



# Utah Coalition for Educational Technology

An ISTE Affiliate • Member Newsletter for December 2005

## UCET Christmas Issue!

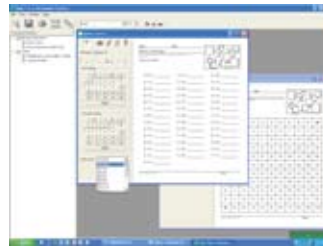
This month we have a few presents for you! Our extended December issue is filled with "Teacher Treasures" - educational software, websites, and multimedia that you'll find useful in your educational practices. All are free for classroom use.



We're sure that you'll find many of them to be real educational treasures, so we hope you'll enjoy this bigger edition of the UCET newsletter.

The President and Board wish you all a Merry Christmas and a Happy New Year!

## Basic Facts Worksheet Factory (Win)



Need just the Facts? The free Basic Facts Worksheet Factory can generate worksheets that will provide students with the practice they need to become proficient in the basic math operations.

You can easily create unlimited customized worksheets for the practice of arithmetic facts in addition, subtraction, multiplication, and division.

It's incredibly easy to use with a very friendly interface that lets you see exactly what your worksheet will look like as you design it. Print your first worksheet within a minute even the first time you use the program.

You can create worksheets with as many questions as you wish from 1 to 100 and lay them out in either a horizontal or a vertical format. Then customize the worksheet by changing the picture, header, font, and riddle or quotation. For easy marking, Basic Facts Worksheet Factory will automatically print an answer key that looks just like the worksheet, but with the answers. Also, have a look at the other free teacher downloads there!

Link: <http://www.schoolhousetech.com/>

## VLC - the Cross-platform Media Player and Streaming Server (Win, Mac, Linux, and more)



Have you ever been frustrated because Quicktime or Windows Media Player wouldn't play a movie file or download? You need to have a look at VLC.

VLC is a free, highly portable multimedia player for various audio and video formats (MPEG-1, MPEG-2, MPEG-4, DivX, mp3, ogg, ...) as well as DVDs, VCDs, and various streaming protocols. It can also be used as a server to stream in unicast or multicast in IPv4 or IPv6 on a high-bandwidth network. There are versions available for Mac OS X, Windows, Linux, and other platforms. Plays full screen, and gives you on-screen controllers for pausing or moving to another point in your media.

Link: <http://www.videolan.org/>

<http://www.versiontracker.com/dyn/moreinfo/macosx/14738>



## World Wind -World Visualization Software from NASA (Win)

World Wind is a free download that lets you zoom from satellite altitude into any place on Earth. Leveraging Landsat satellite imagery and Shuttle Radar Topography Mission data, World Wind lets you experience Earth terrain in visually rich 3D, just as if you were really there.

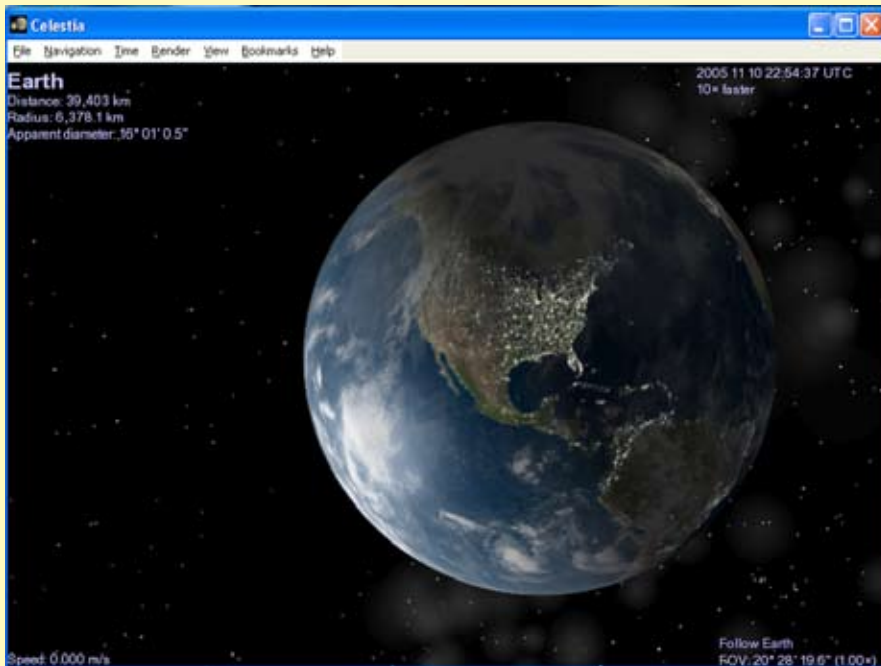
Virtually visit any place in the world. Look across the Andes, into the Grand Canyon, over the Alps, or along the African Sahara. You can pan, tilt, and zoom in on any portion of the Earth, or look up places by name. As you can see in the illustrations, USGS topographic maps are available for any area of the United States, as well as USGS high resolution imagery.

