In a Row Math Worksheet

1. Draw a circuit diagram for a circuit that has one battery and two light bulbs connected in series.

2. For the above circuit, one bulb has a resistance of 2 \( \Omega \) and a second bulb has a resistance of 3 \( \Omega \). The total resistance for two bulbs in series is equal to the sum of their resistances.

   Use this equation to find the total resistance of the circuit: \( R_{\text{total}} = R_1 + R_2 \)

3. For a circuit that has one battery and two light bulbs connected in series, one bulb has a resistance of 1 \( \Omega \), and the total resistance of the circuit is 6 \( \Omega \). What is the resistance of the second light bulb?

4. If a circuit has two 1.5 V batteries in series, what is the voltage across the two batteries?

5. If a circuit has two 1.5 V batteries in series and one 3 \( \Omega \) light bulb, what is the current in the circuit?

   Use the Ohm’s law equation: \( I = \frac{V}{R} \)

Electricity: Lesson 5, Bulbs and Batteries in a Row Activity — In a Row Math Worksheet