SCIENCE FILE INVESTIGATIONS

Posing Questions for Beginning Scientists

Ms. Kotler, Medea Creek Middle School Sixth Grade

Who's Who in Science?

Research a scientist. Tell about why and how he/she became interested in science. Describe his/her accomplishments in the world of science and challenges along the way.

How Does it Work?

Research an object, instruments, or equipment in science. Describe it, how it is used, why it is important, what information it provides, and explain how it works in laypersons terms.

Get to Work; Careers in Science:

Choose a career in the field of science. Describe the job and what tasks and skills are involved. Include working conditions, education required, salary and locations of job sites. Discuss whether you would like to do that job, why it would be fun, what would be the biggest challenge for you.

What's New and Important; Current Event:

Select a current event from a newspaper, magazine or web site that is based upon science. Tell your opinion of the significance of the event and its impact on students, the validity of the research and data for the event, and share a copy of the article.

Enrichment Experiments:

Choose an experiment described by your textbook or work sheet that we have not completed in class. State the question in your own words that the experiment addresses. Using the scientific method, perform the experiment and document in writing and photographs what you did. Provide data and conclusions for your experiment.

Classroom Challenges:

Select a classroom question, either one you had, or one asked by a classmate, that we asked in class and couldn't answer with the textbook. Investigate as far as you can to find the answer. Outline an investigation pathway you used to attempt to find the answer.

Overview

A report is required each quarter. Your teacher must approve the topic before the end of the 5th week of class. The topic must be chosen from among those chapter topics covered during that quarter only. You may select any presentation method or focus you would like. Students are encouraged to use power point presentations, however transparency slides of your presentation are recommended for back up. Oral reports will be presented during the last week of each quarter.

Criteria:	Points
One page written report in your own words.	5
Visual (model, data display, graphic organizer)	5
Oral presentation (5 to 10 minutes)	5
Originality (your own written and visual work)	5
Sources listed (at least 4 two paper and 2 Internet)	5
	Total Points 25

Internet Sites to Enhance Earth Science Curriculum

Guided Navigation Activities

Earthquake resources & animations: www.iris.washington.edu
Earthquakes up to the minute: www.quake.wr.usgs.gov
Science Netlinks (National Science Standards): www.sciencenetlinks.com
Terraserver (see your house from space): www.terraserver.com
Volcano prediction interactive activity: www.learner.org/exhibits/volcanoes/
Earthquake web sites: www.geophys.washington.edu/seismosurfing.htm
Earth's interior & plates: www.bang.lanl.gov/solarsys/earthint.htm
Earth Viewer (Satellite Images): www.fourmilab.ch/earthview/vplanet.html
Gem Zone: www.gemzone.com/gc/gc_links.htm
Hazardous waste curriculum: www.epa.gov/superfund/students/clas_act/hazed/pdf_indx.htm
Smithsonian Museum rock/gem collection: www.galaxy.einet.net/images/gems/gems-icons.html
United States Geological Survey web site: www.gldfs.cr.usgs.gov
USGS net activities: www.usgs.gov/education/learnweb/
Volcanoes Online (Student developed site): www.library/advanced.org/17457
Web Elements (Earth's Crust): www.shef.ac.uk:80/
Exploring satellite oceanography: www.dods.gso.uri.edu/amy/avhrr.html
Great Circle sailing calculator: www.info.gov.hk/markep/javascpt/gcsail.htm
Internet Guide to Oceanography: www.scilib.ucsd.edu/sio/guide/guides.html
Ocean color viewed from space: www.athena.wednet.edu/curric/oceans/ocolor/index.html
Oceanography web resources: www.sunsite.nus.sg:80/bibdb/subjmemus/subj174.html
Ocean Planet exhibit: www.seawifs.gsfc.nasa.gov
Sea surface temperatures: www.152.80.56.202/otis/otis.shtml
Ocean science curriculum: www.vims.edu
Scripps Institute of Oceanography www.sio.ucsd.edu
Tide and ocean current data: www.tbone.biol.sc.edu/tide/sitesel.html
Virtual aquarium: www.tetra-fish.com
Acid rain resources: www.econet.apc.org/acidrain/
Blue Skies weather resources: www.groundhog.sprl.umich.edu/blueskies.html
Climate predictions: www.msslsp.mssl.ucl.ac.uk/orgs/cp/html/atmos/secondary/clouds.html
Cloud Classifier home page: www.cis.hut.fi/jucca/cloud/cloud.html
Covis Cloud web site: www.covis1.atmos.uiuc.edu/guide
Covis Meteorology guide: www.2010.atmos.uiuc.edu
Daily Planet: www.atmos.uiuc.edu
Graphical weather maps: www.mit.edu.8001/usa.html
K-12 weather curriculum: www.groundhog.sprl.umich.edu/curriculum/.K-12
Live from Antarctica: www.quest.arc.nasa.gov/livefrom/livefrom.html
NASA's meteorology site: www.spso.gsfc.nasa.gov/eos_edu.pack/toc.html
Online weather unit: www.faldo.atmos.uiuc.edu/WEATHER/weather.html
Weather channel: www.weather.com
Weather net: www.cirrus.sprl.umich.edu/wxnet/

