Ecology Disrupted:

How To Use the Ecology Disrupted materials

Introduction

Ecology Disrupted is the product of five years of extensive in-service testing that have demonstrated their effectiveness in the classroom. This web site has been designed to make these materials available in their proven format and sequence, while also enabling teachers the flexibility to customize lessons for their classrooms, or to extract individual components to incorporate in any other kind of lesson.

A key to this flexibility is in providing the materials in a variety of digital formats. In classrooms with good broadband connections, all of the materials can be accessed and used directly from the web site. And all of the materials are also available in one or more downloadable formats that can be used offline.

This guide will introduce you to how the materials are organized on the web site and to the various digital formats that are used.

Where to find it

The Ecology Disrupted materials are on the website of the American Museum of Natural History, at http://www.amnh.org/apps-and-kiosks/ecology-disrupted/ [NOTE: This address will change later in 2013 after the official launch of the Ecology Disrupted site.]

The Home Page

The Ecology Disrupted home page offers a brief overview of the ideas behind the curriculum, and features some example resources.

It briefly describes and links to the three units in the curriculum.

And it links to three other useful sections
• A Message to Teachers, which explains the pedagogical approach of Ecology Disrupted in more detail.
• How To Use the Ecology Disrupted Materials, which is this very document
• Contributed Materials, a directory of materials made by educators using components from Ecology Disrupted.

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Curriculum Units

A unit is a complete sequence of lessons focused on a single line of inquiry. Ecology Disrupted units require four to seven class periods to complete. The three units are:

1. Highways Block Bighorn Sheep (6 class periods)
2. Winter Roads Make Salty Streams (7 class periods)
3. Chesapeake Food Web (4 class periods)

The home page of each unit offers an overview of the scientific inquiry question and the learning goals of the unit, and links to the main subsections:

- detailed learning goals and the science standards addressed in the unit
- the lesson plans, one for each class period
- assessment instruments for the entire unit

Lesson Plans page

On a unit's Lesson Plans page (this one for Bighorn Sheep, for example) is a list of all the lessons in the unit with a brief description of the lesson and a link to it.

You can use this page as the navigation menu to access each lesson in the unit. Or you may find it easier to use the navigation menu in the left column.

You can expand and collapse this hierarchical navigation menu by clicking on the arrowheads to the left of each item. Click on an item to go to its page.

Lesson page

Each lesson has its own page, which begins with an outline of the learning goals of the lesson, followed by a list of the lesson components, in sequence, with a brief description and link to the component.

The estimated completion time for each step is indicated, but this is only an estimate, not a prescription. You will know best how much time to spend with your class on each step.

Note that the entire lesson plan can be downloaded as a PDF, Microsoft Word DOC, or Text (RTF) file, from the DOWNLOADS box in the right column. Every lesson plan, and every component of every lesson, has a download box where you can download resources to use offline.

Setting the Stage: The Scientific Process in Action

DOWNLOADS

Download the files below to use offline, or to incorporate into your own lesson planning tools.

Setting the Stage lesson plan
📄 PDF
Text
📄 DOC

Setting the Stage investigation booklet
📄 PDF

Lesson Step page
Each step in the lesson plan—be it a video, a slide presentation, a discussion, a classroom activity, or other activity—has its own page on the web site.

Representing the Data on a Map

DOWNLOADS
Download the files below to use offline, or to incorporate into your own lesson planning tools.

Representing Data on a Map slide show
PowerPoint
PDF

Representing Data on a Map teacher's guide
PDF
Text
DOC

Map for Student Data
JPG
PDF

ONLINE MEDIA
Representing the Data on a Map slide show

TEACHER'S GUIDE
Have students transfer their data to a larger class-sized map.

The best way to make a large map is to make an overhead transparency copy of the map of the bighorn sheep range, which is available in the Downloads box on this page. It is also the first slide of the *Representing the Data on a Map* slide show.

1. Each group transfers the data from one of their maps to the class size map. (Make sure students draw in highways)
2. Have groups check each other's work on the overview map to eliminate mistakes.

