while the switch is closed. Any time you change your circuit, including the points of connection for any of the meters, your teacher must approve the circuit again before you close the switch.

5. Clean up your work area. Put equipment away safely so that it is ready to be used again.

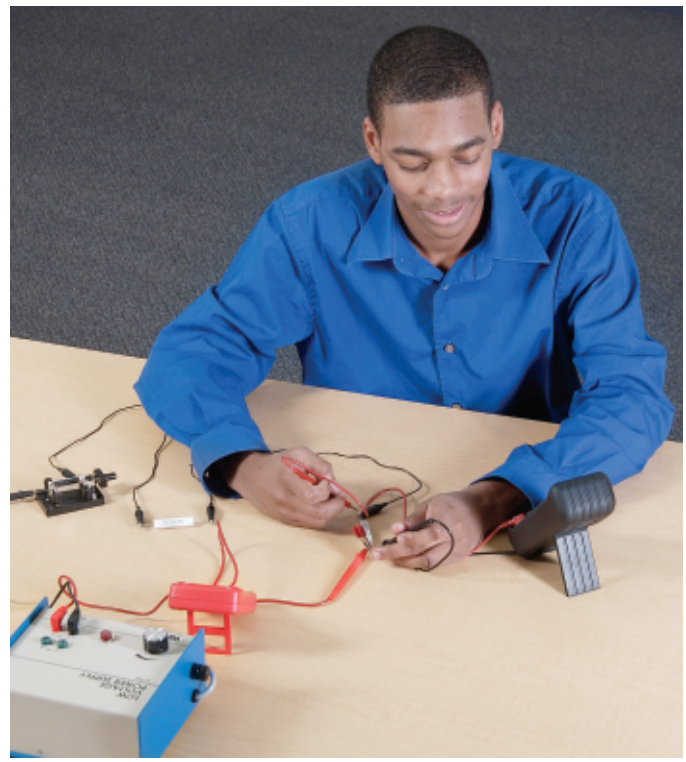

Figure 1
● Use the voltage meter to measure potential difference across the resistors.

ANALYSIS

1. **Organizing Data** Using your measurements for potential difference and current, compute the resistance values of R_1 and R_2 in each circuit.
2. **Analyzing Results** Compare your results from item 1 for the different circuits.
   a. Do R_1 and R_2 have the same values in each circuit?
   b. Did you expect R_1 and R_2 to have the same values? Explain. If the results are different, suggest a possible reason.
3. **Organizing Data** Compute the equivalent resistance R_{eq} using the values found in item 1 for each circuit.
4. **Analyzing Results** Based on your calculations in item 3, did the two resistors provide the same equivalent resistance in both circuits? If not, which combination had the greater resistance? Explain how the combination of resistors affects the total resistance in the circuit.
5. **Organizing Data** Compute the total current in each circuit using the calculated value for R_{eq} and the measured value for ΔV_T.
6. **Analyzing Results** Do both circuits have the same total current? If not, which circuit has the greater current? Explain how the combination of resistors affects the total current in the circuit.

CONCLUSIONS

7. **Drawing Conclusions** Compare the total current in each circuit with the current in each resistor. What is the relationship between the current in an individual resistor and the total current in the circuit?
8. **Drawing Conclusions** For each circuit, compare the potential difference across each resistor with ΔV_T. What is the relationship?