World Wind was designed to run on recent PC hardware with 3D acceleration. Please refer to the download section for more information on system requirements.

One feature that science and geography teachers will find useful in World Wind is the ability to take data that NASA collects on earth systems (temperature, hydrology, biosphere and plant diversity, etc.) and overlay the data on top of the globe.

NASA produced World Wind in conjunction with the Learning Technologies Project, and then open-sourced it to the world. There is a large community of World Wind users worldwide who are adding additional features to the product. If you are a software tinkerer, the source code is also available for download.

Link: <http://worldwind.arc.nasa.gov/>



## Celestia (Win or Mac)

Welcome to Celestia, the free space simulation that lets you explore our universe in three dimensions. Celestia runs on Windows, Linux, and Mac OS X.

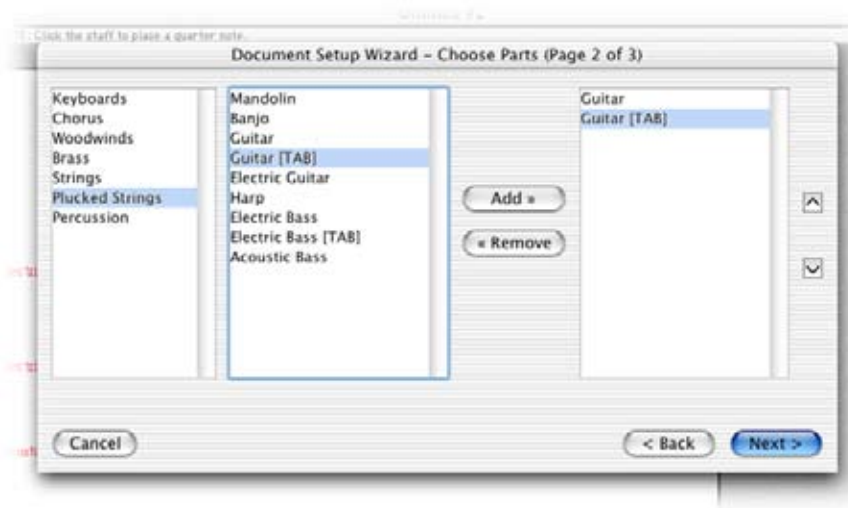
Unlike most planetarium software, Celestia doesn't confine you to the surface of the Earth. You can travel throughout the solar system, to any of over 100,000 stars, or even beyond the galaxy.

All movement in Celestia is seamless; the exponential zoom feature lets you explore space across a huge range of scales, from galaxy clusters down to spacecraft only a few meters across. A 'point-and-goto' interface makes it simple to navigate through the universe to the object you want to visit.

Celestia is expandable. Celestia comes with a large catalog of stars, planets, moons, asteroids, comets, and spacecraft. If that's not enough, you can download dozens of easy to install add-ons with more objects. This is an amazing program that can be used to teach concepts of orbits, moon phases, solar system, and more - in a very realistic realtime simulation.

Link: <http://www.shatters.net/celestia/>

## Finale NotePad 2005 (Win or Mac)



Finale® NotePad® 2005 is your invitation to the world of music notation software. Find out how fun and easy it is to transform your musical ideas into beautifully printed music by downloading the free NotePad 2005.

New features in NotePad 2005 include engraver tuplets and the new guitar tab which lets you easily create and edit guitar and electric bass tablature (standard tuning only).

For engraver tuplets, default positioning looks great (even when the tuplet begins with rests), and tuplets now automatically reposition when notes are raised or lowered on the staff. Tuplet brackets avoid rests and staff lines. Brackets

follow the angle of the stems when on stem side and follow the angle of notes when on the note side.

NotePad features a Setup Wizard that lets you select the instruments or voices you need, then sets up your score automatically. The new Human Playback feature will play your music as you would want it to be performed, even if you enter notes manually. Easy lyric entry automatically fits the text under the notes. You can print or publish on the Internet. Print beautiful music or post your music at the Finale Showcase for others to view.

Although NotePad's main purpose in life is to give you a taste of Finale's flagship products, and to try to entice you into buying them, this product has some very useful features for a music teacher (such as transposing music and printing the transposed piece), and it's free. You'll need to register with the site (give them your email address), and then you'll receive an email with the password that will allow you to continue the download, and receive a product registration key.

