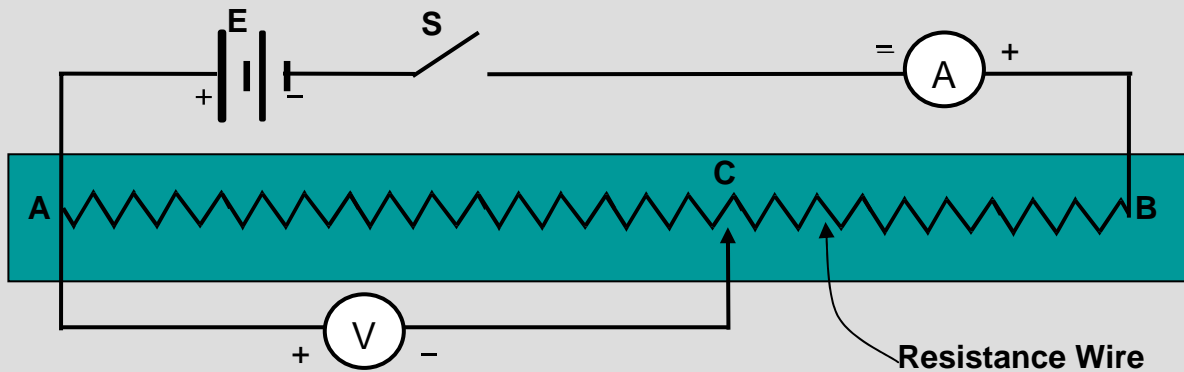
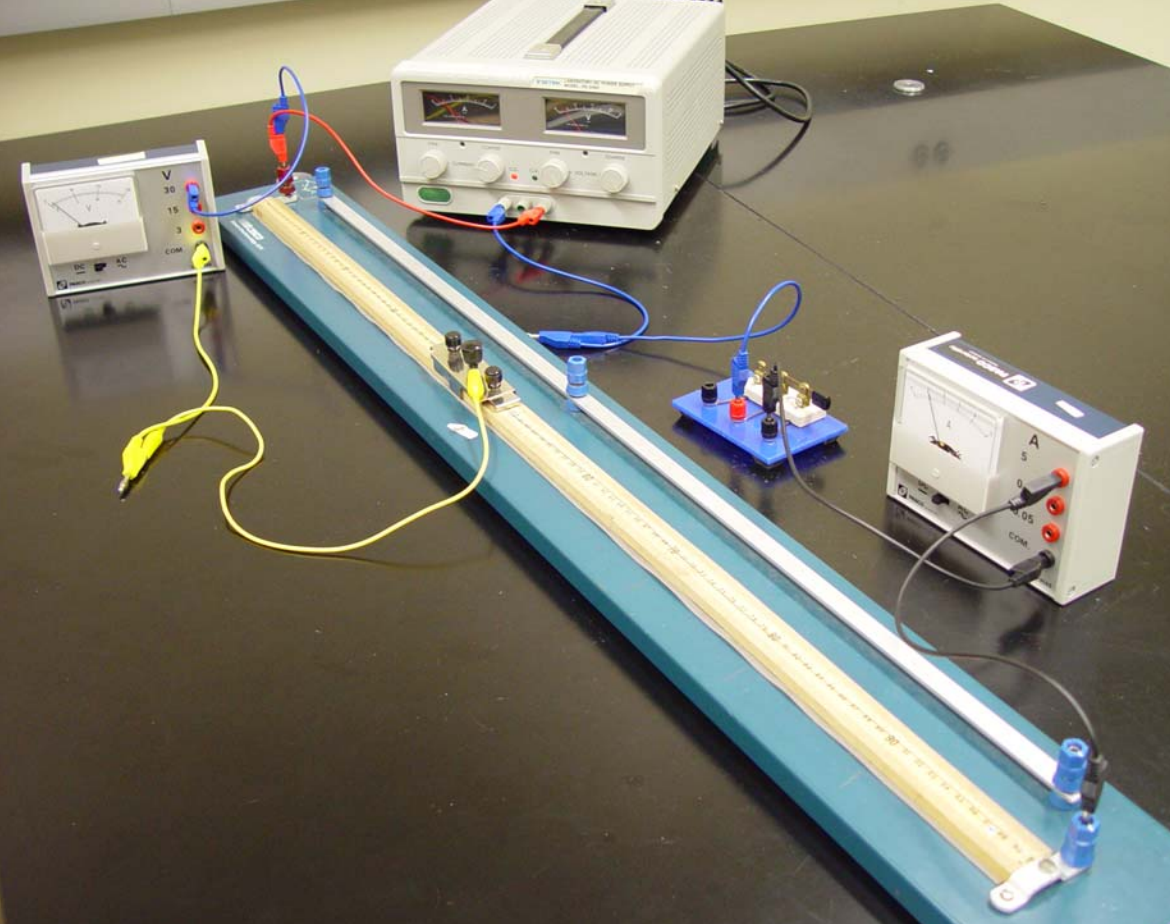


# Ohm's Law Experiment





# Power Supply

- For this experiment
  - Current controls need to be turned completely counterclockwise -- we will later adjust the current to 1A.
  - Voltage controls completely clockwise Notice that there is a coarse and fine adjustment for both current and voltage.
- When the green power button is pushed in, the power supply is on. When it is out, the power is off.
- You will use the + and – terminals to complete the circuit just like you would for a battery.

