Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_

**Answer Key: Electrical Power**

**Lab #1 – Compute Current Using the Power Formula**

**Equipment and materials**

* Lamp holder with 100-watt bulb
* Lamp holder with 40-watt bulb
* 110-volt power source

**NOTE:** Smaller voltage lamps can be used with an appropriate power supply.

**Procedure**

1. Plug both lamps into 110-volt line and turn switches on at the same time.
2. Let lamps heat up for a brief time.

|  |  |  |
| --- | --- | --- |
| 3. | Put a hand close to each lamp and feel which one is hotter: \_\_\_\_ 40-watt X 100-watt. |  |
| 4. | Determine which lamp is using more power: \_\_\_\_ 40-watt X | 100-watt. |  |
|  | **NOTE:** The hotter lamp uses more power. |  |  |
| 5. | Read and answer the following. |  |  |
|   | * Determine which lamp is using more current: \_\_\_\_ 40-watt
 | X |  |
|  | 100-watt. |  |

|  |  |
| --- | --- |
| * 
 | * Determine which lamp has the lower resistance: \_\_\_\_ 40-watt X 100-watt.
 |
| * 
 | * Using the formula P=VI, compute the current flowing through each lamp.
 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

6. Return lamps to proper storage area.