


Science 9  
**Physics Practice Test**

**Name:**  
**Date:**  
**Block:**

*This practice test is designed to help you determine what concepts you DO know and more importantly what concepts you DO NOT know!*

**Go through the practice test THREE times:**  
**(1) On your own      (2) With your notes      (3) With another student**



*Each time, if you cannot answer a question, draw a circle around it to identify that you should review this concept when preparing for the test.*

**True or False:** Identify the following statements as true or false. If FALSE, rewrite the UNDERLINED word(s) with the correction

1. \_\_\_\_\_ Electrical potential difference is often called voltage and measured in volts  
\_\_\_\_\_
2. \_\_\_\_\_ Electrons flow from the cathode (positive terminal) to the anode (negative terminal)  
\_\_\_\_\_
3. \_\_\_\_\_ A charged material has an equal distribution of positive and negative charges  
\_\_\_\_\_
4. \_\_\_\_\_ A copper wire is an example of an insulator  
\_\_\_\_\_
5. \_\_\_\_\_ Water, geothermal, and wind are examples of renewable (sustainable) energy  
\_\_\_\_\_

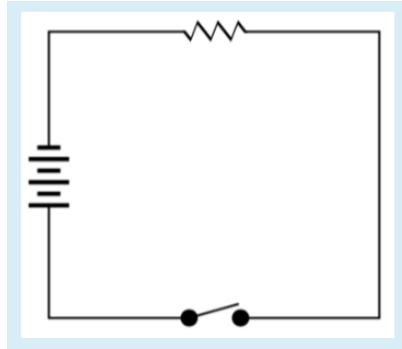
**Multiple Choice:** Choose the BEST answer

- \_\_\_\_\_ 6. The part of a complete circuit that converts electricity into other forms of energy is known as the
- a. Control
  - b. Resistor
  - c. Load
  - d. Source

\_\_\_\_\_ 7. Which of the following is NOT a requirement for an electric circuit?

- a. A continuous pathway
- b. A switch
- c. A conductor
- d. A source

\_\_\_\_\_ 8. In the following circuit diagram, the battery has a charge of 9V and the resistor has a resistance of  $6\ \Omega$ . What is the current through the circuit?



- a. 0.67 A
- b. 3 A
- c. 1.5 A
- d. 72 A

\_\_\_\_\_ 9. A parallel circuit has three 5 V loads. What is the total voltage across each of the loads in the circuit?

- a. 5 V
- b. 15 V
- c. 1.67 V
- d. 0.6 V

\_\_\_\_\_ 10. Which of the following materials has the lowest conductivity?

- a. Plastic
- b. Copper
- c. Water
- d. Glass

\_\_\_\_\_ 11. Which of the following best describes the movement of electrons around a series circuit?

- a. The electrons take one of several possible paths
- b. The electrons give up equal amounts of energy as they pass through each branch of the circuit
- c. The current is higher near the power source than anywhere else in the circuit
- d. The electrons follow the same path around the circuit

\_\_\_\_\_ 12. If you used a 4000 W dish washer for 0.75 hours, how many kilowatt-hours of electrical energy would you have used?

- a. 2.5 kWh
- b. 3.0 kWh
- c. 4.5 kWh
- d. 5.0 kWh

## Completion

Word Bank	
Light	Heat
Series	Circuit
Switch	Resistance

1. An arrangement of electrical components through which electrons follow an unbroken path is known as a \_\_\_\_\_
2. You can start and stop the current around a circuit by inserting a \_\_\_\_\_ into the circuit
3. The \_\_\_\_\_ of a material is the property that determines how difficult it is to force an electric current through the material
4. When electrons have only one possible route and can follow only one path, the circuit is called a \_\_\_\_\_ circuit
5. Electrical devices convert electrical energy into other forms of energy, such as \_\_\_\_\_ and \_\_\_\_\_

## Short Answers

1. Explain the relationship between negative charges, positive charges, electrons, and protons. Describe what sometimes happens in terms of charges when you rub two different types of materials together
2. What is a purpose of a load?
3. Why is it important to wire a home with a circuit where all loads are connected in parallel?

4. Draw a circuit diagram with three lightbulbs connected in series, a switch, a battery, and a voltmeter measuring the voltage across the battery. Use arrows to indicate the direction of current flow.
  
  
  
  
  
  
  
  
  
  
5. An electric motor has a resistance of  $185\Omega$ . It is connected to a power source that has a potential difference of 120 V. Calculate the current that flows through the motor. Show your work, and make sure your final answer has the appropriate units!
  
  
  
  
  
  
  
  
  
  
6. What is electrical power and how is it measured?
  
  
  
  
  
  
  
  
  
  
7. What information does a smart meter relay to the utility company?
  
  
  
  
  
  
  
  
  
  
8. If a family goes away on vacation, why might electrical energy still be consumed in their home?