# Voltmeter



- The black terminal is the negative or common terminal.
- The red terminals are the positive. There are three scales on the meter in the picture. Always start with the coarsest scale, in this case 30V. If the reading is less than 15V or 3V then you should change to the appropriate finer scale. You do not want to be using the 3 volt scale to measure 30 volts! This will damage the meter.

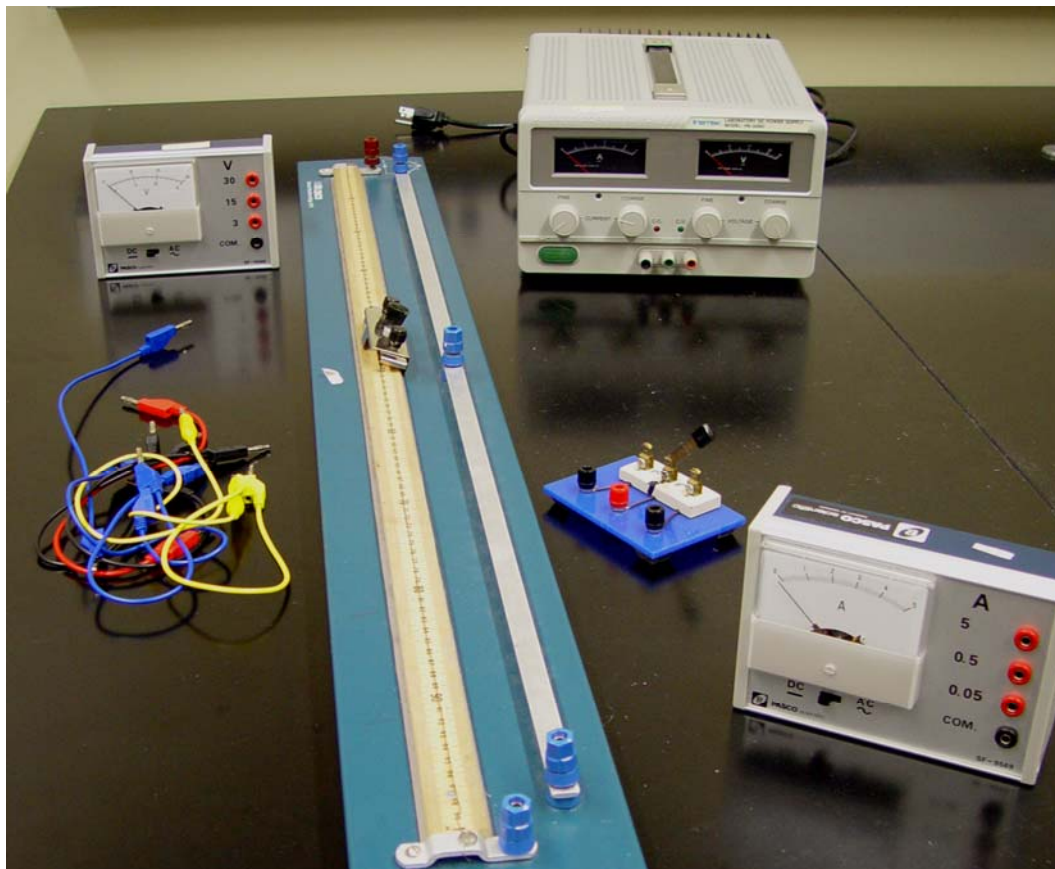
To use a voltmeter to read the voltage of your power supply: connect the “0” terminal on the voltmeter to the “-” terminal of the power supply (the black line) and the 30V terminal to the “+” terminal (the red line).