General Information Sites

Careers in science: www.CoolCareers.LA!
California Department of Conservation (Earthquake hazard sites):
www.conservation.ca.gov/dmg/shezp
Teaching children with commercial movies: www.teachwithmovies.org
"Science File" section of Los Angeles Times: www.Science@latimes.com

Searching Resources:
Ask Jeeves: www.aj.com
Dogpile Metasearch: www.dogpile.com
Homework Central: www.nosweat.com
Mamma Metasearch: www.mamma.com
Bibliography Creator: www.noodletools.com
Research Paper: www.researchpaper.com
Science Central: www.scicentral.com
Science Daily: www.sciencedaily.com
Why Files: www.whyfiles.news.wisc.edu

Prentice Hall text support: www.science-explorer.phschool.com

CoolCareers.LA

Jill Sanborne / Producer & Host / Email jsanborne@aol.com / Phone 310-251-8519

Science Department Head,

Please share the info on this upcoming show with your science teachers and students!

Introducing to you, *CoolCareers*, a weekly 30-minute web radio career exploration show with a professional in a different field every week. A kind of "career day weekly", *CoolCareers* exposes teens to the many exciting career options out there.

UPCOMING Career Show: Wed., Dec. 19, 2001 - 4:30 PM (PST)

Tonia Symensma, Ph.D.

a young Post-Doctoral Research Scientist in the Department of Medical and Molecular Pharmacology at the UCLA School of Medicine.

- Check out her BIO & Pic -

It's *all* at www.CoolCareers.LA!

CoolCareers' weekly shows connect students to a wide variety of careers in an informative and personal interview: about real people making real decisions, real challenges, going to real schools, working at real companies, and finding real careers that they *love*.

We talk about the career, what a day looks like, what they like about it and what they don't, what kinds of people thrive in that career, opportunities, resources, and about their lifepath and decisionmaking to this career from their teen years.

- **Please check back to the www.CoolCareers.LA website to keep up on what science career interviews are coming up! Your feedback is welcome!**
- **AND, if you would like to receive notice of future Science Career Interviews, please send me an email at CoolCareersLA@aol.com.**

Thank you, & I hope you find value in *CoolCareers.LA*! Jill Sanborne, Producer & Host

December 5, 2001

CoolCareers.LA

Your Future Career Is Now!

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TUNE IN for these AWESOME Upcoming Career Interviews!

30 Minute Shows! (All Shows Run Pacific Standard Time!)

Welcome! My name is **JILL SANBORNE**, and I am your H

COOL NEWS! Article II: Where are the jobs in 2002? **CLICK HERE!**

SHOW SCHEDULE!

DIRECTOR - THEATRE & MUSIC ARTS & LA Opera / Wed., Feb. 6th, 4:30 PM
Phelinda Tegge | **BIO** | Click Here & Listen To The Show! KCLAFM.com

NEXT SHOW!

