# **INVESTIGATING CURRENT AND VOLTAGE IN SERIES AND PARALLEL CIRCUITS Name:**

#

**Part 1: Current**

1. Build the circuits one at a time without the ammeter.
2. Add the **ammeter** into the circuit at ***each place*** shown on the circuit diagram. Record the ammeter readings and bulb brightness below.

|  |  |
| --- | --- |
| series1 | **Circuit A**Build the circuit without any ammeters.Is the light bulb bright or dim? \_\_\_\_\_\_\_\_1. Add Ammeter #1, What is the reading? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Add ammeter #2. What is the reading of ammeter in position #2? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
 |
| **Circuit B**1. Build Circuit B without any ammeter. Compared to circuit A, are the bulbs brighter or dimmer? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Add ammeter to position #1. What is the reading? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Place ammeter in position #2. What is the reading? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Ammeter #3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
 | series2 |
| parallel2 | **Circuit C**1. Build Circuit C. Compared to circuit B, are the bulbs brighter or dimmer? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Ammeter Reading 1: \_\_\_\_\_\_\_\_\_\_\_\_\_
3. Ammeter Reading 2: \_\_\_\_\_\_\_\_\_\_\_\_\_
4. Ammeter Reading 3: \_\_\_\_\_\_\_\_\_\_\_\_\_
5. Ammeter Reading 4: \_\_\_\_\_\_\_\_\_\_\_\_\_
 |

## Part B: Voltage

1. Again, build the circuits one at a time.
2. Once each circuit is working, use a **voltmeter** to measure the voltage across the points shown on the circuit diagram.
3. Record the bulb brightness and the voltmeter readings **below.**

|  |  |
| --- | --- |
| voltseries1 | **Circuit D**Is the light bulb bright or dim?1. Add a voltmeter to position 1. Voltmeter Reading 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Voltmeter Reading 2: \_\_\_\_\_\_\_\_\_\_\_\_\_
 |
| **Circuit E**1. Compared to circuit D, are the bulbs brighter or dimmer?
2. Voltmeter Reading 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Voltmeter Reading 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Voltmeter Reading 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 | voltseries2 |
| voltparallel2 | **Circuit F**Compared to circuit E, are the bulbs brighter or dimmer?Voltmeter Reading 1:Voltmeter Reading 2:Voltmeter Reading 3: |