Part I: Using a Voltmeter and Ammeter
Create the series circuit shown at right and use the voltmeter and ammeter to help complete the table below. Note that you might need to remove a different wire and insert the ammeter in a different spot each time!

<table>
<thead>
<tr>
<th></th>
<th>ΔV (Volts)</th>
<th>I (Amps)</th>
<th>R (Ohms)</th>
<th>P (Watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulb A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulb B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part II: Removing a Series or Parallel Bulb

Series Circuit
Removing a Bulb

2. Create a series circuit with three bulbs and insert the image below.

Parallel Circuit
Removing a Bulb

1. Create a parallel circuit with three bulbs and insert the image below.

Remove one of the bulbs.

What happened to the brightness of the other bulbs?

________________________________________________________________________

Why?

________________________________________________________________________
## Part III: Adding Bulbs in Series and Parallel

### Series Circuit
**Adding Bulbs in Series**

5. Create a series circuit with two bulbs and insert the image below.

   Use the voltmeter and ammeter to determine the power produced by a single bulb.

   Bulb Power = __________ W

6. Add a third bulb in series with the first two.
   Use the voltmeter and ammeter to determine the power produced by a single bulb.

   Bulb Power = __________ W
   What happened to the brightness of each bulb?
   ______________________________
   Why?
   ______________________________
   ______________________________

   ______________
   ______________
   ______________

### Parallel Circuit
**Adding Bulbs in Parallel**

3. Create a parallel circuit with two bulbs and insert the image below.

   Use the voltmeter and ammeter to determine the power produced by a single bulb.

   Bulb Power = __________ W

4. Add a third bulb in parallel with the first two.
   Use the voltmeter and ammeter to determine the power produced by a single bulb.

   Bulb Power = __________ W
   What happened to the brightness of each bulb?
   ______________________________
   Why?
   ______________________________
   ______________________________