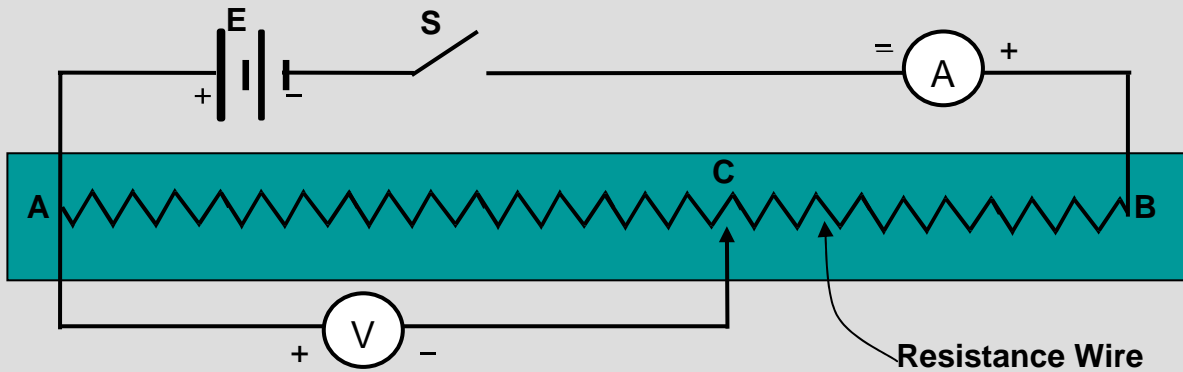
# Ammeter



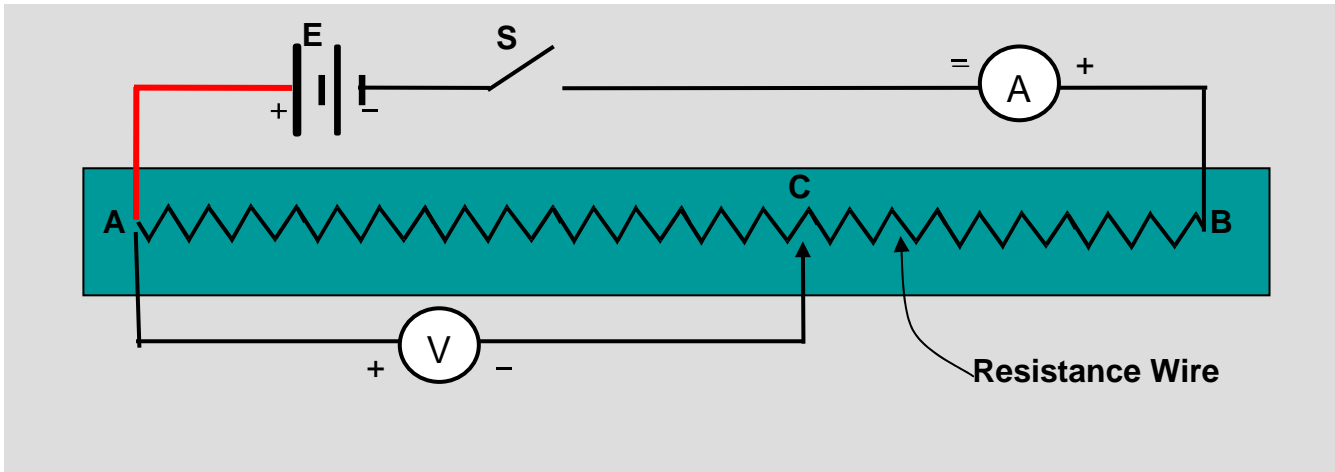
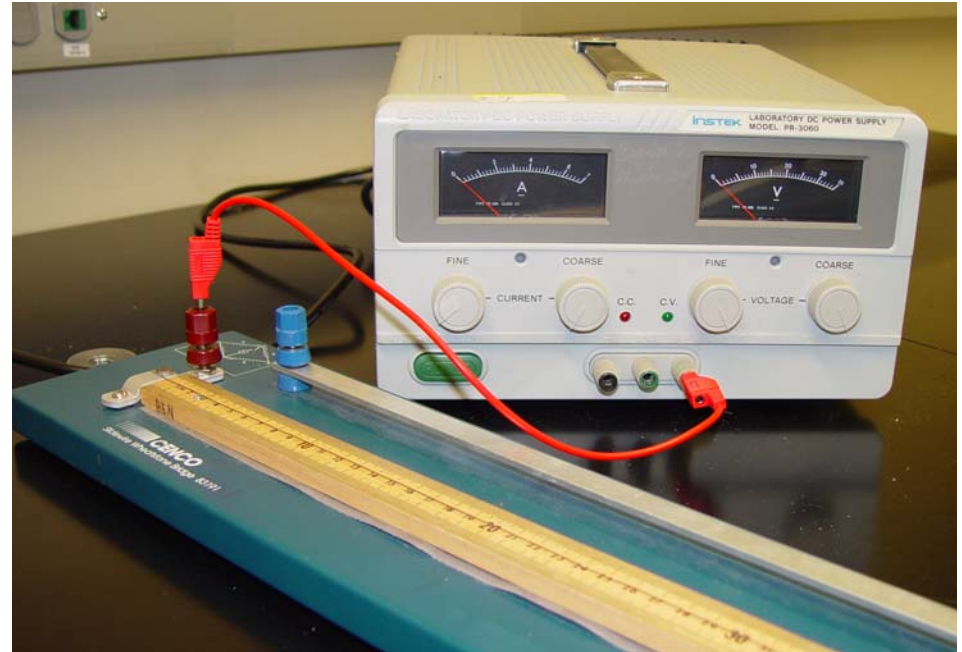
The black terminal is the negative or common terminal. The red terminals are the positive. There are three scales on the meter in the picture. Always start with the coarsest scale, in this case 5A. If the reading is less than 0.5A or 0.05A, then you should change to the appropriate finer scale. You do not want to be using the 0.5 scale to measure 3A! This will damage the meter.

