Earth2Class:  
A Compendium of Educational Resources for You and Your Students

- Earth2Class:  
  www.earth2class.org/site

Archived workshops presented by Lamont-Doherty Earth Observatory research scientists

- Curriculum units for teaching Earth Science

- Educational resources (slideshows, lesson plans, teaching tips, images, etc.)
Earth2Class (Earth to Class)

E2C is a unique science/math/technology resource for K-12 teachers, students, the general public, and geoscientists. It is a collaboration among researchers and an Earth Science educator at the Lamont-Doherty Earth Observatory of Columbia University, technology integration specialists from Colegio Bandeirantes, São Paulo, Brasil, and classroom teachers from New York, New Jersey, and elsewhere.

E2C centers around "Saturday Workshops for Educators" held at Columbia’s Lamont Campus in Palisades N.Y. One key feature to E2C is involvement of LDEO scientists. Their availability through workshops, web site postings, and e-mail allow teachers and students access to cutting-edge research which can be used to develop learning activities directly linked to "real-world problems," and provide scientists with an effective format to disseminate their discoveries more broadly. Since 1998, we have provided more than 120 Workshops featuring over 80 LDEO scientists.

2014 – 2015 Earth2Class Workshops
Earth Science Curriculum Units and Teaching Tips

For Teachers

For Students

Educational Technology Resources

PD Courses and Curriculum Resources

Spatial Thinking

LDEO Programs

ES Conferences

AMS @ LDEO

Standards

Virtual Tours
Earth Science Curriculum Units and Teaching Tips

Click for the background of this project and more information.

Key Vocabulary Terms for High School (PSES) and Middle School (ILS) courses
Key Ideas
Selected Labs and Activities
Selected Websites
Links to NYS Earth Science Reference Tables
State Standards for NYS High School (PSES) and Middle School (ILS) + Others

NESTA Fall 2014 Workshop slideshows — For all NESTA/Windows to the Universe workshops presentations

• How Weird Can It Get Fall 2014 Long Beach
• Earth Science Rocks Workshop Fall 2014 NSTA Orlando (1)
• Harnessing ESS Fall NSTA 2014 Long Beach
• Using Data Workshop NSTA Fall 2014 Long Beach

Note: This is a continuous work-in-progress. If you have suggestions for additions or find problems, please notify michael@earth2class.org.

• Science Literacy Initiatives
• Observation And Measurement
• Models Of The Earth
• Minerals, Rocks, And Resources
• Earthquakes, Volcanoes, And Plate Tectonics
• Shaping The Earth’s Surface
• The Water Cycle And Groundwater Systems
• New York State
• Earth History
• Weather And Climate
• Earth And Space (Astronomy)
• Oceanography
NESTA—NATIONAL EARTH SCIENCE TEACHERS ASSOCIATION

www.nestanet.org

- Largest professional society focused on supporting K – 12 Earth Science education
- Website provides online teacher resources, links to PD opportunities, and more
- Quarterly journal, The Earth Scientist, provides peer-reviewed articles of value to K – 12 teachers
- Monthly E-News with timely information for ES educators
- Conference workshops, rock raffle, other programs
Welcome to NESTA

Schedule of NESTA/W2U workshops at the Fall NSTA Conferences

Our Space Science and Astronomy Education web seminar series is now complete. All web seminars have been recorded and are available for free on the Windows to the Universe Web Seminar page. Powerpoints presented in the web seminars are available for download by Windows to the Universe Educators on this same page.

The National Earth Science Teachers Association is a nonprofit 501(c)(3) educational organization, founded in 1985, whose mission is to facilitate and advance excellence in Earth and Space Science education. NESTA's purpose is the advancement, stimulation, extension, improvement, and coordination of Earth Science education at all educational levels. NESTA is an organization made up of and governed by classroom teachers, and extends its influence through association with other professional societies and organizations. We always welcome new members - JOIN NESTA today!

Visit our About NESTA pages to find out more about our organization. Links below the banner at the top of this page, as well as in the navigation panel to the left, provide links to NESTA resources and services. NESTA members can login in the box at the right to access resources available only to Members, such as our publications (The Earth Scientist, NESTA E-News), My NESTA, Teacher Employment, and to recommend or share curriculum resources, images, and multimedia with the NESTA community.

Membership in NESTA provides many benefits to Members. Find out more on our Membership Benefits page.

