



## LESSON: Hot STEM Careers

**Title:** Hot STEM Careers  
**Author:** Sandy Mills-Alford

**Submitted:** June 17, 2008  
**School/Org:** AliveTek, Inc.

### Lesson Overview:

This set of activities will allow students to discover the many different types of STEM careers for which they can begin to prepare. The role of the teacher is to help them visualize the variety of career choices they have in the fields of science, technology, engineering, and math. If students find that their interests and goals align with STEM careers, they may be more motivated to acquire STEM skills.

**Suggested Classroom Time:** 120 minutes

**Grade Levels:** 6-10

**KLASS Module:** 3-Career Exploration

**Topic/Console:** NASA Jobs

### Materials Needed:

Activity	Documents	Other Materials
1	RDG_Hot-STEM-Careers.pdf	
2	<a href="http://www.careervoyages.gov/">http://www.careervoyages.gov/</a>	Demonstration computer with Internet connection
3	ACT_Hot-STEM-Careers1.doc (lower level activity) ACT_Hot-STEM-Careers2.doc (CareerVoyages.gov activity) ACT_Hot-STEM-Careers3.doc (higher level activity) KEY_Hot-STEM-Careers1.doc KEY_Hot-STEM-Careers2.doc KEY_Hot-STEM-Careers3.doc	Student computers with Internet connection and/or <i>STEM Occupations</i> handout

### National Standards/Objectives:

Discipline	Standard	Objective
<b>Science</b>	F. Science as Personal and Social Perspectives	Students learn about populations, resources, and environments.
<b>Science</b>	E. Science and Technology	Students develop understandings about science and technology.
<b>Technology</b>	Social, ethical, and human issues	Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
<b>Math</b>	Data Analysis & Probability	Students formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.

**Desired Results:**

Students will be able to answer these essential questions

- What does STEM stand for?
- What are the qualifications for these jobs?
- What skills do these types of jobs require?
- Why would I want to take STEM courses and eventually pursue a STEM career?

Students will know

- There are many different types of STEM jobs.
- Interests and skills can help determine the type of career, pay, and quality of life.

Students will be able to

- Discuss many types of STEM career paths and future employment trends.

**Learning Plan/Activities:****1. Introducing the Lesson.**

Script: “Today, we are going to take a field trip. But we don’t need any permission slips, because we’re taking a virtual voyage. I’d like all of you to daydream for a moment about your dream job. Yes, you have permission to daydream. Now, don’t tell me what that job is, but instead, tell me what you like about that job. This has to be a job that you can truly envision yourself performing. Daydreaming about being an actor or professional athlete is nice, and may be attainable for a select few people, but let’s choose jobs you believe you could and would perform. When you go to work every day, what is it that you would like to say about your work? Try to create a picture in your head.”

Let students share, talking out loud, for a few minutes. Write the characteristics you hear on the board.

“Now you have this picture in your head, and this is an important picture because it will help drive you through all of the education and preparation it takes to get and keep a great job, let’s talk about the jobs that are in demand. The reason it is so important to choose a career that is in demand is because you will have more choices of where to work, and you will make more money.”

**2. Discussing STEM Occupations and the Data.**

Review the *STEM Occupations* handout (RDG\_Hot-STEM-Careers.pdf) as a reading assignment or talk through the main headings as a quick review.

**3. Exploring CareerVoyagers.com.**

As a group, navigate your teacher demonstration browser to <http://www.careervoyages.gov/>. Point out the various sections and emphasize the data that supports STEM occupations that are in high demand and pay more. The emphasis should be on science, technology, and math. Also, point out the engineering jobs as you come across them. Continue with the “journey” theme as appropriate. Watch the *Career Voyages Tutorial* video if your students need a little more help navigating the site.

**4. Applying the Data.**

Select and distribute 1 or 2 of the 3 *Hot STEM Careers* activities (ACT\_Hot-STEM-Careers1.doc, ACT\_Hot-STEM-Careers2.doc, and ACT\_Hot-STEM-Careers3.doc) you think are best for your subject and grade

levels, and help the students get started. Part of this activity requires some time on the Career Voyages website, and some of it requires the previous *STEM Occupations* handout (RDG\_Hot-STEM-Careers.pdf), so assign teams to search on the Internet while other students work at their desks with the handouts. If student computers are not available, then only give them the half of the activity that refers to the handout.

### 5. Evaluating the Lesson.

Since many answers will be based on students' opinions, spend considerable time reviewing their answers with the larger group on day 2. Have students evaluate the completeness of their own answers. Also, ask the students to discuss their work with their parents, a career advisor, or you after class. Then collect these sheets and save them to review later in the semester to help students remember why math, science, and technology is so important to their pursuit of a STEM career.

### Assessment Evidence:

#### 1. Performance Tasks

Collect and evaluate the assignments completed by students, and try to encourage excitement about STEM careers throughout the semester.

### Extensions and Going Further Resources:

- Choose specific job titles and assign individuals or small groups the task of researching job descriptions, requirements, salary ranges, and benefits. Have them report to the larger group with an audio/visual presentation, or ask them to role play their positions during a class game of "Who Am I?"
- Order class copies of *InDemand* magazine by visiting <http://www.careervoyages.gov/indemandmagazine-stem.cfm>.
- Ask your students to create a 1, 5, and 10-year plan that outlines the steps necessary for pursuing their dream STEM job.
- You can find more detailed information about STEM careers in the Occupational Outlook Handbook at <http://www.bls.gov/oco>.
- You can find information about earnings and employment from the BLS Occupational Employment Statistics survey at <http://www.bls.gov/oes>.
- Information about specific projections of job growth in occupations and industries is available from the BLS Office of occupational Statistics and Employment Projections at <http://www.bls.gov/emp>. To receive BLS information by phone or in another format, call (202) 691-5200.
- To learn about the Student Reading: Sally Ride Careers book series, which is popular with students, go to <http://www.sallyridescience.com/>.
- Be sure to check for student opportunities, additional educational resources and more at: <http://www.nasa.gov/education>.