Link: <http://www.finalemusic.com/notepad/>

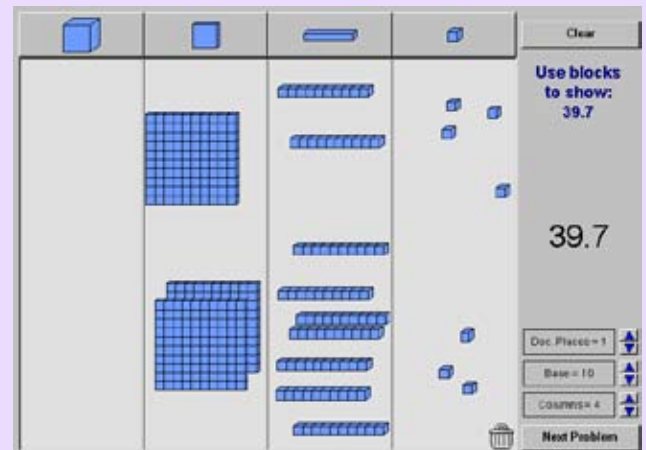
## National Library of Virtual Manipulatives for Interactive Mathematics (All)

This is an NSF supported project that began in 1999 to develop a library of uniquely interactive, web-based virtual manipulatives or concept tutorials, mostly in the form of Java applets, for mathematics instruction (K-12 emphasis). The project includes dissemination and extensive internal and external evaluation. The many online manipulatives include content in numbers and operations, algebra, geometry, measurement, and data analysis and probability. Recently voted one of the best educational sites on the web, this is one you'll want to visit.

Learning and understanding mathematics, at every level, requires student engagement. One way to actively involve students is through the use of virtual manipulatives, physical objects that help students visualize relationships and applications.

There is a need for good computer-based mathematical manipulatives and interactive learning tools at elementary and middle school levels. Jim Dorward's Utah State University team is building Java-based mathematical tools and editors that allow them to create exciting new approaches to interactive mathematical instruction. The use of Java as a programming language provides platform independence and web-based accessibility.

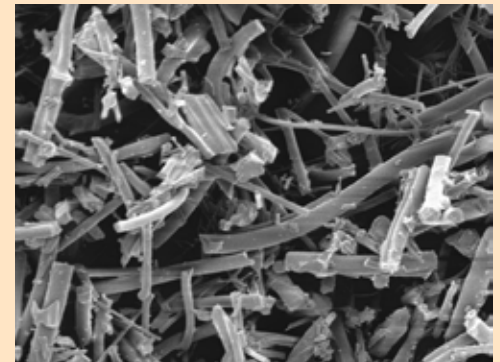
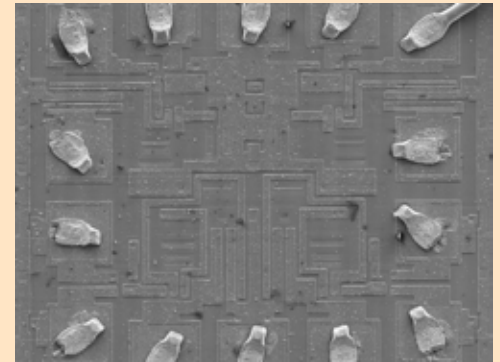
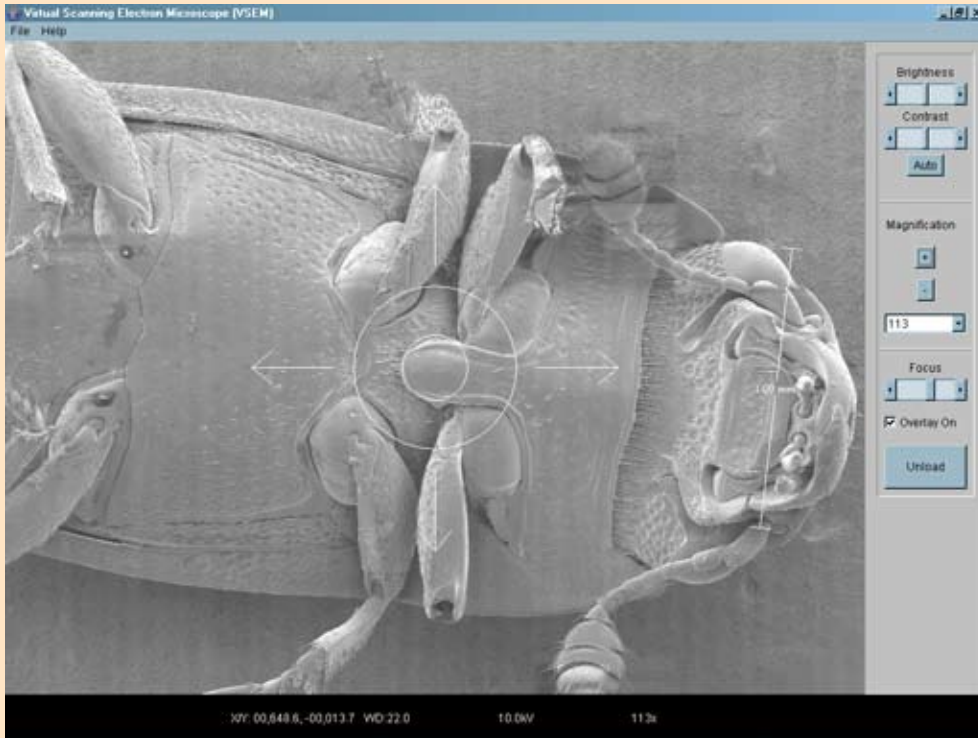
Link: <http://nlvm.usu.edu/en/nav/index.html>



