
Let's Talk Careers! 'Teaching Notes'

STEM Careers in Polar Climate

Grades 7-12

Single Class

Overview

STEM includes a wide group of career options, with professionals working together to problem solve, develop new cutting edge equipment, and plan and carry out fieldwork to test and explore new ideas and areas. The IcePod project involves many different STEM professionals from a wide range of careers, training and backgrounds. Learn more with this activity.

Objectives

Students will be able to:

1. Identify different professionals in polar research careers & how they use STEM education & training in this project.
2. Compare the skills needed & degree requirements for the different professionals examined by completing a gridded matrix.
3. Students consider their future in a STEM profession

Activity – Complete #1 & 2 as teams; #3 & 4 individually

1. Explore: Use the “People & Careers” from the IcePod webpage to explore careers. Read & discuss the different STEM careers involved in this project and begin a career comparison by filling in the matrix on your worksheet.
2. Education basics! Discuss with your team your career grid, and identify what skills and courses you see as important for more than one career choice. List these on your sheet.
3. Obstacles: (a) List any obstacles you feel are in the way of you pursuing one or more of these careers. (b) How might you overcome them?
4. Using the worksheet write a paragraph about one of the careers that interests you. Include: (a) Why you selected it; (b) Suggest several types of projects this career would be useful in; (c) Can you see yourself working in this career and explain this?

Doing More – 2 additional activities - team & individual

1. **TEAM:** Students work in teams to design their own project with personnel identified selecting from a range of STEM careers. Have the students define the problem the project will address and how each set of career skills will focus on their part of the project.
2. **INDIVIDUAL:** Students select one career to research in more depth how STEM skills are used. (Links provided under other resources.)

Evaluation

Students should be able to correctly complete a career matrix, identify skills and courses that link careers, and construct a paragraph on one of the STEM careers including all the required elements.

Materials

Option #1: For an in-class activity without computer use: Print one set of job descriptions for a team of students, OR one set total to be rotated between teams. Each student needs a Student Activity Worksheet to complete.

Option #2: Computers with access to the Icepod project education website so students review the job descriptions online. Each student needs a Student Activity Worksheet to complete.

<http://www.ldeo.columbia.edu/icepod>

Other Resources

There are many other resources that the teacher can use for a STEM career exploration. The following link to career information on the web is a great place to start with students:

U.S. Bureau of Labor Statistics - <http://stats.bls.gov/ooh/>

NOTE: As a class discuss and consider:

A simple look at career styles & problem solving skills might be a fun way to start looking at career options with students. Scientists continually pose questions & use observations to build hypotheses; Engineers design, construct, maintain & refine instruments and equipment; Mathematicians look for patterns and relationships and solve questions using formulas, theorems and principles; Technologists develop & use tools to solve practical problems.