**Series vs. Parallel**

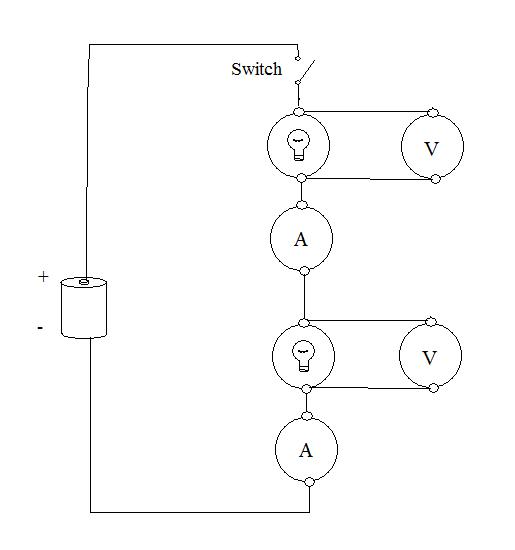
**Purpose**

You will also discover the difference between series and parallel connections, and how to measure voltage and current in a circuit. In doing so, you will gain a better understanding of how electricity flows through the wires of a circuit.

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| --- | --- |
| **Materials** | **Amount** |
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|  |  |
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|  |  |
|  |  |

**Procedure**

1. Form groups and gather your materials as instructed by your teacher.
2. You will first build the **series** circuit. Connect the components as shown in Figure.



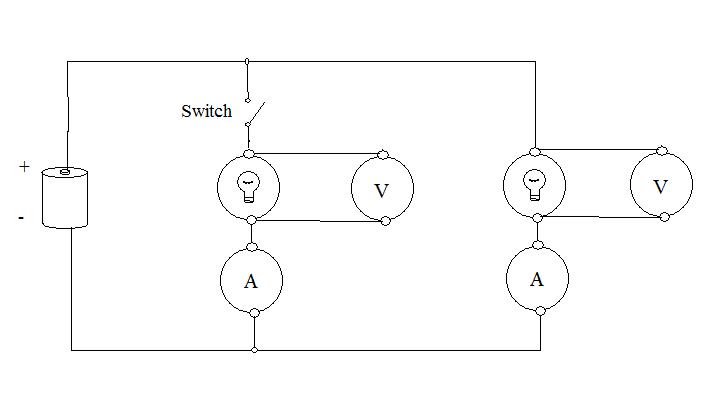
1. Use the clips on the wires to make the connections. For the meters, make sure they both get connected in the same direction (the red terminal closer to the + terminal of the battery, or “up” on the drawing below).
2. Begin with the switch closed.
3. Record the readings from the meters

|  |  |
| --- | --- |
| Ammeter 1 | I1= |
| Ammeter 2 | I2= |
| Voltmeter 1 | V1= |
| Voltmeter 2 | V2= |

1. Now open the switch. What happened?

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1. Now connect the circuit as shown in Figure 2. This is the **parallel** circuit.



1. Begin with the switch closed.
2. Record the readings from the meters

|  |  |
| --- | --- |
| Ammeter 1 | I1= |
| Ammeter 2 | I2= |
| Voltmeter 1 | V1= |
| Voltmeter 2 | V2= |

1. Now open the switch.

What happened?

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**Discussion Questions**

1. Components in series have the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Components in parallel have the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. What happens to both bulbs in the series circuit opening the switch turn off?

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1. What happens to one bulbs in the series circuit opening the switch turn off?

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