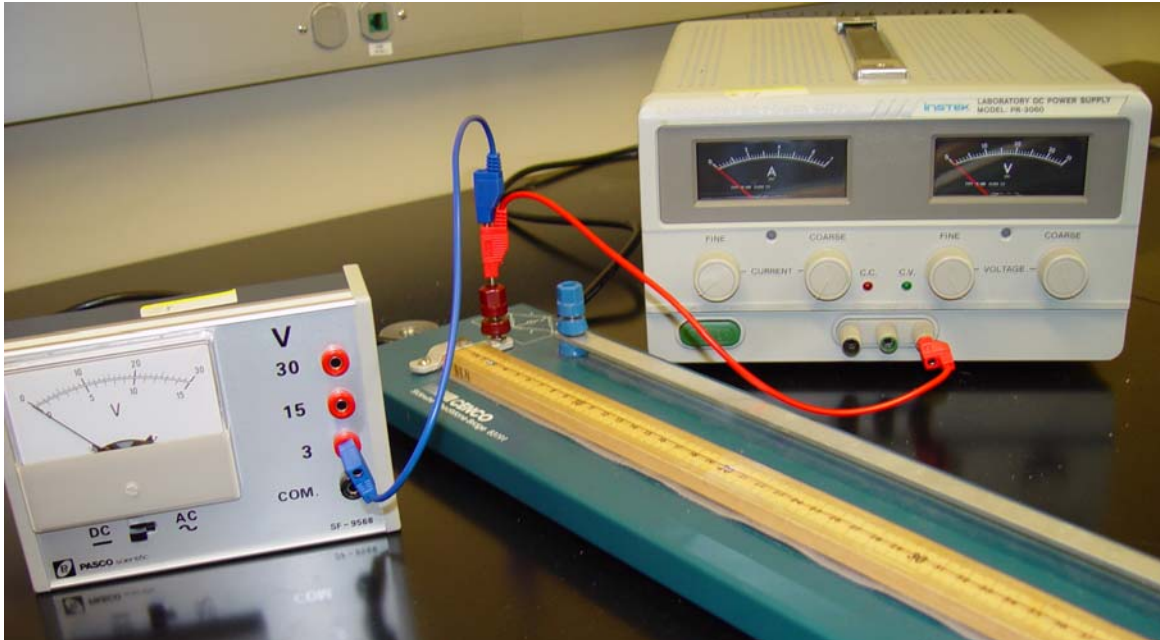


- To connect the circuit, first put the items in the circuit on the table in a position similar to that in the diagram. This is not necessary but it makes it easier.

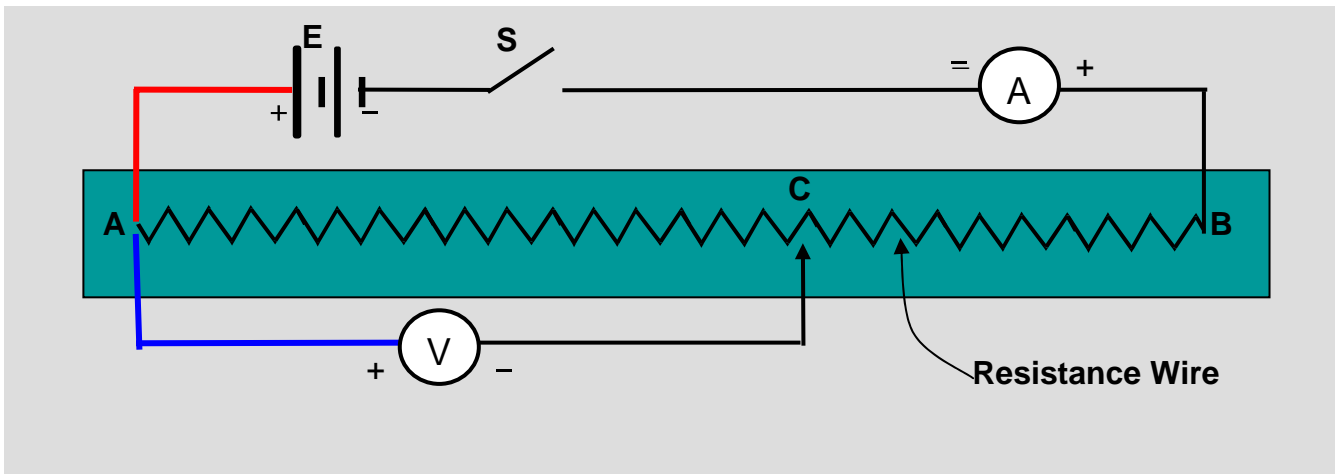


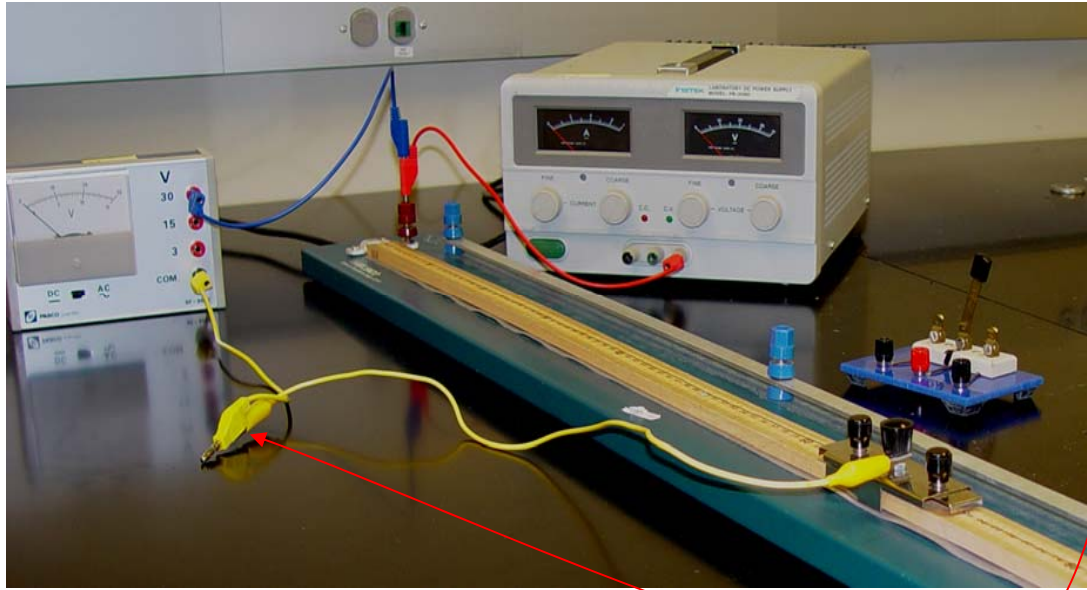
The red wire is connecting the positive terminal of the power supply to point A, the end of the resistance wire. The resistance wire lays on top of the meter stick