The last slide of the *Representing the Data on a Map* slide show shows where the highways are actually located in the Southern California region. Compare the students' highway predictions with the actual highways on this map.

In the main body of the page there are two key sections, ONLINE MEDIA and TEACHER'S GUIDE. The link(s) under ONLINE MEDIA will open a new window or tab in your browser with the slide show, video, or other presentation for this lesson step. The TEACHER'S GUIDE guides you in the use of the presentation and any related activity, like a discussion or hands-on activity. If you have a good broadband connection into your classroom, and a computer connected to a projector or SmartBoard, this web content is all you need to implement the activity.

In the DOWNLOADS box in the right column of the page, you can download the same content, so that you can use it offline, or modify it to suit your needs.

In the example above, the *Representing the Data on a Map* slide show presentation is available in the ONLINE MEDIA section of the page, and also in the DOWNLOAD box as a PowerPoint file or a PDF file.

The TEACHER'S GUIDE content is available on the web page, and also in the DOWNLOAD box as a PDF file, a Text file, or a Microsoft Word DOC file. The latter two formats are easy to edit in a word processor.

The lesson activity example above includes a classroom activity where students represent their data on a map. A copy master of the map is included in the DOWNLOADS box, as a JPG image file and as a PDF file. In general, when the lesson activity involves a student worksheet, a copy master for the worksheet is included in the DOWNLOADS box.

Online Media
Not every lesson step has ONLINE MEDIA, but for those that do, there are two types, Image Galleries or Video Galleries. When you click on an ONLINE MEDIA element, the gallery will open up in a new window or tab in your browser.

Video Galleries
On the amnh.org web site, videos are streamed from YouTube. When you click on a video in the ONLINE MEDIA section, a new browser window or tab opens and displays the video gallery:

Click on the image to start playing the video. To play the video full-screen, click on the YouTube icon in the lower right corner to play the video from the YouTube site, and then click on the full-screen icon to have the video play full-screen.

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NOTE: We know that some schools block access to YouTube in the classroom. We have provided downloadable versions of each video, so that you can download it to you computer and play it offline. Also, we are working on providing the videos through Vimeo.

Image Galleries
Slide shows in the ONLINE MEDIA section also open in a new browser window or tab.

Click on the thumbnails to display the larger images.

The "Full Size Image" button does not work, and there is currently no way to display a full-screen version of the image.

Downloads

Each lesson plan, and every lesson step, has a set of downloadable documents associated with it. The DOWNLOADS box is located in the upper right corner of the web page. Each downloadable document is available in two or more file formats, hopefully including the format you need to use to make your own lesson plans or other materials.

Each downloadable document is represented by its own box in the DOWNLOADS box. The name of the document is at the top of the box, and underneath it is a list of the available file formats, each a link for downloading the document file.

The file formats used are:
PDF, or portable document format, is the best format for printing documents, because it preserves the page layout and fonts of the original document.

PowerPoint is the file format used by Microsoft's PowerPoint presentation software, although other presentation applications, like Prezi and Keynote, can import PowerPoint format files.

Text files are actually RTF, or rich text format, which means that they preserve font and text styling information. RTF files can be opened and edited by simple

text editing programs, like TextEdit on Macintosh, or WordPad on Windows.

DOC files are files that can be opened and edited by Microsoft Word versions 1997 and later.

HD video files are high-definition video files that can be downloaded and played with Quicktime on the Macintosh or Windows, or on the Windows Media Player. You may have to update your Windows Media Player in order to play these video files; visit Microsoft's Windows Media Player website for more information.

JPG is a simple image file format which can be opened and displayed by a wide range of applications. Any web browser can open a JPG file, and most text and presentation editing applications, like Microsoft Word and PowerPoint, can import JPG files.

CSV files are data files in "comma-separated value" format, which can be opened and edited with most spreadsheet applications like Microsoft Excel and Google Docs. They are plain text files and so can also be opened by simple text editors like Macintosh TextEdit or Windows NotePad.