## Virtual Lab: A Virtual Scanning Electron Microscope (SEM) (Win or Mac)

Virtual Lab completely emulates a scanning electron microscope and allows any user to zoom and focus into a variety of built-in microscopic samples. It also comes with a set of educational materials such as a demo on how a SEM works and movies of the real thing in action.

Virtual lab allows users to pan around a sample and zoom up to 3,600 x magnification. There are also controls to control focus, brightness, and contrast. It effectively simulates a real SEM's set of controls. It serves as a very accessible alternative compared to the costs of purchasing and setting up a real Electron Microscope.



Virtual Lab is based on JAVA and can be run on both PC and Mac. Please refer to the download section for more information on system requirements for Virtual Lab.

Virtual Lab comes with an initial set of 15 samples of real life examples ranging from insects, advanced materials, manufacturing, and samples found in humans. Each sample has data with enough resolution for at least 900x viewing. Depending on type, some come with varying degrees of focusing allowing users to have a feeling of depth to the sample.

Virtual Lab has an animated tutorial on the inner workings of an electron microscope. It covers the basics on the SEM itself, imaging, and resolution. In addition, Virtual Lab comes with videos demonstrating the preparation of actual samples and how SEMs are used in NASA.

There are plans to continue adding to Virtual Lab's library of samples. These will become available as updates which you may find at the site. Eventually, a tool set may be released to automate the creation of your own samples for use in Virtual Lab.

Link: <http://learn.arc.nasa.gov/vlab/index.html>



## Ricci Adams' Online Music Theory Site (All)

It is an interactive music theory site, with lessons (see list below), interactive tutorials, and tools. One excited reviewer stated, "I cannot believe this is free. As a Music Theory student, this is a priceless all inclusive practice tool. Immensely helpful."

The site is based in Macromedia Flash, so you'll need the free flash viewer software installed on your computer to use the lessons, tutorials, and tools. A link is provided to the download.

Tutorials include a note, key, interval, and triad trainers. Ear trainers for scales, chords, and intervals are also available. There are keyboard, brass, and guitar trainers, too.

Link: <http://www.musictheory.net/>

The Staff, Clefs, and Ledger Lines  
Note Duration  
Measures and Time Signature  
Rest Duration  
Dots and Ties  
Simple and Compound Meter  
Odd Meter

Steps and Accidentals  
The Major Scale  
The Minor Scales  
Scale Degrees  
Key Signatures  
Key Signature Calculation

Generic Intervals  
Specific Intervals  
Writing Intervals  
Interval Inversion

Introduction to Chords  
Triad Inversion  
Diatonic Triads  
Roman Numeral Analysis  
Voicing Chords  
Analysis #1

Seventh Chords  
Diatonic Seventh Chords  
Seventh Chord Inversion

Composing with Minor Scales  
Nonharmonic Tones  
Phrases and Cadences  
Circle Progressions  
Common Chord Progressions  
Triads in First Inversion  
Triads in Second Inversion  
Analysis #2

## Arkive: Creating a Lasting Audio-Visual Record of Life on Earth (All)

I received an email today I'd like to share with you...

Dear Nathan,

My name is Bruce Phillips and I've recently been appointed as Education Officer for the wildscreen charities [www.arkive.org](http://www.arkive.org) website. It was launched by Sir David Attenborough in 2003 and aims to collect together film and images of all the worlds endangered species and those of interest to the general public. I'm writing to you to make you aware of the applications of the website and to build up our contacts in the Environmental Education Field.