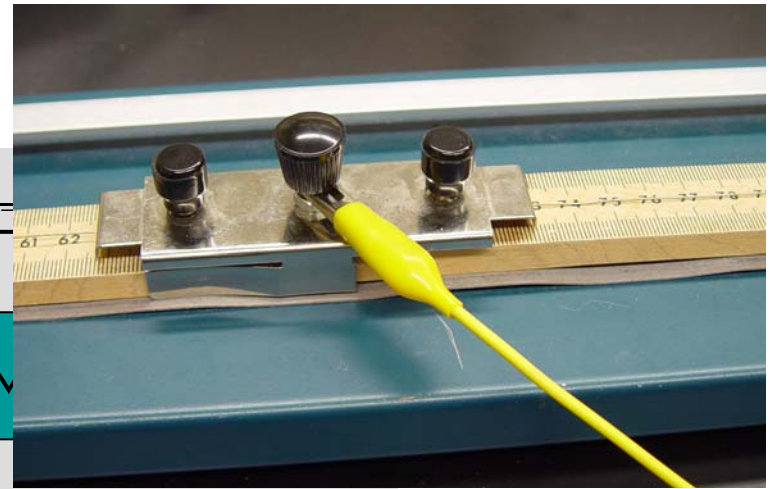


The blue wire is connecting the point A, the end of the resistance wire to the voltmeter. One banana plug can attach to the other banana plug at point A.

