



## Parallel Circuits

### Activity 1

In your notebook, draw a circuit with a battery, an ammeter, a voltmeter, and three resistors. The resistors should be connected in parallel. The ammeter should be connected in series with the battery. The voltmeter should be connected in parallel with one of the resistors. This circuit is shown in **Figure 1**.

Observe the circuit and record the readings on the ammeter and the voltmeter. The voltage measured from the voltmeter is the voltage across the resistor. If you connect the voltmeter and ammeter in a similar parallel combination, you will get a similar reading.

### Activity 2

1. Use the parallel circuit prepared in **Figure 1** to answer questions 1-3.

- What is the voltage across each resistor?
  - What is the voltage of each branch?
  - What is the total current provided by the battery?
- Use the circuit diagram and the meter readings to calculate the total resistance of the circuit.



2. Use the parallel circuit prepared in **Figure 1** to answer questions 4-5.

- What is the voltage across each resistor?
- What is the voltage of each branch?
- What is the total current provided by the battery?
- How do you find current and the total voltage or calculate the total resistance of the circuit?



3. Use the parallel circuit prepared in **Figure 1** to answer questions 6-8.

- What is the voltage across each resistor?
- What is the voltage of each branch?
- What is the total current provided by the battery?
- Use the meter readings of the circuit voltage, calculate the total resistance of the circuit.



4. Use the parallel circuit, **Figure 2**, to answer questions 9-11.

- What is the voltage across each resistor?
- What is the voltage of each branch?
- What is the total current provided by the battery?

