Water Management

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 presents an overview of job opportunities in water management such as flood control, reservoir management, levee design and repair, designing and operating dams and sewer systems, river management and restoration, monitoring fish populations, protecting habitats and endangered species, maintaining natural resources, water conservation, irrigation, landscape design, and more.

Water management is a fast-growing job opportunity. State, federal, and local governments spend billions of dollars a year on water management, and employ thousands of trained workers to conserve and distribute water while protecting the environment. You can't have a green world without water.

Jobs profiled in this program include:
Chief Hydrologist, Water Transfer Coordinator, Natural Resource Manager, AmeriCorps Intern, Water Conservation Specialist, and Landscape Coordinator.

20 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 climate changes have on water sources.
- Hypothesize the outcome natural disasters involving water would have on society without interventions from civil engineers.

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.
- Research 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 and management skills in academic and/or occupational settings.

Technology

- Conduct research utilizing a computer and the Internet.

Mathematics

- Construct a graph to follow trends in green careers over a period of time.

Questions

Civil Engineer

1. Describe the impact a lack of civil engineers would have on society and the environment.
2. Throughout the film, climate changes are linked to water management needs. Discuss what is meant by climate change and its relevance to civil engineering.
3. What steps can you take to determine if this is a suitable position for you to investigate?

Natural Resource Management

1. What is the importance of acquiring an internship, especially in this field?
2. Name personality traits that a field biologist must possess.
3. Are there positions in the water management field that can be performed indoors?

Water Conservation Specialist

1. In what environments do water conservationists work?
2. List five questions you would ask a private consumer if you were called in to survey his or her home and land for ways to conserve water.
3. What is a primary motivation for people to call a water conservationist?
4. Identify the skills required for this position that differ from the other water management careers.

Landscaper

1. Describe water-smart landscaping and the knowledge that is required for this career.
2. According to the irrigation contractor, what must a high-quality contractor be familiar with to be effective?
3. Why could an irrigation contractor be a good position if a person enjoys traveling?

Activities

- 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.
- Design and construct a model of a system that could be used to manage a natural habitat. Use materials readily found in the environment. Identify the various personnel that would be needed to construct this system if it were to be built on a full scale.
- Construct a graph depicting the growth of various green careers over the past twenty years.

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.iaef.org/

Home page of the Irrigation Association Education Foundation.

http://www.asce.org/kids/whatis.cfm

Information for students about civil engineering from the American Society of Civil Engineers.

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