Visit our conference page to find out about our sessions at the upcoming NSTA conference.
Windows to the Universe
www.windows2universe.org

- One of the most widely-used online resources for Earth and Space Science (> 12 million users)
- Themes include: Sun, Earth, Solar System, Sciences, Culture, People, Just Fun
- Archived teacher workshops, PowerPoints, pdfs

- “Public” site contains ads, unable to print resources
- “Member” site lacks ad, allows printing, other privileges
The spinning vortex of Saturn's north polar storm resembles a giant deep red rose surrounded by green foliage in this false-color image from NASA's Cassini spacecraft. The eye is 2,000 kilometers across with cloud speeds as fast as 150 meters per second. It is not known how long this newly discovered north-polar hurricane has been active. The view was acquired at a distance of approximately 419,000 kilometers from Saturn.

NASA/JPL-Caltech/SSI
NYESTA – New York State Earth Science Teachers Association

http://www.nyesta.org/
Affiliate of NESTA, with NY focus
2nd Geologic Field Conference
8 – 10 July
SUNY Stony Brook
Resources for ‘Do-Now’ Daily Observations

- Sun/Moon/Rise/Set/Phases

- Current Weather & Weather Hazards
  Use search box to get local conditions

- Tide Predictions
  [http://tidesandcurrents.noaa.gov/tide_predictions.html](http://tidesandcurrents.noaa.gov/tide_predictions.html)

- Teaching Climate
  [http://climate.gov/teaching](http://climate.gov/teaching)
### Teacher List-Serfs from SUNY Oneonta

#### State University of New York College at Oneonta

Listserv Subscription/Unsubscription Application

These listservs provide a service where members post questions, responses, and discussion of materials related to the listserv(s) to which you are subscribing. **New subscribers should keep in mind that joining a listserv means that you will be receiving ALL of these messages as they are posted. Please be prepared for an increase in the volume of email that you receive when joining a listserv.** Also, anti-spamming software and/or settings on your email service provider will adversely affect your subscription to OMNI listservs. We thank you for your interest, and your participation, in OMNI. Look below the subscription form for information on the Math listserv from AMTNYS.

<table>
<thead>
<tr>
<th>Listserv</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SedGeoNet</td>
<td>This listserv promotes communication among sedimentary geologists. SedGeoNet was created as a result of the EarthCube Workshop for Sedimentary Geology held at the University of Utah, March 25-26, 2013. Currently hosted by the Department of Earth and Atmospheric Sciences at the State University of New York – Oneonta, eventually SedGeoNet will be migrated to and hosted by the STEPPE Coalition: Sedimentary Geology, Time, Environment, Paleontology, Paleoclimatology, and Energy.</td>
</tr>
<tr>
<td>Esprit</td>
<td>This listserv provides a forum for discussion and professional support of teachers of Earth Science. This is an especially active list with subscribers from all across the United States.</td>
</tr>
<tr>
<td>BioForum</td>
<td>This listserv provides a forum for discussion and professional support of science teachers engaged in teaching New York’s Commencement Level Living Environment Core Curriculum.</td>
</tr>
<tr>
<td>5-8Science</td>
<td>This listserv provides a forum for discussion and professional support of middle level science teachers engaged in teaching New York’s Intermediate (5-8) Science Core Curriculum.</td>
</tr>
<tr>
<td>Ophun-L.</td>
<td>This listserv provides a forum for discussion and professional support of science teachers engaged in teaching New York’s Commencement Level Physical.</td>
</tr>
</tbody>
</table>

**To SUBSCRIBE** to one of these lists create a new email message addressed to listserv@listserv.oneonta.edu from the email account you wish the list to use with the following in the body:

- SUBSCRIBE listname ANONYMOUS
- SUBSCRIBE listname Full_Name

Example: SUBSCRIBE ESPRIT Joe Smith

You will get a confirmation email. *Check your junk mail!*

**To UNSUBSCRIBE** to one of these lists create a new email message addressed to listserv@listserv.oneonta.edu from the email account you are subscribed under with the following in the body:

- SIGNOFF listname

Example: SIGNOFF ESPRIT
STANYS – Science Teachers Association of New York State

- http://stanys.org/
- State-wide network for all science educators
- Local Sections (Nassau, Suffolk, NYC)
NYSMEA – New York State Marine Educators Association

