Ohm's Law **Grade: 9th - 10th**

Brief Concepts:

- **Ohm's law:** Current flowing through a resistor is directly proportional to the potential applied across it.

$$V = I \times R$$

- **Series connection:** Cells are joined end to end in a series connection. Positive terminal of a cell is connected to negative terminal of the next cell.

Explore:

1. Select a value of resistance. Now, increase the potential across resistor. How does current change?

2. Select a value of potential. Now, increase resistance. How does the current change?

3. If a battery of 9 volt is connected across resistor of 1000 ohm, what will be the value of current flowing through it?

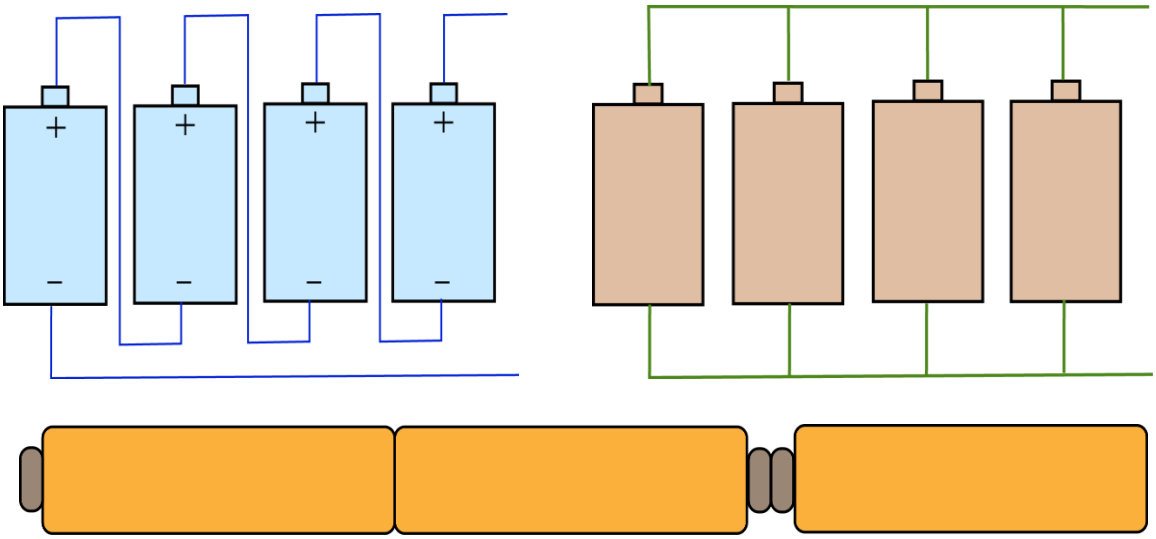
4. For a resistor of 10 ohm, apply five different potentials and measure current through resistor. Plot Potential (V) v/s Current (I) curve on graph paper.

Potential (Volt)	**1.5 Volt**	**3 Volt**	**4.5 Volt**	**6 Volt**	**7.5 Volt**
Current (Amp)					

5. Measure slope of this curve. How does this slope relate with resistance? If the value of resistance were 50 Ohm instead of 10 Ohm, how will this slope change?

Think:

1. Which among the following connections is a series connection?



2. If you need to make 9 Volt battery by using 1.5 Volt cells, how many minimum cells you will need? And how will you connect them?

Contributions:

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