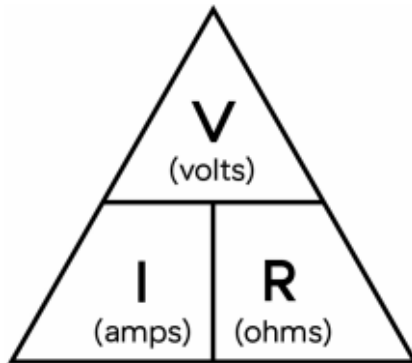# Ohm's Law

Ms. McDade

The relationship between voltage, current and resistance is shown in this graphic:
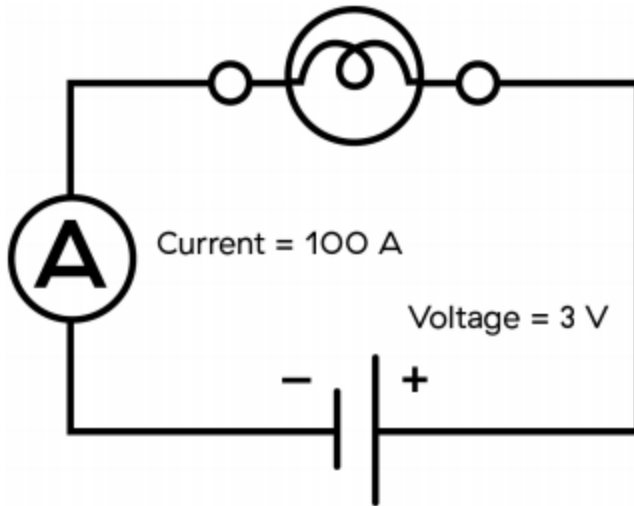

$$V = I \times R$$

$$I = \frac{V}{R}$$

$$R = \frac{V}{I}$$

1) A smartphone with a resistance of 35 ohms has a current of 0.25 amps flowing through it. Calculate how many volts supply the smart phone.

2) A 120-volt power source supplies a computer with a resistance of 210 ohms. What is the current flow of the circuit?

3) Calculate the resistance of the following circuit diagram:

Current = 100 A

Voltage = 3 V

4) What amount of voltage would you need to run a current of 1.2 amps through a 250-ohm resistor?

5) Using the given variables, calculate the unknown value:

a) V =10 V   R = 5 Ω I = _____ A

b) V = 3.5 V   R = 10 Ω I = _____ A

c) V = 10 V   I = 2 A   R = _____ Ω

d) V = 3.5 V   I = 0.5 A   R = _____ Ω

e) I = 11 A   R = 3 Ω V = _____ V

f) I = 7 A   R = 4.5 Ω V = _____ V