


## Exploring Ohm's Law and Power

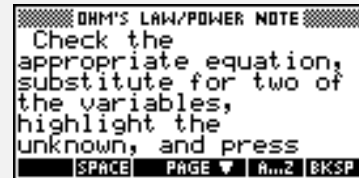
For the Teacher


### Objectives:

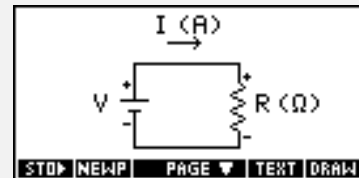
Using the **Ohm's Law/Power** applet, the student will explore the relationships among voltage, current, and resistance. The ideas of Ohm's law and power will be explored.


### Functionality:

To begin, press  **NOTE** to read the directions to execute this applet.





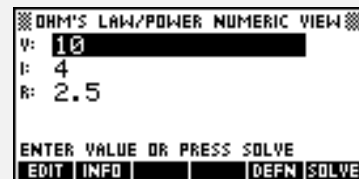
The student should then press  **SKETCH** to view the sketches associated with this applet.



Press  **SYMB** to access the **OHM'S LAW/POWER SYMBOLIC VIEW**. The literal equation necessary to solve circuit problems are listed.



Check the appropriate equation and then press  **NUM**. Enter the known values, highlight the unknown and press  **SOLVE**.



Ideas can be applied to:  
Physics

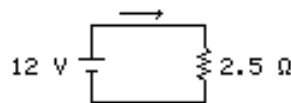
## Exploring Ohm's Law and Power

Name \_\_\_\_\_

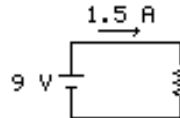
Date \_\_\_\_\_

Directions: The equations are found in the **SYMBOLIC View**. Check the appropriate equation to solve. After checking the equation, press **NUM** to numerically solve for the unknown. Enter the known quantities, then highlight **SOLVE**, and press **ENTER** to solve for this value. Solve each of the following using the **Ohm's Law/Power** applet. State the literal equation used for the solution.

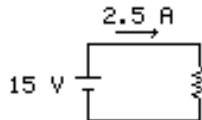
1. Solve for the current in the circuit below.



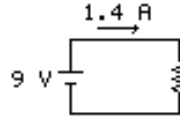
2. Solve for the voltage in the circuit below.



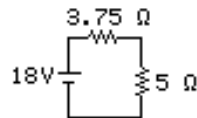
3. Solve for the resistance in the circuit below.



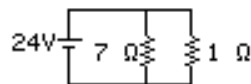
4. Solve for the power dissipated in the resistor.



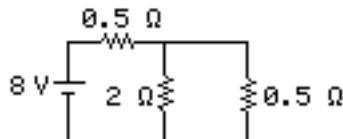
5. Solve for the current in the circuit below.



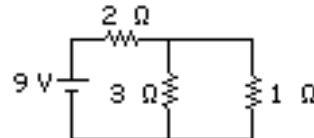
6. Solve for the current in the circuit below.



7. Solve for the current in the circuit below.



8. Solve for the power dissipated in each of the resistors.



9. The voltage in typical household wiring is approximately 120 V. How much current does a 60-W light bulb draw? What is the resistance of the light bulb under the conditions?