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

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**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.

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| 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.**

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| 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: |