

Unit 5 Electrochemistry Project

In this project, you will investigate a series of batteries and alternate energy sources. You will look at the chemistry behind each, then brainstorm a sustainable way in which we can recycle these batteries.

In order to complete this project, you will want to read Chapter 10: Electrochemical Cells in your textbook (p 634 - 667).

Section 1: Background Information

In this section you will provide the reader with all background information they may need to know to understand batteries and how they work. Subheadings may be useful when outlining your information. Be sure to consult the rubric and include all sections below.

- What is a galvanic cell and how do they work? (p. 635)
 - Use the terms salt bridge, anode, and cathode
 - Be sure to include diagrams to help explain how a galvanic cell works
- What is meant by the term dry cell? (p. 649)
 - Use the terms primary battery and secondary battery in your explanation
- What are some health and safety concerns involving batteries? (p. 651)
- What are fuel cells and how may they be used for energy? (p. 652)
- What are electrolytic cells and how are they different from galvanic cells? (p 660)
- How do rechargeable batteries work? (p. 664)

Section 2: Do Something!

While many communities have recycling centers for household batteries, few areas have cell phone recycling programs. With increasing technology, individuals are now replacing cell phones every couple of years. The batteries in cell phones have several toxic chemicals that must be disposed of properly.

In this section you will be creating a proposal to establish a cell phone recycling program in your school.

Be sure to include the following sections in your proposal:

- What kind of batteries do cell phones use? Which chemicals may be considered toxic?
- How should you properly dispose of a cell phone? Be specific.
- Who could you potentially get to participate in your program?
- How can you involve them?
- What is the feasibility of your program?

Marking Rubric

Your project should look like a report with subheadings dividing each section. Please use size twelve font, double spaced. Your report should be a minimum of 2 pages.

Mark Breakdown

Section 1:

Explanation of Galvanic Cells and How they Work	/ 10
Explanation of Dry Cells	/ 5
Health and Safety Concerns Surrounding Batteries	/ 3
Fuel Cells and their Applications	/ 3
Explanation of Electrolytic Cells	/ 5
How Rechargeable Batteries Work	/ 3

Section 2:

Description of Cell Phone Batteries	/ 5
Description of How to Dispose of Cell Phone Batteries	/ 3
Participants in Your Program	/ 3
How to Get People Involved	/ 3
Feasibility of Your Program	/ 2

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