

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.

Matching: Match the following source with the type of energy associated. Each type of energy can be used once (1 mark each)

- | | |
|--|------------------|
| 1. <u>D</u> A rollercoaster at the top | a. Elastic |
| 2. <u>E</u> A light bulb | b. Chemical |
| 3. <u>B</u> An apple | c. Electric |
| 4. <u>C</u> An outlet | d. Gravitational |
| 5. <u>A</u> A tennis racket | e. Solar |

Short Answers

- 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 marks)
 - Protons have a positive charge
 - Electrons have a negative charge
 - When two materials are rubbed together, the friction causes the electrons from one material to move onto the other. This results in charged materials
- What are the 3 main parts of an electrochemical cell? Describe each part (3 marks)
 - Anode - the negative terminal of the cell
 - Cathode - the positive terminal of the cell
 - Electrolyte - conducts charge and prevents the electrons from moving within the electrochemical cell

3. What are 3 necessary components of a functioning circuit? Describe the function of each component (3 marks)

1. Source (battery) - supplies electrical energy
2. Load (lightbulb) - transforms electrical energy into another form (light)
3. Conducting Wires - allows electrons to flow within the circuit

4. Complete the following table (3 marks)

	Symbol	Unit
Current	I	Amperes (A)
Voltage	V	Volts (V)
Resistance	R	Ohms (Ω)

5. How does having a load prevent a short circuit? (2 marks)

A short circuit happens when the current in a circuit is too high. Having a load provides resistance and transforms the electrical energy into another form of energy.

6. What is the purpose of having a switch in a circuit? (2 marks)

A switch controls the flow of current within a circuit.

- If the switch is open, the circuit is open and the current cannot flow

- If the switch is closed, the circuit is closed and the current can flow