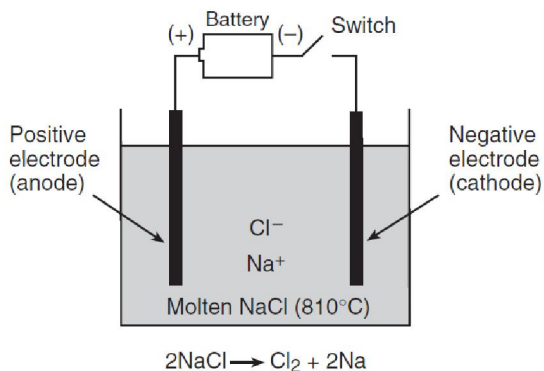


Name \_\_\_\_\_

## Electrolytic Cells: Electrolysis



1. When the switch is closed, which electrode will attract the sodium ions?
2. What is the purpose of the battery in this electrolytic cell?
3. Write the balanced half-reaction for the reduction that occurs in this electrolytic cell.
4. What is the energy conversion in an electrolytic cell: chemical to electrical or electrical to chemical?
5. What is the minimum voltage required to run this process?

6. Water is being decomposed using a battery in the diagram to the right. Write the balanced equation for the decomposition of water.

7. Which species is being oxidized?

8. Write the balanced half reaction for the oxidation reaction.

9. How many e<sup>-</sup> are lost? \_\_\_\_\_

10. Is this reaction spontaneous? \_\_\_\_\_

11. What type of cell is it? \_\_\_\_\_

12. Label where oxidation and reduction on the diagram.

13. Why is more H<sub>2</sub> gas being formed than O<sub>2</sub> gas?

14. Write the overall balanced redox reaction.