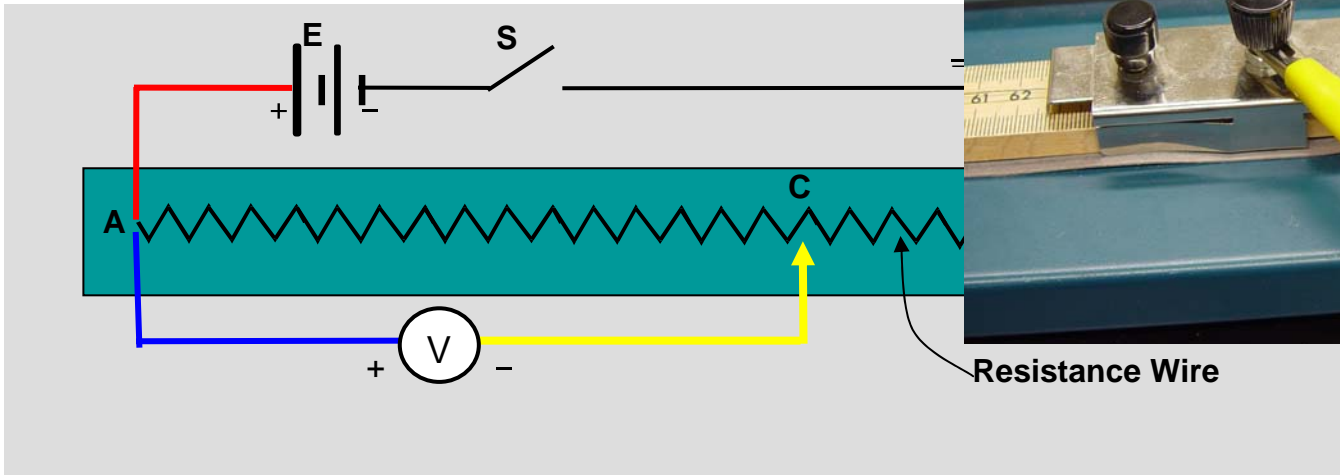




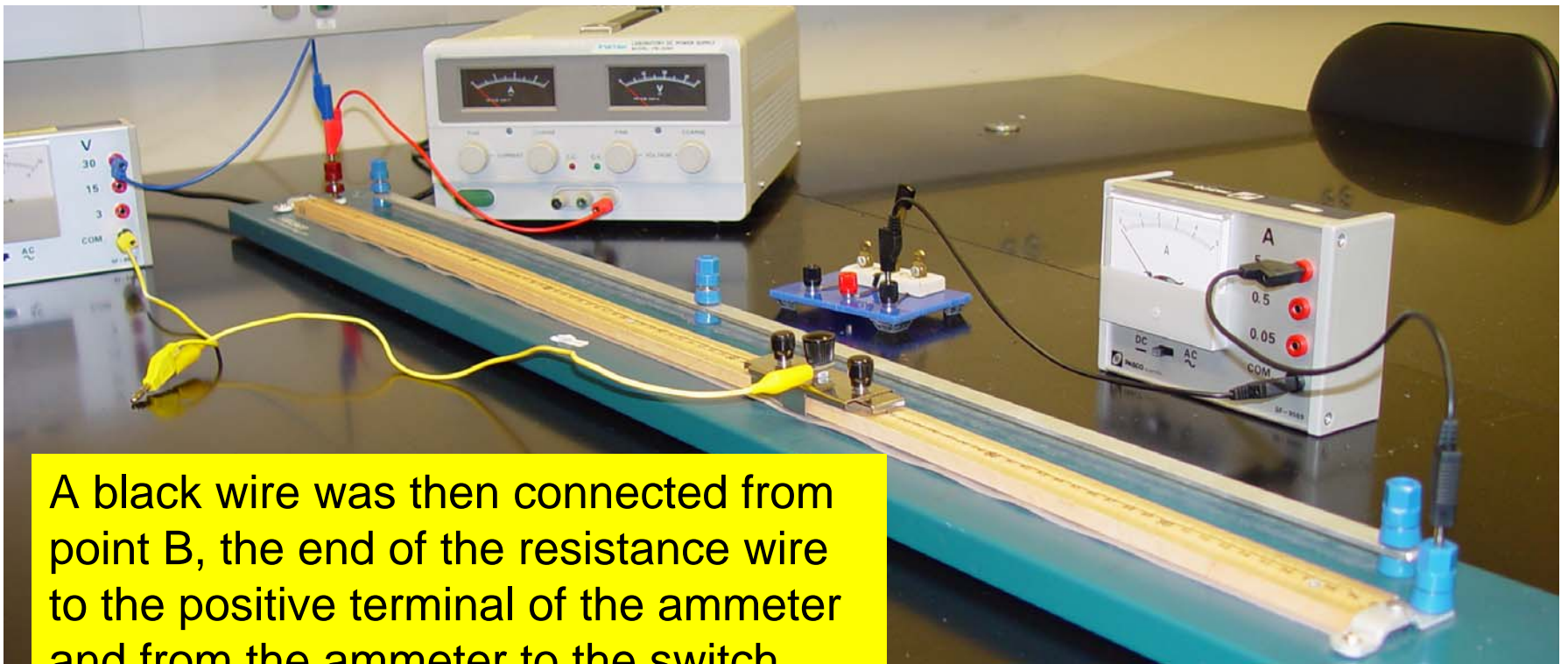
The yellow wire is connecting negative terminal of the voltmeter to the sliding switch. To make this connection, a banana plug was plugged into the voltmeter; an alligator patch cord was attached to the at the other end of the banana parch cord. The other end of the alligator cord goes to



