Scientific Ocean Drilling Educational Activities to Improve Reading and Writing Skills

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IODP Deep Earth Academy ‘School of Rocker’
IODP Deep Earth Academy
Educational Resources

• Educational program of the International Ocean Discovery Program (IODP/ http://www.iodp.org/ )
  http://joidesresolution.org/node/3002

Mission:
--raise awareness about ocean drilling science and its central role in our understanding of the Earth’s past, present and future
--teach science content and process, and inspire careers in science, technology, engineering and math
--use of authentic data, inquiry-centered activities and interdisciplinary explorations drawing from the adventures of the JOIDES Resolution ship and the earlier ocean drilling ship, the Glomar Challenger.
Deep Earth Academy - Educator Resources

Teaching for Science – Learning for Life

Deep Earth Academy’s mission is to raise awareness about ocean drilling science and its central role in our understanding of the Earth’s past, present, and future. Teach science content and process, and inspire careers in science, technology, engineering, and math. Our approach includes use of authentic data, inquiry-centered activities and interdisciplinary explorations drawing from the adventures of the JOIDES Resolution ship and the earlier ocean drilling ship, the Glomar Challenger.

Materials and Resources

- TEACHING KITS AND CORE MODELS
- POSTERS, PENCILS, AND MORE
- VIDEOS
- INTERACTIVES

Find activities for your classroom:
Search the Deep Earth Academy database of more than 60 downloadable activities, posters, and resources for educators by clicking here.

Opportunities!
Teaching Kits and Models

We loan core models and interactive kits to educators for use in formal and informal education settings. Below is a list of items currently available.

To reserve one of these resources, please contact us at deepearthacademy@oceanaleadership.org

Cretaceous Impact Kit (ODP 171)
Sixty five million years ago, a 10 km wide meteorite crashed into what is now Mexico's Yucatan Peninsula, creating a 177 km wide crater and mass extinctions across the globe. This kit contains materials for audiences to explore the core evidence for the impact.

Glacial / Interglacial Core Model (IODP 303)
Expedition 303 drilled cores from the North Atlantic that helped build a timeline of climate change over the last several million years of Earth's history. This data has provided invaluable insight into the most recent "Ice Ages" or glacial periods of cold climate with a lot of land and sea ice, and warmer periods of little to no ice called interglacial periods.
## Deep Earth Academy - Activity Search

- **Teaching for Science – Learning for Life**

### Activity Search

- **Home** > **Resources** > **Deep Earth Academy - Educator Resources** > **Activity Search**

### Activity Filtering

- **Topic:**
  - None selected
  - Biology
  - Careers
  - Chemistry
  - Climate Change
  - Cores
  - Earthquakes and Volcanoes
  - Extinction

- **Type:**
  - None selected
  - Classroom Activities
  - Articles
  - Background Information
  - Digital Interactives
  - Graphic Novels
  - Kits and Loan Items
  - Posters

- **Grade level:**
  - None selected
  - K-4
  - 5-8
  - 9-12
  - Undergrad

### Search by keyword:

- None selected

**Apply**

- Displaying all activities | Start new search

### Activity Example

**A Bolt from the Blue**

This poster works discussion questions into each caption, allowing teachers to transition into the challenges activities; located on the back of the poster.
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

Topic: Technology and Engineering
- JOIDES Resolution
- How Science Works
- Cores
- Climate Change
- Careers
“Tales of the Resolution”
Reading and Writing Activities

• “Tales of the Resolution” created by Carl Brenner, Lamont-Doherty Earth Observatory of Columbia University

• IODP “mini-grant” provided to MJP through Earth2Class Workshops for Teachers at LDEO (www.earth2class.org/site)

• Informed by Next General Science Standards and Common Core Standards for Literacy in Science
• Target Ages: Grades 6th-12th grade and gifted and talented students in 3rd-5th
• Time: 45 minutes to 1 hour per episode
• Available online:
  http://joidesresolution.org/node/263
  http://www.ldeo.columbia.edu/BRG/outreach/media/tales/index.html
Carl Brenner discussed creation of these graphic novels in the May 2012 E2C
http://earth2class.org/site/whats-the-role-for-graphic-novels-in-science-education-with-carl-brenner/

Comic Life
http://www.comiclife.com/
6 Episodes

1) “Tales of the Resolution”
2) “Re-Fit Madness”
3) “Resolution Reloaded”
4) “Arctic Rainforest”
5) “Choose Your Own Takle of the Resolution—Jobs on the JR”
6) In Search of Ancient Lava Flows”
Student Activities


• Short responses, multiple-choice, links to Deep Earth Academy resources, sequencing, matching, making models, etc.

• Describe scientific reasons for expeditions

• Create “blog” imagining oneself as a JR participant
Teacher’s Guide

- [http://joidesresolution.org/sites/default/files/TOR_TG_March.pdf](http://joidesresolution.org/sites/default/files/TOR_TG_March.pdf)
- Suggested responses to Student’s Guide questions
  (piloted by Deep Earth Academy teachers)
- Additional enrichment suggestions
Possible Ways to Include in Your Curriculum

• Enrichment/Extra Credit for students
• Component of a Gifted & Talented program
• Component of an oceanography unit
• Component of “College & Career Readiness” reading and writing program
• Other uses?
This STANYS Session

• Examine contents of the “Tales of the JR” CD
  Look at Student’s Guide, Episode, Teacher’s Guide
• Report back to whole group
• Discussion
Appreciation for ideas and reviews to:
Rose Sanders
Renee Aubry
Magali Dupuy
(NESTA/NYESTA/STANYS Members)

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