- [http://www.seagrant.sunysb.edu/nysmea/](http://www.seagrant.sunysb.edu/nysmea/)
- Provide awareness of NY’s marine environments
- Foster exchange of educational resources
American Museum of Natural History Educational Programs

http://www.amnh.org/learn-teach

Experiences for students & families

Experiences for Educators
“Seminars on Science”
American Museum of Natural History
http://www.amnh.org/learn-teach/educators/seminars-on-science-online-graduate-courses-for-teachers
6-week courses on a variety of topics
Basic fee to AMNH, with option to earn credit through cooperating institutions
“DataStreme” Courses
American Meteorological Society
http://www.ametsoc.org/amsedu/
- Free online courses in Fall & Spring
- 3 grad credits from SUNY Brockport
NSTA – National Science Teachers Association

- [ ] http://www.nsta.org/
- [ ] Online resources and journals
- [ ] National and Area Conferences Philadelphia 12 – 14 Nov
Science Standards & Curriculum Guidelines

- NYSED
  - NGSS Strategic Plan & Survey
- Science Learning Standards and Core Curriculum
- Assessment/Archived Regents Exams
- NYC Department of Education
  - High School Scope & Sequence
  - K-8 Scope & Sequence
American Geosciences Institute
Education Programs
www.americangeoscience.org/education

- Educational resources:
  "Big Ideas in Earth Science"
  "Earth Science Week"
  "Center for Geoscience and Society"
  "Earth Science World Image Bank", etc.

- Awards
  Edward C Roy Award for Excellence in K-8 Teaching

- Curriculum materials—print, online
Educational Resources

AAPG/AGI Geoscience Handbook
This handbook, developed cooperatively by AGI and the American Association of Petroleum Geologists (AAPG), offers ideas and resources for geoscience professionals visiting classrooms, leading student field trips, and involving student research.

Big Ideas in Earth Science
Big Ideas videos bring to life the "big ideas" of Earth science—the nine core concepts that everyone should know. Teachers can use the videos in many ways.

Earth Science Week
Discover the resources offered through this international event, organized by AGI each October to

Earth Science World Image Bank
You'll find many images categorized by geoscience areas
GEOPHYSICAL INFORMATION FOR TEACHERS (GIFT) WORKSHOPS

See the topics and presenters for this year’s GIFT Workshop on our [GIFT 2014 page](#).

ABOUT THE GIFT WORKSHOP

Geophysical Information for Teachers (GIFT) Workshops allow science teachers to hear from geophysical professionals about the latest technologies, techniques, and applications in their field. These workshops are designed to be interactive and engaging, providing educators with the tools they need to integrate cutting-edge geophysical information into their teaching curriculum.
Teachers as Advocates Program

Resources

Resources

Explore! Geoscience CD-ROMs

Posters

Nature of Science

Geologic Timescale

Free Lesson Plans

Free Geology Images

http://geosociety.org/educate/
Deep Earth Academy – Education resources based on scientific ocean drilling aboard the JOIDES Resolution

- [http://joidesresolution.org/node/3002](http://joidesresolution.org/node/3002)
- Online educational resources
  More than 60 downloadable activities
- Teaching kits and core models
- Videos
- Interactives
- “School of Rock” (Teachers at Sea)
Tales of the Resolution Reading Activities

Summary:
Students use these questions to guide their reading of the Tales of the Resolution episodes focused on careers, technology, and science process exploration. They are designed to support Common Core State Standards for English & Literacy in Science.

Downloads and resources:
- Overview
- Teacher's Guide
- Student's Guide

Supplemental resources:
- Episode 1: Tales of the Resolution!
- Episode 2: Re-Fit Madness
- Episode 3: Resolution Reloaded
- Episode 4: Arctic Rainforest
- Episode 5: Choose Your Own Tales of the Resolution - Jobs on the JR
- Episode 6: In Search of Ancient Lava Flows
Selected Conferences Next Spring/Summer/Fall

- **SCONYC** (28 Mar)
- **NMEA Newport RI** (29 Jun – 2 Jul)
- **NYESTA Field Conference**
  (8 – 10 July, SUNY Stony Brook)
- **GSA Baltimore** (31 Oct – 4 Nov, but most K-12 offerings on Sat & Sun)
- **NSTA Philadelphia** 12 – 14 Nov
- **AGU Fall Meeting** (SF, 15 – 19 Dec)
- GIFT Workshop
Thank you!

Questions?

michael@earth2class.org