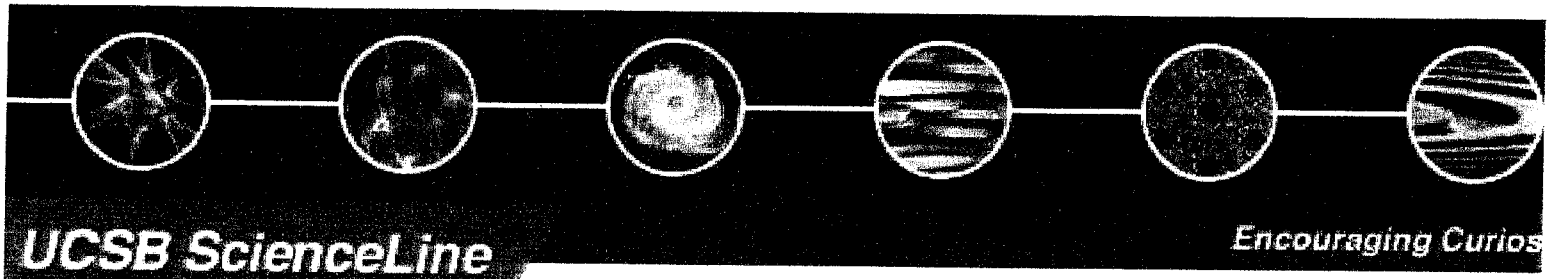
Matthew McLaughlin | **BIO** | Click Here & Listen To The Show! KCLAFM.com

AUTO DESIGN TEAM Dodge Super 8 Hemi Concept Car / Wed., Feb. 20, 4:30 PM
Kevin Verduyn BIO & Bill Cherhosky BIO | Click Here & Listen To The Show!

REGISTERED NURSE (HOSPITAL) Nurses Are Badly Needed! / Wed., Feb. 27, 4:30
Susan Price | **BIO** | Click Here & Listen To The Show! KCLAFM.com

FREELANCE PHOTOGRAPHER / Wed., Mar. 6, 4:30 PM
Bart Bartholomew | **BIO** | Click Here & Listen To The Show! KCLAFM.com

COMMERCIAL AIRLINE PILOT / Wed., Mar. 13, 4:30 PM
Captain Fred Hines | **BIO** | Click Here & Listen To The Show! KCLAFM.com



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Welcome to UCSB ScienceLine

Students Ask the Questions, UCSB Scientists Answer Them.

Do you have a science question you haven't been able to answer?

Research scientists at UC Santa Barbara will answer questions from teachers K-12 schools.

Ask a Question Search Topics

UCSB MRL Education Programs

This program is co-sponsored by the National Science Foundation and UCSB School-University Partnerships

Kotler, Patti

From: Scienceline [scienceline@ucsb.edu]
Sent: Thursday, January 31, 2002 11:36 AM
To: pkotler@opusd.k12.ca.us
Subject: your science questiion

Hi Patti,

here is an answer from a grad student to Travis science question.
It took a little longer because our mail-server was down.
Please let me know if he has further questions.
Thanks
Martina

Hey Travis-
Your question was: "How can it be determined if rain is acid rain?" I think this is a great question to ask, especially because many people are concerned about the environment. There are several different ways to test the acidity of rain but a very common one is to test its pH.
First, as you may have guessed acid rain contains acidic materials and acids have a higher pH than pure water. pH is simply a measure of acidic or basic a substance is. If a substance has a pH of 7 it is neutral, if it is greater than 7 it is acidic and if it is less than 7 it is basic. An example of a simple acidic substance is vinegar,
and an example of a base we use everyday is soap. There are several ways to test the pH of something, the simplest is by using litmus paper. Litmus paper is a special kind of paper that will change color depending on what kind of substance you put it in.
With all of this said, one easy way to test the acidity of rain is to collect some in a clean plastic container. This could be done by leaving a container outside next time it rains. You have to be careful to place the bucket at least 2 meters above the ground to avoid contamination from dust which could alter the pH of the collect rain. After the rain has stopped, you could dip some litmus paper in the glass of rain and by comparing the color change in the paper to a corresponding chart, it would tell you the pH of the rain! Now if you find all of this as interesting as I do, you could get more accurate results by using a pH meter, although these cost more money.
Keep the questions coming. Asking questions is one of the keys to be a great scientist
Thanks!
Mark Elsesser
Graduate Student
Chemical Engineering
UCSB

UCSB ScienceLine
Encouraging Curiosity for a Lifetime

Martina Michenfelder and Christy Herren
Moderators

email: scienceline@ucsb.edu

check out the ScienceLine web site: http://www.scienceline.ucsb.edu