The main website is split into three areas; the main site [www.arkive.org](http://www.arkive.org) is designed for use by people from 11 years old to Adults. Its content consists of the largest collection of Wildlife and environmental films and images available for free to pupils and teachers alike, the films and images are relevant to a wide range of subjects including science, geography and citizenship and the use in lessons of the material is encouraged. The second area is the award winning [www.planetarkive.org](http://www.planetarkive.org) which was designed by teachers for use by 7-11 year olds; it fits in especially well with KS2 work and some sections of KS3 science and geography. Again it is free and fun to use. Lastly there is the [www.arkiveeducation.org](http://www.arkiveeducation.org) site which is constantly evolving and designed for use by teachers and educators for lesson plans, curriculum links and activities to use in a variety of subjects. As I've mentioned, all three sites are free to use by anyone.

Feedback would be much appreciated especially on how I can help teachers and pupils to use the site more effectively and the types of resources that teachers would like added to the sites, if you know of anyone who would be interested in working with me on this or would like me to visit them to discuss ideas please do ask them to get in contact: [bruce.phillips@wildscreen.org.uk](mailto:bruce.phillips@wildscreen.org.uk)

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Popular pets due to their appealing appearance and behaviour, the Parson's chameleon has suffered over-collection for international trade. [▶ more](#)

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## NASA CONNECT for Grades 6-8 (All)

NASA CONNECT™ is an annual series of FREE integrated math, science, and technology programs for students in grades 6–8. Each program has three components: (1) a 30-minute television broadcast that can be viewed live or taped for later use, (2) an educator guide describing a hands-on activity, and (3) an interactive web activity that provides educators an opportunity to use technology in the classroom setting. These three components — television broadcast, educator guide, and web activity— are designed as an integrated instructional package.

NASA CONNECT™ is FREE to educators. Registered educators will receive, via e-mail, a reminder of upcoming shows, a show summary, and a PDF version of the educator guide. NASA CONNECT™ is a U.S. Government product and is not subject to copyright. There are no fees or licensing agreements. Broadcast and off-air rights are unlimited and granted in perpetuity.

Endorsed by the National Council of Teachers of Mathematics (NCTM), NASA CONNECT™ supports national mathematics, science, and technology standards. NASA CONNECT™ seeks to establish a “connection” between the mathematics, science, and technology concepts taught in the classroom and the mathematics, science, and technology used everyday by NASA researchers. By demonstrating the processes of creativity, critical thinking, and problem-solving skills, NASA CONNECT™ enhances and enriches mathematics, science, and technology education.

Link: <http://connect.larc.nasa.gov/>

Registration Link: <http://connect.larc.nasa.gov/register.html>

You can download every NASA CONNECT show back to the 1998-1999 season at my website, TeacherLINK. The downloads are .zip files that include the entire video in DivX mpeg 4 format, and the teacher’s guide in .pdf format. As I receive new shows, I digitize and make them available for preview. If you have trouble playing these on your computer, use the VLC program on the front page. You’ll need a username and password to access these materials on TeacherLINK, because they are meant for preview only. Actual copies can be obtained from your local [NASA Educator Resource Center](#) or [CORE](#) (Central Operation of Resources for Educators) that are disability compliant.

Link: <http://teacherlink.ed.usu.edu/tlnasa/videos/dnmovies/>

username=**nasamovies** password=**aesp**

### 2005–2006 Season

The Right Ratio of Rest: Proportional Reasoning  
Team Extreme: The Statistics of Success  
Angular Distance  
Rendezvous with Density: Solving Linear Equations

### 2004–2005 Season

Good Stress: Building Better Muscles and Bones  
Rocket to The Stars  
Ancient Observatories: Timeless Knowledge  
Hidden Treasures: Landscape Archeology  
Better Health from Space to Earth

**NASA CONNECT™**  
THE PROGRAM THAT CONNECTS YOU TO  
MATH, SCIENCE, TECHNOLOGY, AND NASA

NASA's Center for Distance Learning

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**NEWS**

**Becky Jaramillo**  
I'm the new program manager for NASA CONNECT. We have an exciting line-up for the 2005-2006 season. I would love to hear how you use NASA CONNECT in your class or school.

Stop by the NASA booth in the exhibit hall at any of these conferences to say hello.

**October:**  
• AASL - Pittsburgh  
• CAST - Houston

**November:**  
• NSTA Regional - Chicago  
• ASCI - Anaheim

► Awards  
► Broadcast Info  
► Career Connection  
► Classroom Mentor  
► Episodes & Guides  
► Parents  
► Partners  
► Register  
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**now available**

**The Right Ratio of Rest: Proportional Reasoning**

In NASA CONNECT™, *The Right Ratio of Rest: Proportional Reasoning*, students learn about the human circadian clock and how it affects peoples' daily lives. Students see how NASA scientists are studying the circadian timing system to improve astronaut's physical and mental tasks while working in space. Conducting research to help astronauts sleep better in space also helps people on Earth with similar problems. The hands-on activity in this guide allows students to demonstrate how fractions, decimals, and percents are related and further develop their proportional reasoning skills.

