

What are the symbol and units for  
voltage? Volts,  $V$   
current? Amps,  $A$   
resistance? Ohm,  $\Omega$

## Example Question Ohm's Law

What is the voltage drop across the tungsten filament in a 100-W light bulb? The resistance of the filament is  $144\Omega$  and a current of  $0.8333\text{ A}$  is flowing through it.

$$V = I \times R$$

$$I = 0.8333\text{ A}$$

$$R = 144\Omega$$

$$V = (0.8333\text{ A}) \times (144\Omega)$$

$$V = 120\text{ V}$$

Sample Problem 2:

If an electric toaster is connected to a 120 V outlet in the kitchen and the heating element in the toaster has a resistance of  $14\Omega$ , calculate the current flowing through it.

$$V = 120V$$

$$R = 14\Omega$$

$$I = ?$$

$$V = I \times R$$

$$120 = I \times (14)$$

$$120 = 14I$$

$$\frac{120}{14} = \frac{\cancel{14}I}{\cancel{14}}$$

$$8.57A = I$$

unit for  
current

# Complete

## Ohms Law Practice