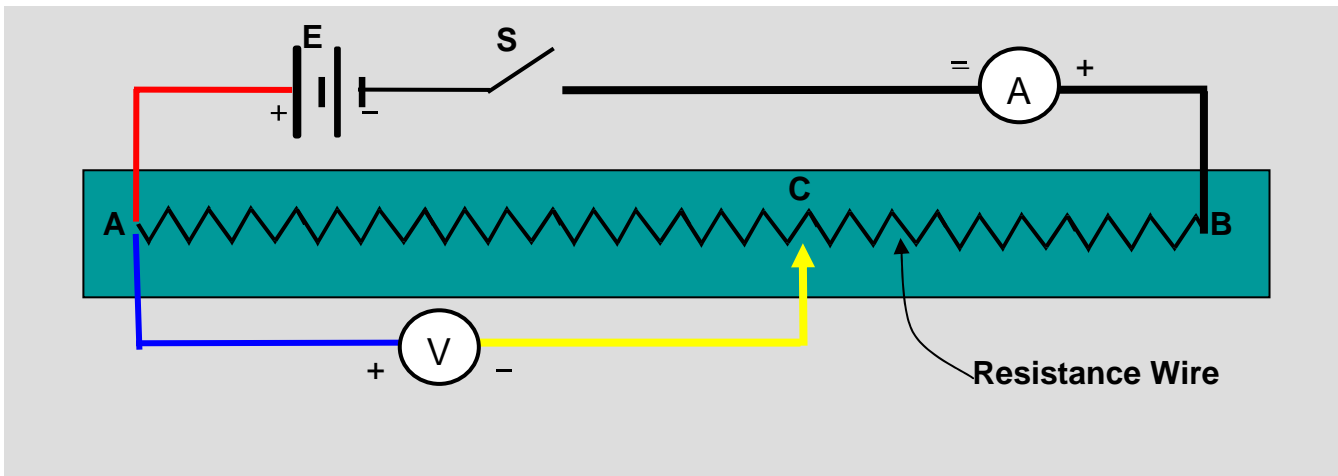
Resistance Wire

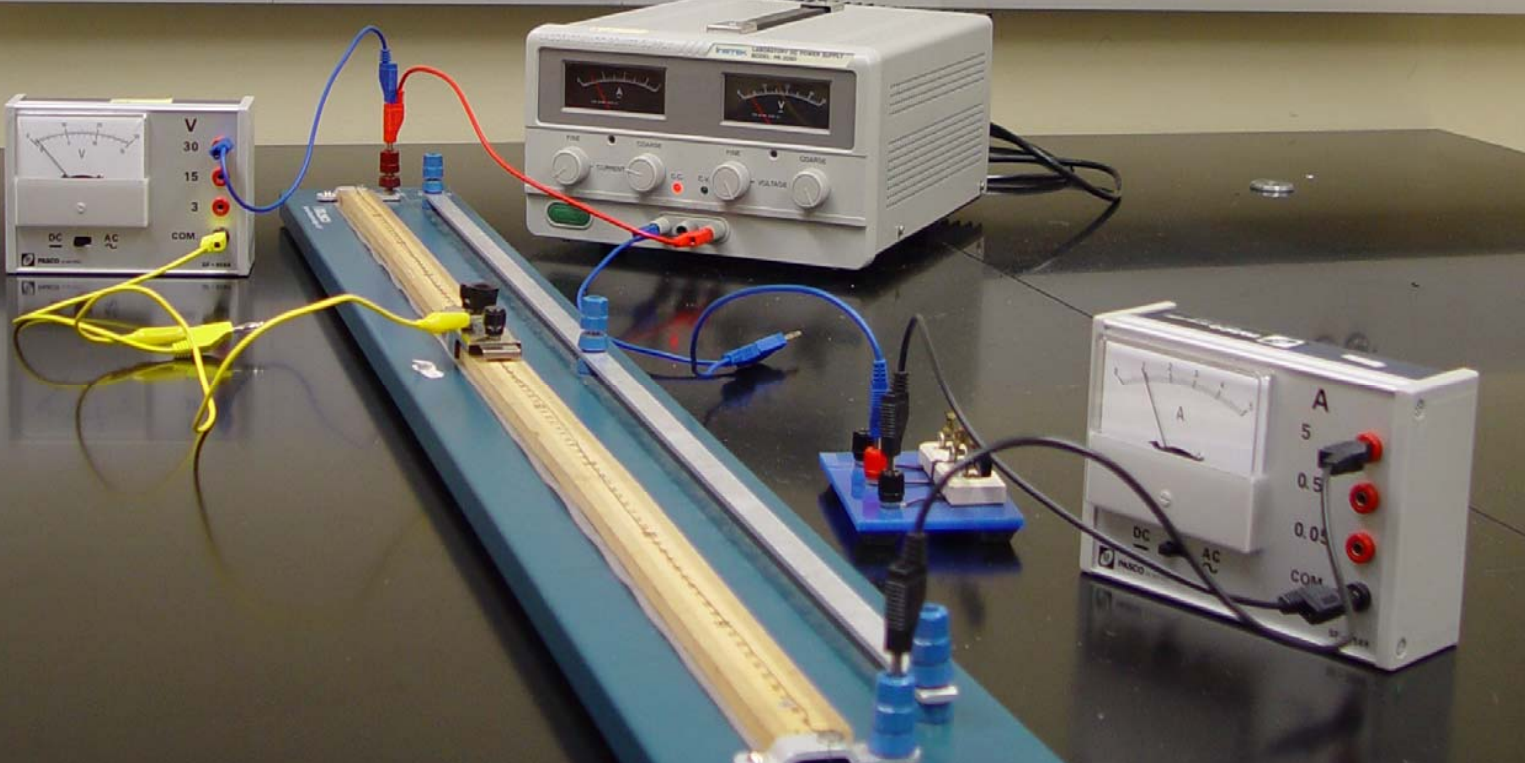




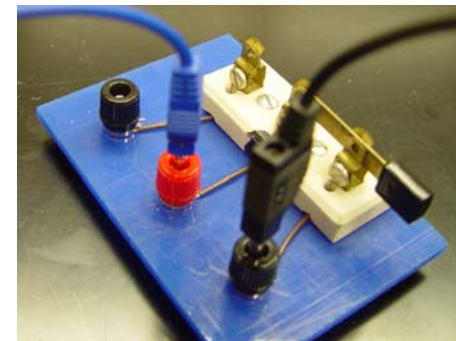
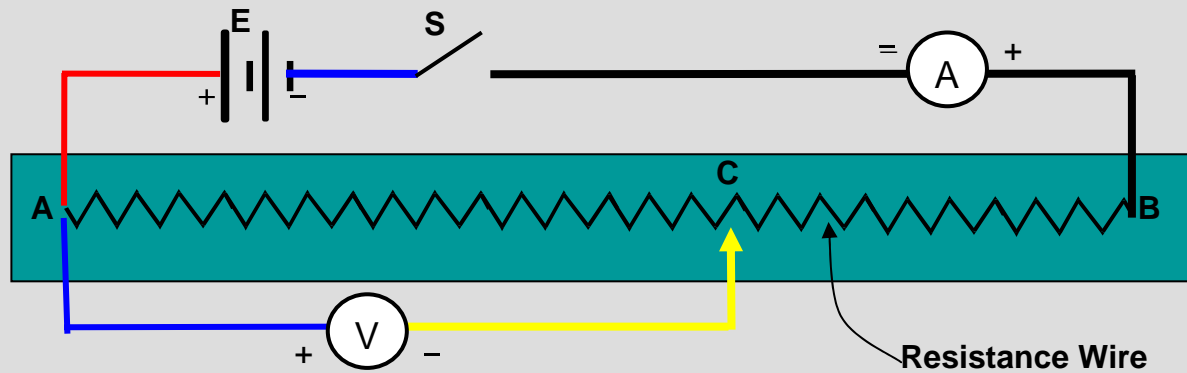