View Online

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**NATIONAL SPACE BIOMEDICAL RESEARCH INSTITUTE**

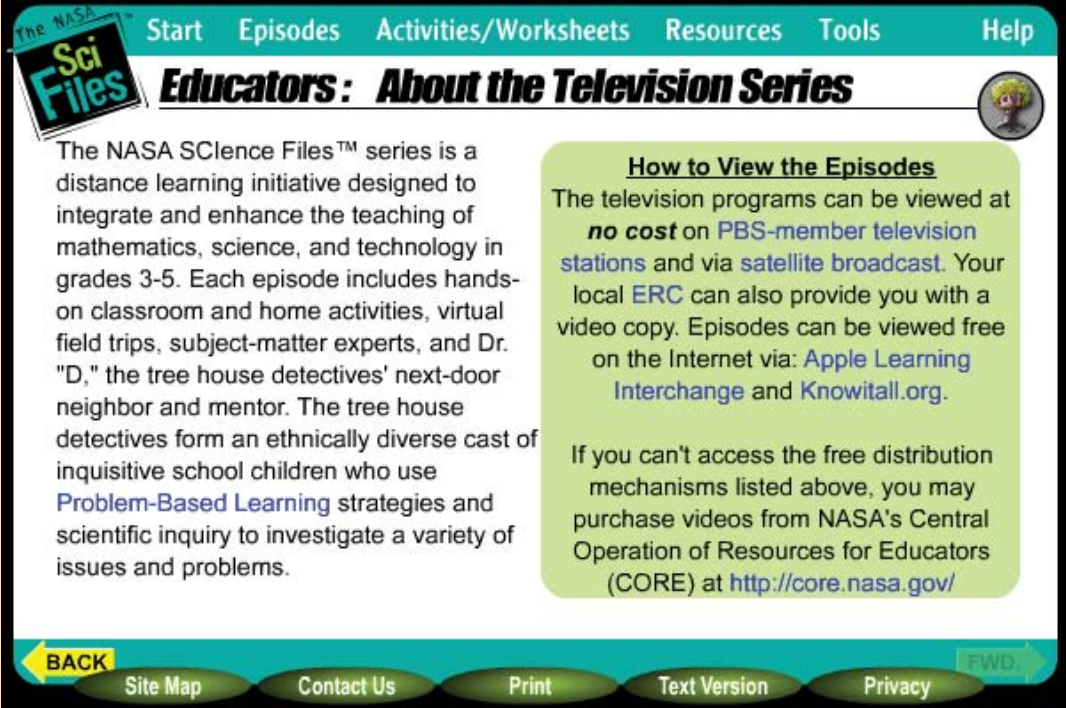
Produced by the NASA LARC Office of Education  
Responsible NASA Official: Dr. Thomas Pirelli, Distance Learning Officer.  
Questions or Comments? Email them to [dilcenter@mail@larc.nasa.gov](mailto:dilcenter@mail@larc.nasa.gov)  
Privacy Policy

## The NASA Science Files for Grades 3-5 (All)

The NASA SCIENCE Files™ is a series of instructional programs consisting of broadcast, print, and online elements. Emphasizing standards-based instruction, problem-based learning, and science as inquiry, the series seeks to motivate students in grades 3-5 to become critical thinkers and active problem solvers. Each program supports the national mathematics, science, and technology standards and includes a 60-minute video broadcast, a companion educator's guide, web-based activities and materials, and information about NASA programs, projects, facilities, and researchers.

Link: <http://scifiles.larc.nasa.gov/>

As with the NASA Connect program on the previous page, all the NASA SCIENCE Files videos and teacher guides can be downloaded and viewed at the TeacherLINK site. Also, you can view all episodes online at the Apple Learning Interchange (<http://ali.apple.com/>) or at KnowItAll (<http://www.knowitall.org/nasa/>).



The screenshot shows a website page with a teal header containing navigation links: Start, Episodes, Activities/Worksheets, Resources, Tools, and Help. A logo for 'The NASA Sci Files' is in the top left. The main title is 'Educators: About the Television Series'. The main text describes the series as a distance learning initiative for grades 3-5, featuring hands-on activities, virtual field trips, and Dr. 'D', the tree house detectives' neighbor and mentor. A green callout box titled 'How to View the Episodes' provides information on viewing options: no cost on PBS-member television stations and satellite broadcast, or free on the Internet via Apple Learning Interchange and Knowitall.org. A footer contains navigation buttons: BACK, Site Map, Contact Us, Print, Text Version, Privacy, and FWD.

