



Name: _____
Date Started: _____ Date Completed: _____ Score: _____

Learning Activity Sheet Electrical Energy and Current

Directions: Read each item carefully. Circle the letter of the correct answer.

1. A 15-meter copper rod is heated from 26°C to 220°C . What is the length of the copper rod after heating?
($\alpha = 17 \times 10^{-6}/^{\circ}\text{C}$)
A. 15.00 m B. 15.05 m C. 16.00 m D. 16.75 m
2. Which of the following is the unit for electric current?
A. ampere B. coulomb C. Ohm D. volt
3. A 2.75°C of charge traveled from point A to point B in 5.00 minutes. What is the electric current?
A. $9.17 \times 10^{-3} \text{ A}$ B. 0.550 A C. 13.75 A D. 825 A
4. A 60-watt light bulb is connected to a 120-V plug. What is the current in the light bulb?
A. 0.50 A B. 0.25 A C. 2.0 A D. 4.0 A
5. Which of the following will take place when a substance absorbs heat?
A. osmosis B. short circuit C. thermal expansion D. decrease in kinetic energy
6. The weather forecaster reported that the daily average temperature is 40°C . What is this temperature in Kelvin?
A. 233 K B. 253 K C. 303 K D. 313 K
7. You have a uniform, flat disc with a hole in the center. While heating the disc, what is happening to the diameter of the hole?
A. increases B. decreases C. remains the same D. increases then decreases
8. The coefficient of linear expansion of iron is $11 \times 10^{-6}/^{\circ}\text{C}$. What is the change in length of a 7.50-meter rod if it was heated from 25°C to 90°C ?
A. $2.2 \times 10^{-2} \text{ m}$ B. $4.0 \times 10^{-3} \text{ m}$ C. $5.4 \times 10^{-3} \text{ m}$ D. $8.8 \times 10^{-4} \text{ m}$
9. Which of the following pairs are mismatched?
A. voltage: volt C. electrical power: watt
B. resistance: ohm D. electrical energy: farad
10. How many electrons must be transferred in a second to have an electric current of 5.0 A?
A. 3.1×10^{19} electrons C. 8.9×10^{19} electrons
B. 7.2×10^{19} electrons D. 9.9×10^{19} electrons

