

Recycling

Part of the *Green Careers* series

Study Guide

Appropriate for grades 9-12 and post-secondary,
as well as 7-8 with teacher guidance.



This program introduces job opportunities in recycling including a profile of an electronics recycling start-up and a San Francisco municipal program to recycle cooking oil into biodiesel fuel. Job opportunities in recycling include collection, transportation, receiving and sorting, disassembly, handling hazardous materials, scheduling, operations, and plant management. Recycling provides opportunities for young people to start with a temporary or part-time job, then move up to supervisory and management responsibilities.

The biggest challenge in recycling is developing innovative and environmentally sensitive solutions for recycling a wider array of materials. The government is a large factor in the growth of this industry, and often pays private companies to recycle. But for anyone who is entrepreneurial and can figure out a new way to reuse what other people discard, recycling can offer a very worthwhile and profitable career.

Jobs profiled in this program include:

E-Waste Entrepreneur, Plant Manager, Biofuel Coordinator, Truck Driver.

22 minutes



**The Phoenix
Learning Group, Inc.**

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Learning Objectives

Following are some sample cross-curricular learning objectives for comprehension questions and activities. Students will be able to:

Science

- Determine the effects various types of electronic waste have on the environment and humans.
- Substantiate the environmental and economic benefits of recycling.

Careers/guidance

- Evaluate personal interests to determine if green careers are an area in which to pursue further education.
- Compare and contrast the skills and education required for green careers.
- Identify post-secondary programs that offer green careers and locate courses of study within the programs.
- Determine the appropriate high school courses to enroll in to prepare for a chosen green career.
- Apply project planning skills in academic and/or occupational settings.

Technology

- Conduct research utilizing a computer and the Internet.
- Categorize electronic equipment into hazardous and reusable groups.

Mathematics

- Construct a graph to represent the types of electronic waste generated at home or in school.
- Develop and conduct a survey and synthesize the results into an easily readable format.

Questions

Electronic Waste Recycling

1. Elaborate on what is meant by “What looks like a problem can be an opportunity.”
2. What special knowledge is required to properly dispose of computer circuit boards?
3. Discuss the implications on humans and the environment if e-waste is improperly disposed of in landfills.
4. Why is it anticipated that there will continue to be a growing need for electronics recycling?
5. State the difference between a certified collector and a certified recycler.
6. What is meant by an evolving industry, and how does this affect the job outlook for the future?
7. List five jobs within an electronics recycling plant.
8. Identify courses of study that would be beneficial for a position in electronic recycling programs. Is a degree required for all careers?
9. Assess the diverse types of specialized recycling programs in each region discussed and determine the benefits to the land and the economy generated by each.

Biofuel Coordinator

1. Numerous jobs were identified in this new field. List the positions and identify those that require advanced degrees, and those that do not.
2. Explain what is meant by the statement “the collection of recyclables is labor intensive, but lucrative.” Why are these positions becoming more desirable?
3. In what way do the people in this green field help the environment?
4. What are the stated benefits of being a truck driver?
5. Present an argument supporting the concept that people in the field of biofuel need to be creative thinkers.

Sample Activities

- Contact local or state government to investigate how e-waste is disposed of and what laws govern the disposal in your area.
- Find out what your school district does with its e-waste and if there are storerooms housing the equipment waiting for disposal. If outdated electronic equipment is stored, tally the various types of equipment (ex: monitors, VCRs) and construct a graph representing this data.

- Survey your friends and family to find out what they do with their computers, televisions and other electronic equipment when they are no longer used and if they know the proper way to dispose of this equipment. Use this information to analyze the future need for e-waste recycling and the types of careers that are required, from collection to disposal, to complete this process.
- Volunteer in the community or at school to assist in the appropriate disposal of e-waste.
- Arrange a visit to a recycling plant.
- Visit local home improvement centers and locate products made from recycled goods. Research the construction of these products from start to finish, and identify the steps and the workers needed to complete the production of these items.
- Select three green careers that are of interest to you and generate a chart identifying the pros and cons for each career. Consider working conditions/work environment, job availability, salary, skills required, level of education, and locations of programs that offer training in the chosen field.
- Research the programs (college or technical) that offer the training required for employment in the area of interest. Locate the course list for the program to get an idea of the classes that should be taken in high school in preparation for entering the program.

Related Links

<http://www.bls.gov/audience/students.htm>

Part of the Bureau of Labor Statistics website designed for teachers and students. It includes resources such as the latest statistics on employment, prices, and wages.

<http://www.epa.gov/epawaste/consERVE/materials/erecycling/index.htm>

U.S. Environmental Protection Agency clearinghouse of information about electronic waste recycling.

<http://afdc.energy.gov/afdc/fuels/biodiesel.html>

U.S. Department of Energy information on biodiesel.

The complete *Green Careers* series includes:

Building Green Clean Energy
 Recycling Environmental Justice
 Water Management Green Design
 Sustainable Agriculture Hazardous Waste Management

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