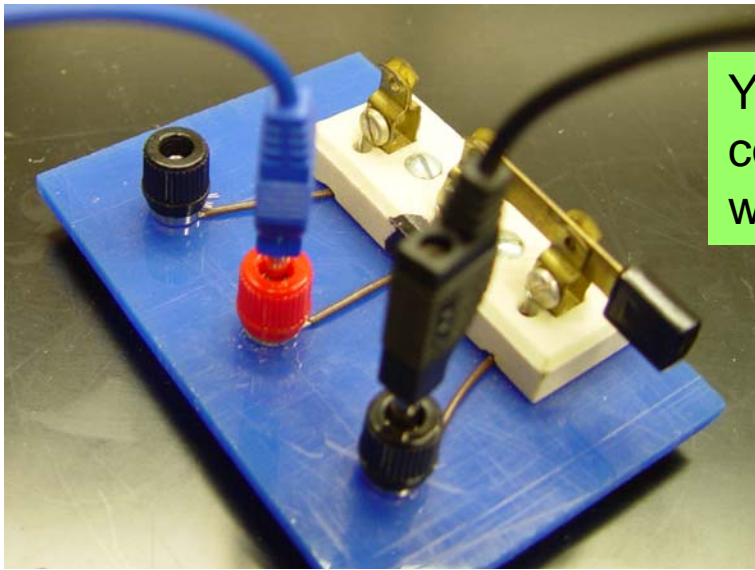
A black wire was then connected from point B, the end of the resistance wire to the positive terminal of the ammeter and from the ammeter to the switch.



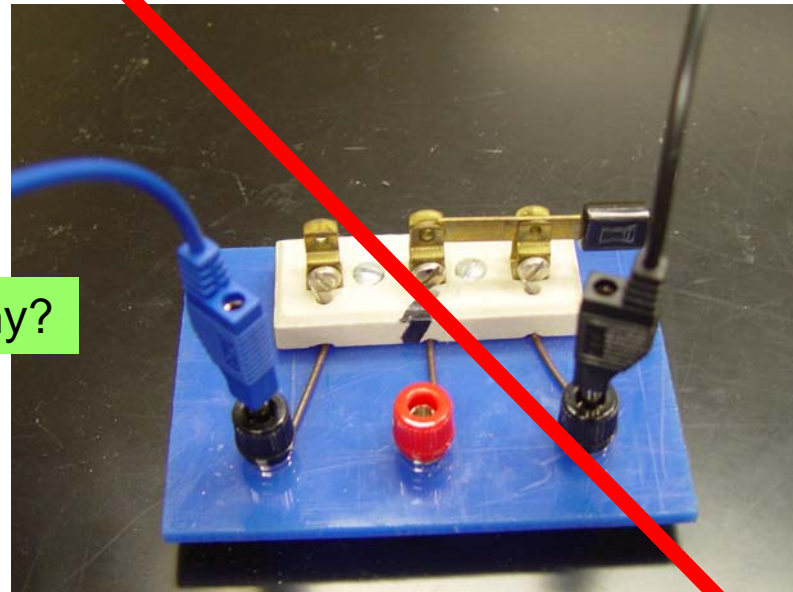


A blue wire was then connected from the switch to the negative terminal of the power supply. This completed the circuit.



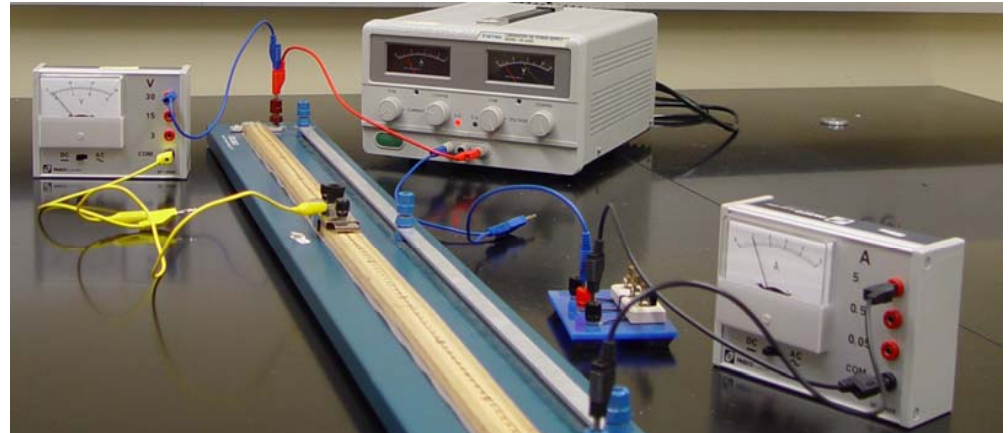
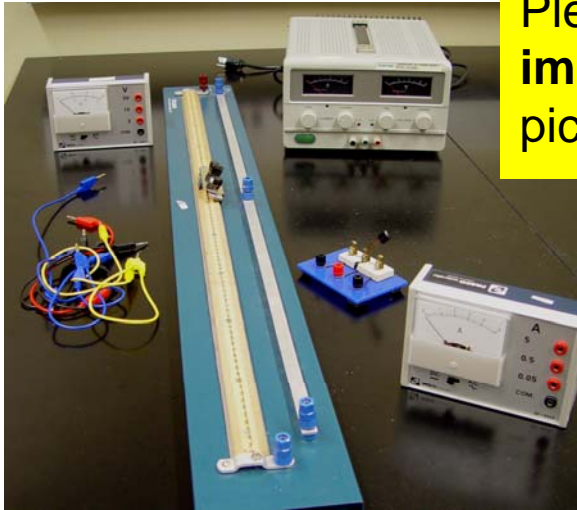


Yes. When the switch is connected in this manner it will complete the circuit.



No. This will not work. Why?

Please note that **the colors of the wires is not important.** Different color wires were used in these pictures to help illustrate how to wire the circuit.



Notice that wiring is simply a matter of following the circuit diagram. Pick a starting point and go from one point to the next. Placing the items to wire in a position similar to the diagram makes this easy.

