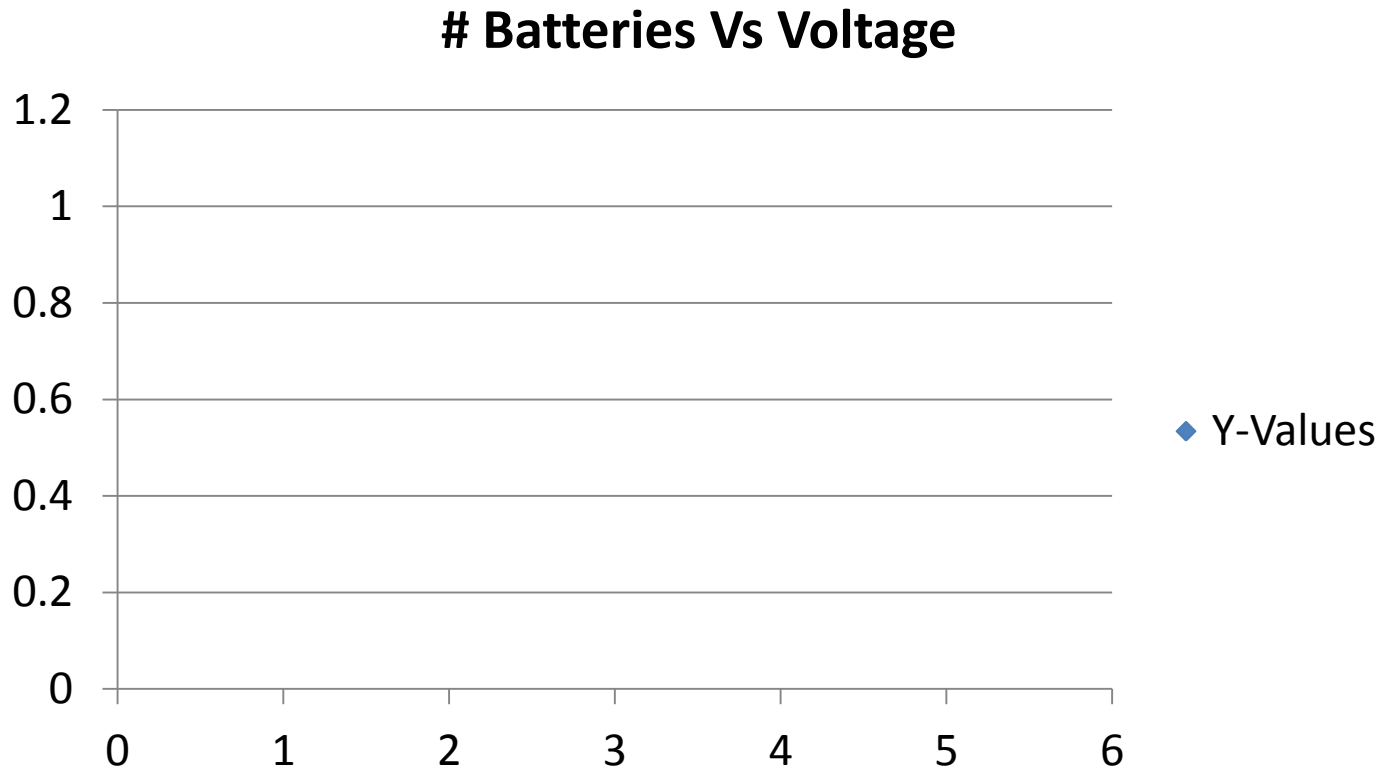
Steps



Data Table

Number of Batteries	Voltage (Volts)
1	
2	
3	
4	
5	

Create a Number of Batteries Vs Voltage Graph.



Questions

1.- What is Voltage?

2.- What is the unit of Voltage?

3.- Batteries convert _____ Energy to _____ Energy.

4.- What occurs to the total Voltage as you connect batteries in series?

5. What would be the Voltage of 10 batteries connected in series?