

**Educational Product** 

Educators & Students

Grades 5-12

ET-2004-10-143-ARC

# **Educational Topic**

# Geologist

#### **Related Job Titles:**

Geologist, Geological Scientist, Geoscientist, Earth Scientist

### **Job Description:**

Geologists, Geophysicists, and Geochemists explore the Earth's evolution, its structures, the way it works, and the way its resources are used. They also examine interactions with chemical (air and water) and biological (plant and animal) factors. Geologists find minerals, water, and oil resources and help companies use them. Their work improves understanding of hazards like earthquakes and avalanches. They help explain the Ice Ages and discover the truth about dinosaurs. They also play an important role in managing and conserving the environment.

#### **Interests / Abilities:**

- · Do you enjoy the open air and four-wheel drive travel?
- Would you like to visit countries around the world?
- · Do you like camping?
- · Are you interested in volcanoes?
- · Do find it fun to play with maps and various devices?
- · Do you like to hit rocks so hard they break?
- · Would you like to meet to people from all over the world?
- · Do you enjoy solving mysteries?
- · Do you think fossils are cool?
- Do you like to collect rocks?

# **Education / Training Needed:**

Geologists, begin their careers with a bachelor's degree in geology, geochemistry, geophysics or a related science. A strong background in math, science and geography is necessary. You may need a master's or Ph.D. for advanced geology. Project managers and consultants may also be expected to have further education, and possibly, business administration courses. Part-time field work may be available after the first year of college. The experience in the field is invaluable to your studies and to your later career.

# **Suggested School Subjects / Courses:**

- Science (biology, chemistry, physics, astronomy, planetary science with laboratory research, and fieldwork)
- Math
- · Geography

Another course that can help greatly is English, for the many reports, meetings, and presentations. As in other sciences, a second language is very valuable because Geologists do a great deal of traveling. Computer skills are definitely a bonus.

#### Areas of expertise:

- Hydrogeology! study the movement, quality and quantity of water in soils and rocks
- Environmental Geology: study the interaction between ground, water, atmosphere, biology, and human activities
- Soil Sciences: connected with geology since soils represent the uppermost layer of the ground
- Petroleum Geology! study rock layers and ways to locate oil
- Economic Geology! study of mineral deposits, new resource exploration, and environmentally-safe disposal of mining waste

## **Additional Resources:**

- American Geological Institute http://www.agiweb.org/
- Astrobiology at NASA http://astrobiology.arc.nasa.gov
- Astrobiology Summer Academy http://academy.arc.nasa.gov/
- Graduate Student Researchers Program http://spacelink.nasa.gov/Instructional.Materials/NASA.Educa tional.Products/Graduate.Student.Researchers.Program.Brochur e/.index.html
- MATHCOUNTS Competition http://mathcounts.org/
- Minority University Research and Education Programs http://mured.nasaprs.com/
- NASA Cooperative Education Program for college students http://spacelink.nasa.gov/Educational.Services/ NASA.Education.Programs/Student.Support/NASA.Cooperative .Education.Program/.index.html
- NASA SHARP Internship Program for highschoolers http://www.mtsibase.com/sharp/
- NASA Specialized Center of Research and Training (NSCORT)/Exobiology http://exobio.ucsd.edu
- NASA Student Employment http://nasajobs.nasa.gov/stud\_opps/employment/index.htm
- NASA Student Involvement Program student contests http://www.nsip.net/index.cfm
- National Science Foundation http://www.nsf.gov
- Student's Guide to Astrobiology http://www.astrobiology.com/student.html

# What can I do right now?

- · Join a local environmental club or organization.
- Take summer jobs or internships at parks, laboratories, museums, or camps.
- Call the American Association of Science and Technology Centers for information on science museums in your area that you might visit. (202) 783-7200
- · Participate in science fair projects.

- Tech-Interns.com http://www.tech-interns.com/
- The Astrobiology Web http://www.astrobiology.com
- U.S. Geological Survey http://www.usgs.gov
- Please take a moment to evaluate this product at:
- http://ehb2.gsfc.nasa.gov/edcats/educational topic
- Your evaluation and suggestions are vital to continually improving NASA educational materials.
- Thank you.



http://quest.nasa.gov/people/index.html

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