## Project Gutenberg - 17,000+ Free Books as e-Text (All)

Project Gutenberg is the oldest producer of free e-books on the Internet. The collection was produced by hundreds of volunteers who took the time to scan books no longer under copyright restriction in the U.S., turn them into electronic texts, proofread them, and make them available online. The word free in the English language does not distinguish between free of charge and freedom. Free of charge means that you don't have to pay for the book you received. Freedom denotes that you may do as you like with the book you received. This distinction is immaterial if you just want to read a book privately, but it becomes of utmost importance if you want to work with the book: you are a teacher and want to use the book in class, you wrote a thesis about the book and want to distribute the book along with your thesis, you have a literary web site and want to distribute the book to your audience, or you are a writer and want to adapt the book for the stage.

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Link: <http://www.gutenberg.org/>

Subject Guides >

# Education

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## Dinosaur Dinorama

Why did a nonflying meat-eating dino need feathers? Investigate this site and find out.

Related Product: *National Geographic Dinosaurs* (Book)

**News Headline:** [Birdlike Dino Adds to Debate on Origins of Flight](#)

## Maps, Facts, and Photos

Search

More than a search engine, our One-Stop supersearch finds truly useful National Geographic resources and sorts them by resource type—pictures, articles, maps, and more.

## Today's GeoQuiz

How many times a year does an equinox occur?

- two
- twelve
- four

Answer

## Picks of the Week

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National Geographic Magazine

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74% off



## The National Geographic Society - Education Website

All of us are familiar with the quality of National Geographic. Their magazines are educational, well written, and the photography is outstanding. You'll find that same quality in the education section of the National Geographic website. You'll find lesson plans, maps, photographs, professional development opportunities and articles, grants you can apply for, and links to current events.

One of my favorite parts of the site is the Map Machine (<http://plasma.nationalgeographic.com/mapmachine/>). National Geographic's redesigned online atlas gives you the world—your way. Find nearly any place on Earth, and view it by population, climate, and much more. Plus, browse antique maps, find country facts, or plan your next outdoor adventure with their trail maps. I had fun exploring an interactive Civil War map (<http://java.nationalgeographic.com/maps/civilwar/>).

Teachers, this is a site that's definitely worth exploring.

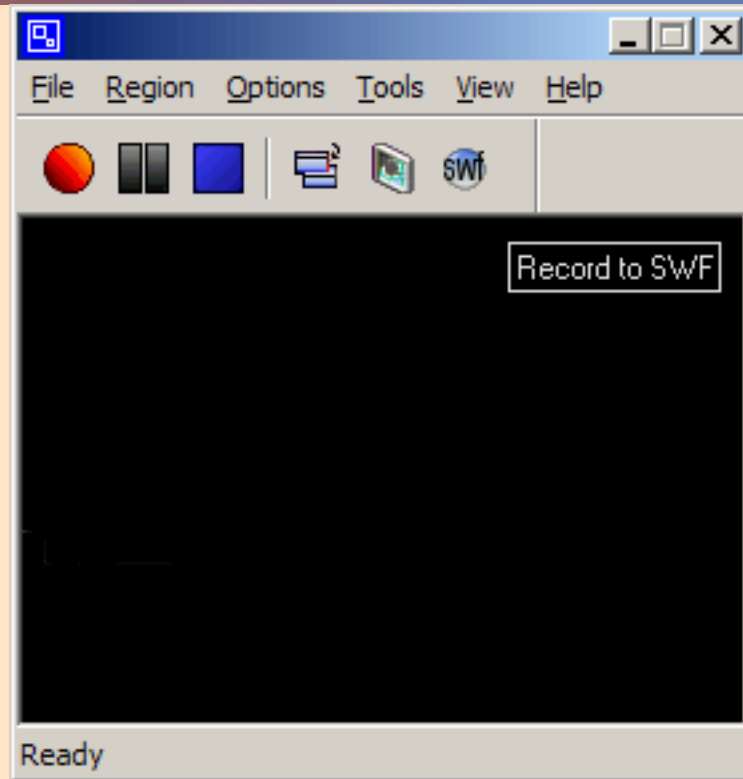
Link: <http://www.nationalgeographic.com/education/>



