

Name:

Date:

Class:

Galvanic Cells and Circuits Pre/Post-Quiz Answer Key

Instructions: Choose the **ONE** choice that best answers the question.

- Which of the following statements is true about a galvanic cell?
 - oxidation occurs at the cathode and the cathode is positive.
 - oxidation occurs at the anode and the anode is negative.**
 - reduction occurs at the cathode and the cathode is negative.
 - reduction occurs at the anode and the anode is positive.
- Which two reactants will lead to the greatest cell potential in a galvanic cell?
 - lithium metal with fluoride ions
 - fluorine gas with chloride ions
 - zinc metal with silver ions**
 - potassium ions with lithium metal

(This can be determined using the location of the oxidant and reductant on the electrochemical series)
- Which of the following statements is true about the salt bridge of a galvanic cell?
 - positive ions flow into the anode half-cell, while negative ions flow in the other direction.**
 - electrons flow to complete a circuit.
 - positive ions flow to the negative electrode, while electrons flow in the opposite direction.
 - positive ions flow into the cathode half-cell, while negative ions flow in the other direction.

- What current is flowing in a wire if 0.67 C of charge passes a point in the wire in 0.30 s?
 - 0.67 A
 - 0.20 A
 - 0.30 A
 - 2.20 A**

$$I = Q / t$$

- A light bulb operating at 110 V draws 1.40 A of current. What is its resistance?
 - 109 Ω
 - 12.7 Ω
 - 78.6 Ω**
 - 154 Ω
- What is one major difference between how a voltaic cell produces energy and how an electrolytic cell produces energy?

Answers will vary. One answer could be that voltaic and electrolytic cells are exact opposites of each other. A voltaic cell uses chemical reactions or chemical energy to produce electrical energy but an electrolytic cell uses electrical energy to produce chemical energy.