

# Activity of the Month – October, 2008

## Exploring Ocean Science Careers

### Summary

In this activity students explore the Deep Earth Academy's Career Mosaic and the National Oceanic and Atmospheric Administration's (NOAA's) OceanAge Careers web pages to learn about the diversity of careers necessary to conduct research on a scientific drilling ship or other ocean vessel. Students choose and investigate several people to learn about their duties, education, training, certifications, daily routines, and the science projects in which they participate. Students then present one career profile to the class so the diversity of careers associated with studying the ocean is apparent.

### Learning Objectives

Students will be able to:

- Identify at least four careers associated with scientific ocean drilling and ocean research.
- Demonstrate an understanding of the collaborative aspects of scientific research.
- List connections between their lives and the lives of those associated with ocean research vessels.
- Consider a career in ocean science for themselves.

### National Science Standards

Content Standard D: Earth and Space Science

Content Standard E: Science and Technology

Content Standard G: History and Nature of Science

**Target Age:** Grades 7-12

**Time:** 2 class periods

### Materials

- Student computers with Internet access
- *What Do You Want To Be?* student page – 1 per student
- *Career Profiles* student page – 4 per student
- PowerPoint™

### Background

When ships like the *JOIDES Resolution* go out to sea, nearly a hundred people representing dozens of careers are aboard to ensure its success. These ships often go out for months at a time, therefore everything necessary for daily living and for conducting the scientific research must be taken care of by the people on board. It takes many different types of professionals to run a safe and productive expedition, from cooks and doctors to drillers and engineers. Many students do not realize the number of diverse opportunities involved in ocean research and therefore may not realize that opportunities exist that match their own interests.

## What To Do

1. To start students thinking about ocean careers and their own interests, have them answer questions 1 and 2 on the What Do You Want To Be? student page.
2. Students should then explore the following websites looking for people they want to learn more about. They should select four different careers and complete a Career Profile for each.
  - Deep Earth Academy/Consortium for Ocean Leadership [www.oceanleadership.org/careers\\_flash.html](http://www.oceanleadership.org/careers_flash.html)
  - NOAA OceanAge Careers [oceanexplorer.noaa.gov/edu/oceanage/welcome.html](http://oceanexplorer.noaa.gov/edu/oceanage/welcome.html).

*IMPORTANT NOTE: It may take a couple minutes for all of the images to load on the Deep Earth Academy page before students can access the scientist profiles.*
3. Provide students with a PowerPoint™ template, or have them devise their own to create a presentation on one of the people they learned about. Students will need access to other websites (see the Recommended Websites) for additional information and images related to their chosen career and experiences.
4. Give students an opportunity to share their presentations with the rest of the class.
5. Have students discuss or write revisions to their responses to questions 1 and 2 on the What Do You Want To Be? student page according to what they learned from their own research and the presentations of their peers.

## Extensions or Alternative Ideas

- Have students make posters highlighting the career they selected.
- Hold a class discussion during which each student represents someone from a different career. Have students take on the role of the career they selected as a way to share with the class.

### Recommended Websites

- Integrated Ocean Drilling Program
  - Photo Gallery <http://iodp.tamu.edu/publicinfo/gallery.html>
  - Friends and Family Photos <http://iodp.tamu.edu/scienceops/gallery.html>
  - Drill Site Maps <http://iodp.tamu.edu/scienceops/maps.html>
  - US Drillship Tour and History <http://iodp.tamu.edu/scienceops/maps.html>
- School of Rock
  - Logs and Photos <http://www.oceanleadership.org/files/Joi%20Learning/schoolofrock/default.html>
- Ocean Explorer
  - Gallery <http://oceanexplorer.noaa.gov/gallery/gallery.html>
  - Explorations <http://oceanexplorer.noaa.gov/explorations/explorations.html>
  - Technology <http://oceanexplorer.noaa.gov/technology/technology.html>

## Student Page

# What Do You Want To Be?

1. What career are you most interested in pursuing? Do you think this career is important on a science research ship? Explain.
2. What types of careers do you think would be important for work on an ocean science research ship? What educational training and skills are necessary for each career you listed?
3. Explore the following websites looking for careers you want to learn more about. Find four you are most interested in and complete a Career Profile for each.

**Consortium for Ocean Leadership/Deep Earth Academy**

*[http://www.oceanleadership.org/careers\\_flash.html](http://www.oceanleadership.org/careers_flash.html)*

**NOAA OceanAge Careers**

*<http://oceanexplorer.noaa.gov/edu/oceanage/welcome.html>*

*The Ocean Leadership/Deep Earth Academy site may need a couple of moments to load before you seek out the career profiles.*

4. Choose a person from the four ocean careers you explored, then construct a PowerPoint presentation so that you can share information about this career with your classmates. Your PowerPoint presentation should include the following:
  - Title Slide with name and photo of your selected scientist
  - Job description
  - Education required to achieve his/her position.  
*Search educational institutions for graduation and course requirements.*
  - Names and pictures of the equipment or tools required to perform his/her duties along with a description of how the equipment or tools work.
  - Description of a scientific expedition your person participated in or one of the expeditions that occurred when the person was likely to be on board. Include the following:
    - Where the expedition took place – include a map
    - The focus of the expedition
    - Collaborators – those with whom they worked
    - Methods and/or equipment used in the research
    - Outcomes of the research – what was learned (you may or may not be able to find this information)
  - Personal Information about the person such as: where he/she lives, hobbies and interests, or anything else you find interesting about him/her
  - Conclusion slide with a picture and concluding statement
5. What did you learn about the careers associated with research ships and ocean science?
  
6. Would you consider a job on board a research vessel and/or related to ocean science? Explain.

# Career Profile of \_\_\_\_\_

(Crew member or Scientists Name)

## About the Job

- Career Title and Job Description. What is the person responsible for?
- Education, Degrees, and/or Certificates Required for their Job:
- Description of how this person conducts his/her work: What tools and equipment does he/she use? What is his day/night like? Who does he/she work with? Other interesting aspects?
- Description of the scientific work conducted: What scientific expedition or project has the person worked on? Where did he/she go? What was the goal? Who did he/she work with? How was the research conducted? What was the outcome of the expedition?

## About the Person

- How did this person get involved in science?
- Where does he/she live?
- What are his/her hobbies and interests?

### Recommended Websites

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  - Drill Site Maps <http://iodp.tamu.edu/scienceops/maps.html>
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