Print Name _____ Period _____ Date _____

*WS14:3 Electrochemistry *rft*

1. Electrochemistry features two alternate processes. First, spontaneous chemical reactions can be used to generate _____ - _____ - _____.

2. Alternately, an electric current can be used to produce a _____ - _____.

3. Electricity can be conducted in two ways. What are they? _____

_____

_____

4. List four or more practical applications or common examples that feature electrochemistry: _____

_____

_____

5. If we force an electric current through a solution to cause a non-spontaneous reaction to occur, the process is called _____.

6. Water molecules can be split apart by _____ to produce H_2 gas and O_2 gas.

7. What does the suffix "LYSIS" mean? _____

8. Suppose that we use electrochemical techniques to coat a metallic surface with a thin layer of copper using the following reaction: $Cu^{2+}_{(aq)} + 2\ e^- \rightarrow Cu_{(s)}$. What name is given to this technology? _____

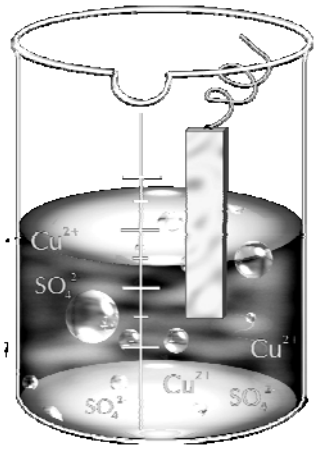
9. Electrochemical cells are sometimes referred to by two other names. What are they? ___

_____

Print Name _____ Period _____ Date _____

*14:3 Electrochemistry *rft*

10. Electrochemical cells use "_____ - reactions" to convert _____ energy into _____ energy.



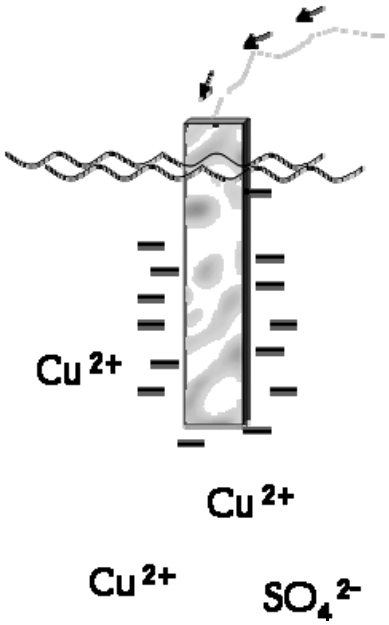
11. This drawing depicts a "_____ - cell" which accounts for 50% of an electrochemical cell.

12. In an electrochemical cell, the metal(s) and the wire carry electricity as a _____ - of - _____.

13. The aqueous solutions, however, carry electricity by means of the motion of _____.

14. In an electrochemical cell, we arrange for _____- conductors to come into contact with _____ - conductors at a metallic interface called an electrode.

15. This diagram depicts conditions in a half-cell containing copper II sulfate solution and a metallic copper electrode that will function as an electrical _____.



16. List three or four characteristics and events that are associated with the CATHODE: _____

_____

_____

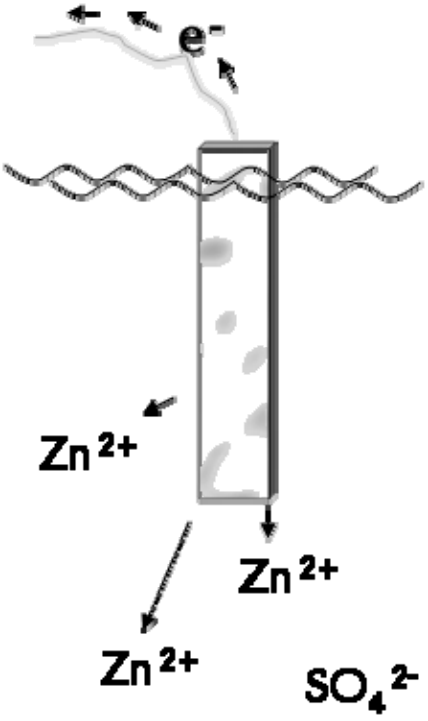
_____

17. How are the descriptive terms "RED CAT" and "AN OX" useful? _____

_____

Print Name _____ Period _____ Date _____

*14:3 Electrochemistry *rft*



18. This diagram depicts conditions in a half-cell containing zinc II sulfate solution and a metallic zinc electrode that will function as the cell's _____.

19. List three or four characteristics and events that are associated with the ANODE: _____

_____

_____

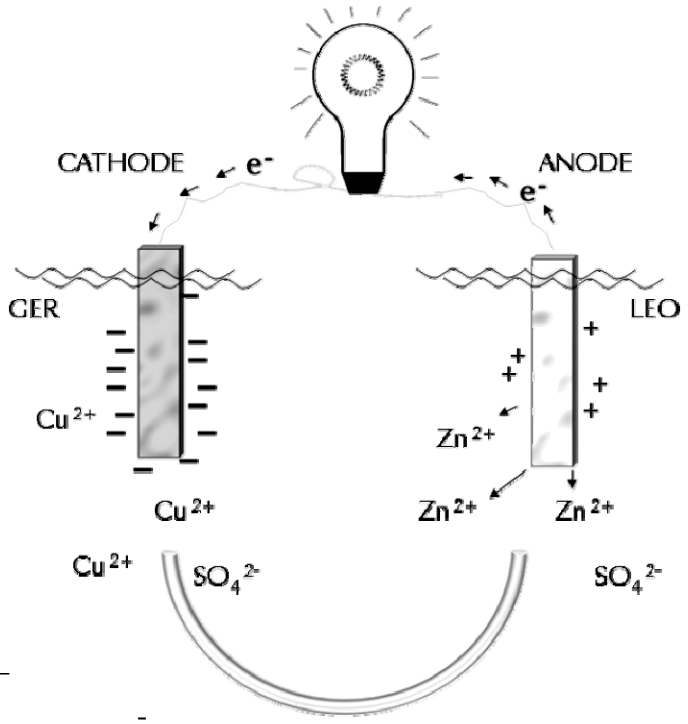
_____

_____

_____

_____

20. The completed circuit shown here produces a flow of _____ that is capable of doing useful _____ (in the case, lighting a light bulb).



21. The base of this illustration depicts a "SALT - _____" filled with a strong electrolyte. It allows ions to migrate in response to charge balance.

22. In these energy _____ the _____ energy of "_____ - reactions" is converted into _____ energy capable of doing useful work.