## CamStudio (Win)

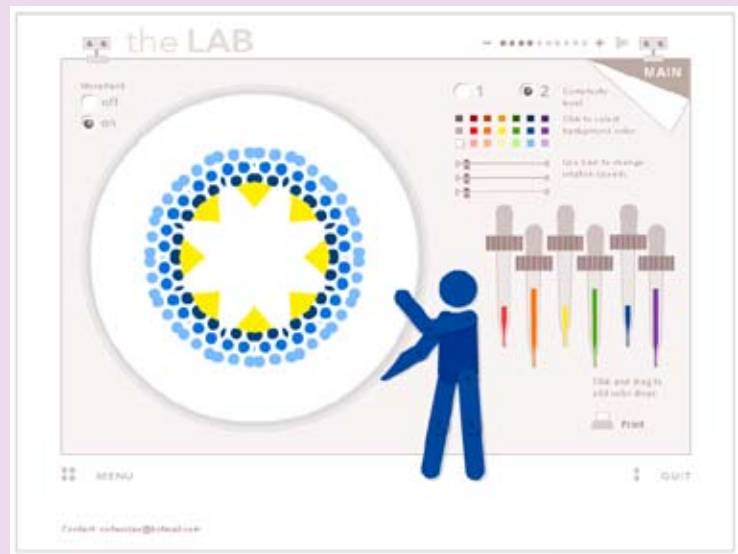
CamStudio records screen activity from your Windows Desktop into standard AVI movie files or SWF Flash files. It is an ideal tool for developing videos to demonstrate features of a new software or any other task that requires the capture of desktop activity. The program is easy to use, and you can select an area or full desktop for recording. You can adjust the video quality settings to reduce file size, use custom cursors and add a soundtrack through your microphone or speakers. Furthermore, you can add screen captions to your desktop while recording. These captions are anti-aliased, high quality images that support text display in multiple languages. With the Video Annotation feature, you can also personalize your movie by including a webcam movie of yourself into the AVI.

Link: <http://www.camstudio.org/>



## For Art Teachers - An Interactive Tutorial on Color (All)

Here's an amazing flash-based, interactive website called "Color In Motion: An Animated and Interactive Experience of Color Communication and Color Symbolism." Developed by Claudia Cortez, the site explores the psychology of color in a very engaging way. You'll enjoy this one. Link: <http://www.mariaclaudiacortes.com/colors/Colors.html>



## Advanced PowerPoint Users Group - Announcement

A group of PowerPoint users throughout the state is looking at organizing an advanced PowerPoint users group. We would meet on occasion as well as have a listserv for those who are ready to move to the next level with PowerPoint.

If you would like to participate contact Doug Jones at [dougasejones@gmail.com](mailto:dougasejones@gmail.com).



## Training Opportunities from the Utah Education Network

There is an extensive list of training opportunities offered online and at UEN's computer classroom in Salt Lake City. For information on these and additional courses that you can request, see also our Course Descriptions page. Most courses are repeated regularly. The schedule for January - May 2006 will be available December 1, 2005.

Link: <http://www.uen.org/development/courses.do>

## Picasa - Free Picture Organizer and Editor (Win)

It's a free download from Google. Picasa is software that helps you instantly find, edit and share all the pictures on your PC. Every time you open Picasa, it automatically locates all your pictures (even ones you forgot you had) and sorts them into visual albums organized by date with folder names you will recognize. You can drag and drop to arrange your albums and make labels to create new groups. Picasa makes sure your pictures are always organized.

Picasa also makes advanced editing simple by putting one-click fixes and powerful effects at your fingertips. And Picasa makes it a snap to share your pictures – you can email, print photos home, make gift CDs, instantly share via Hello™, and even post pictures on your own blog.

Link: <http://picasa.google.com>



## OpenOffice - Free Office Suite (All)

OpenOffice.org 2.0, just released in October 2005, is a great (and free) alternative to Microsoft Office, if you need an office suite mainly to edit text documents and crunch numbers in spreadsheets. It handles Word and Excel files easily. It consists of a word processor, spreadsheet, presentation tool, database application, a basic Visio-like drawing and diagramming program, and a mathematical formula tool.

Many government agencies and school districts worldwide have switched to OpenOffice as their preferred office suite of software.

This one is worth taking a look at. Open office will allow you to open and edit almost all Microsoft Office documents (some problems opening complex PowerPoint presentations with lots of animations, etc.).

Link: <http://www.openoffice.org>

## Feedback Please!

I hope you enjoyed this month's giant newsletter. I've shared with you just a few of the thousands of technology-based "teacher treasures" I've gathered over the years.

However, I'm sure you use and know of many such treasures yourself. Please share some of these with me, so I can share them in our monthly newsletters. I'm interested in hearing about educational websites, software, and/or hardware that has made a positive impact on your classroom or teaching.

I can be reached by email at [Nathan.Smith@usu.edu](mailto:Nathan.Smith@usu.edu)

Also, just a reminder that during the month of November 2005, the UCET website is undergoing a revision. In the meantime, if you have any questions about the 2006 UCET conference, please feel free to email Kelly Dumont, UCET President, at [kelly.dumont@jordan.k12.ut.us](mailto:kelly.dumont@jordan.k12.ut.us)

Again, we wish you a happy holiday season!

