An ENC Digital Library Collection

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Timeline: Oct. 1, 2002 – March 1, 2005
Scope of Collection

Outstanding K-12 math and science digital resources

- Described at learning object level, e.g., individual lesson plans, applets, or video clips
- Featuring learning activities and professional development materials produced with NSF or U.S. Department of Education funds
Product Creation

1. **Content Specialists** select high-quality resources

   - Not yet part of the NSDL at the learning object level
   - Fit collection scope and selection criteria
Product Creation

2. Content Specialists & Bibliographic Catalogers build catalog records
   - Using customized IEEE Learning Object Metadata (LOM) schema
   - Examples of fields: Description, Ideas for Use, Grade Level, Learning Resource Type, and Relation

3. Editors review metadata in open text fields
Workflow Links

You are currently listed as:

- **Content Specialist** - you have permission to add content metadata to suggested resources.
- **Cataloger** - you may add catalog information to both suggested and submitted resources.
- **Editor** - you have permission to edit resource metadata and make resources live.

The pages you have access to are:

- **My Resources** - Resources that I am working on; no one else can modify them.
- **Unclaimed 'Suggested' resources** - Resources that have been Suggested and need metadata added.
- **Unclaimed 'Need cataloged' resources** - Resources that need to be cataloged.
- **Unclaimed 'Need edited' resources** - Resources that need edited.
Educational - FEDRL #: 8924

Interactivity Type: Expository
Interactivity Level: Low
Difficulty Level: Medium
ENCdl Web Resource Type: Course materials: [Lessons and activities]
End User Role: Learner
Learning Context: Middle school, Informal education
Grade Level: 6, 7, 8
Typical Learning Time: PT30M
Description:
Teachers can use a printable version of this activity to enliven a lesson about problem-solving strategies. The printable version, which contains a small image of the western United States for coloring, is available from the web site's Challenge Index page. Teachers can emphasize to students that their work with the four-color problem mirrors the mathematical analysis and problem-solving struggles of professional mathematicians. This activity offers an engaging way to help students see how mathematics is applied to a real-world question.

Language of user: English (en-US)
Best Practices in Cataloging Tool

Lifecycle - FEDRL #: 12161

Contributors:  Role  Entity
1. Author:  Kristen Carvell
2. Publisher:  University of Illinois at Urbana-Champaign (UIUC). Office for Mathematics, Science, and Technology Education (MSTE)

Version:

Res. Posted Date:  8/3/2001

Initiator:  National Science Foundation (NSF)

Element 2 Lifecycle

2.3 Contribute

2.3.1 Contributor Role

Required field: Yes

ENCdl definition: This field defines the function of the person or entity in terms of their contribution to the creation of the resource.

Author:
This is the person or entity primarily responsible for creating or developing the intellectual content of the resource. Examples of an author include a person, an organization, service, or other entity. Note that this element should be used for the entity making the intellectual content of the resource, not its presentation (i.e. not the designer or webmaster). Check under Credits, About, Contact, or a copyright statement for pertinent information regarding authorship.
Product Display

Find our catalog records on these sites:

* Through participation in the Open Archives Initiative (OAI), FEDRL makes more than 1400 item-level records available for NSDL and others to harvest.
Types of XML Records

IEEE LOM XML for

USMARC XML for

nsdl_dc XML for

Native metadata is in IEEE LOM
Portal to ENC’s Collections

ENC Online: Resources that support exemplary K-12 math and science teaching.

Federal Education Digital Resources Library: Outstanding K-12 math and science resources featuring learning activities and professional development materials produced with NSF or U.S. Department of Education funds.

Gender and Science Digital Library: Resources that support equitable teaching and learning of science, technology, engineering and mathematics in formal and informal K-16 learning environments.

Innovation Curriculum Online Network: Resources that support technology and innovation in K-12 classrooms.

The Learning Matrix: Resources that support exemplary teaching in undergraduate math and science courses.
Benefits to Teachers

1. **Vetted collection of granular resources**
   *Significance:* Teachers can access high-quality resources about specific content topics.

2. **Robust metadata**
   *Significance:* Information in FEDRL records promotes resource discovery and use.

3. **Records retrievable on multiple sites**
   *Significance:* Teachers can find FEDRL records on sites that they already use.
Benefits to NSDL

Item-level metadata

- A harvestable collection of rich item-level records describing high-quality digital resources

**ENCdl Indexing Guidelines**

- Available at [www.encdl.org](http://www.encdl.org) for other collection developers to consult when making their cataloging decisions
Recent Publications

- By Janet Kahkonen Smith, Roger L. Cunningham, and Stephen P. Sarapata
  “MARC to ENC MARC: Bringing the Collection Forward,”
  www.emeraldinsight.com/0737-8831.htm

- By Kimberly S. Lightle
  “Using Metadata Standards to Support Interoperability,”
  in C. M. Gynn & S. R. Acker (eds.), *Learning Objects: Contexts and Connections*,
  The Ohio State University, Columbus, 2003, pp. 43-48.

- By Kimberly S. Lightle and Judith S. Ridgway
  “Generation of XML Records across Multiple Metadata Standards,”
  *D-Lib Magazine*, vol. 9, no. 9, September 2003.
  http://www.dlib.org/dlib/september03/lightle/09lightle.html
ENC Publicizes Education Digital Libraries

Focus on

Digital Libraries: Finer than Google

- Search Smarter with Digital Libraries
- Using Digital Libraries: Vignettes
- Digital Library Projects from ENC

Digital Libraries by Subject
- Physical Science
- Life Science
- Earth Science
- Mathematics
Project Staff

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Please Take One
(or Many)