

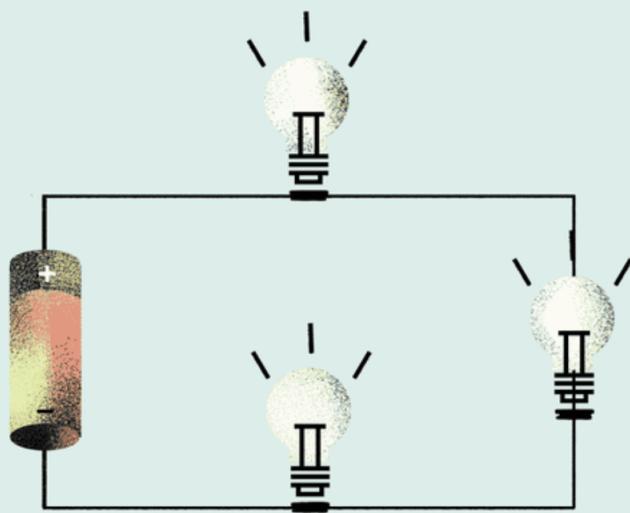
Circuit Formulas & Circuit Structure

$$V = I \times R$$

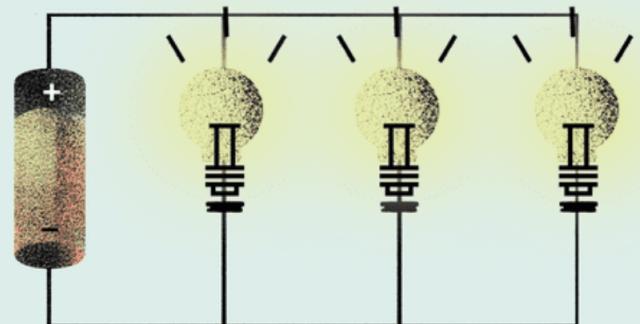
$V \rightarrow$ Voltage

$I \rightarrow$ Current

$R \rightarrow$ Resistance



Series Circuit



Parallel Circuit

Voltage	$V_{in} = V_1 + V_2 + V_3$	$V_{in} = V_1 = V_2 = V_3$
Current	$I_{series} = I_1 = I_2 = I_3$	$I_{in} = I_1 + I_2 + I_3$
Resistance	$R_{eq} = R_1 + R_2 + R_3$	$\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$

Series Circuit:
When a component burns out, the whole circuit stops carrying current.

Parallel Circuit:
When a component burns out, only that branch stops carrying current and the rest keeps working.

Combination circuits are circuits that contain both series and parallel structures within the same circuit.