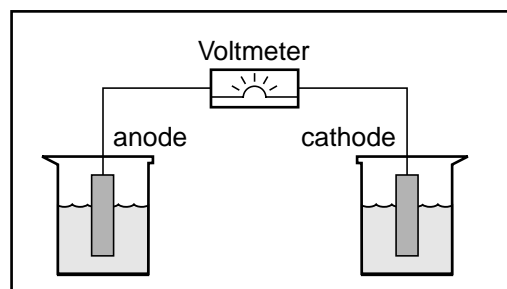


Name: _____ Date: _____

- 1 After a voltaic cell has been set up with a zinc anode, copper cathode, and a salt bridge, which way will electron flow proceed?
- A From the copper cathode to the zinc anode
 - B From the salt bridge to the zinc anode
 - C From the zinc anode to the copper cathode
 - D From the copper cathode to the salt bridge
- 2 In order to develop building materials that are resistant to corrosion, manufacturers must be aware of ways to promote —
- A anodic inhibition, which prevents the reduction of the metal
 - B cathodic reactions, which allow reduction of the metal
 - C anodic inhibition, which prevents the oxidation of the metal
 - D cathodic reactions, which allows oxidation of the metal

- 3 Which of these is NOT a trait of a secondary battery?
- A Generates electrical current by a chemical reaction
 - B Uses a redox reaction that cannot easily be reversed
 - C Recharges by reversing the net cell reaction
 - D Is also referred to as a storage battery

Use the diagram below to answer question 4.

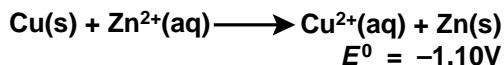


- 4 The diagram shows a student's setup for a voltaic cell. Which change would help ensure that electron flow would continue indefinitely?
- A The student should place a salt bridge between the two beakers.
 - B Both electrodes should be made of the same metal.
 - C The student should connect the voltmeter to a salt bridge.
 - D The anode should be in the same beaker as the cathode.

Name: _____ Date: _____

- 5 Which of these is required for electric charge to flow in an electrochemical cell?
- A Galvanic difference
 - B Electroplating difference
 - C Concentration difference
 - D Electric potential difference
- 6 Some silverware is not made entirely of silver but is electroplated, or coated, with silver. The process of electroplating a fork would involve the migration of —
- A silver ions oxidized at the anode and depositing on the fork, which acts as the cathode
 - B ions oxidized from the fork (cathode) and depositing on the silver metal (anode)
 - C silver ions reduced at the anode and depositing on the fork, which acts as the cathode
 - D ions oxidized from the fork (anode) and depositing on the silver metal (cathode)
- 7 Electrolysis can be used to drive nonspontaneous redox reactions because it —
- A uses chemical energy to cause an electrical reaction
 - B equilibrates the electromotive force
 - C uses electrical energy to cause a chemical reaction
 - D acts as a sacrificial anode

Use the equation below to answer question 8.



- 8 According to this information, this reaction —
- A is spontaneous
 - B requires heat
 - C is nonspontaneous
 - D gives off heat

