Do It Yourself Science Collaboration
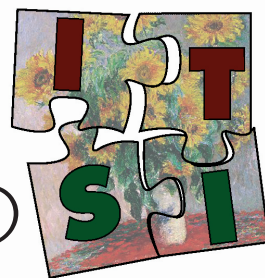# @ BLC08

Probes and Models Across the Curriculum:
Information Technology
in Science Instruction (ITSI)

STUDENT ACTIVITIES

The Concord Consortium has created over 100 activities that use probes and models for middle school physical science, earth science, and life science, and high school biology, chemistry, and physics. Teachers access the activities through a portal, where they can also register students and view student reports.

PROBES

- Collect temperature, voltage, light, relative humidity, motion, pressure, and force data with commercial probes.
- Use the do-it-yourself probe kit to build simple, inexpensive circuits that measure more than 14 different parameters.

MODELS

- Molecular Workbench - see the world at the atomic scale.
- NetLogo - measure the impact of global warming.
- Physics Education Technology (PhET) - construct and test circuits.
- Seismic Eruption - measure earthquakes with data from USGS.

The goal of this three-year, comprehensive ITEST project is to prepare diverse middle and high school students for careers in IT by engaging them in designing inquiry-based science activities that use computational models and real-time data acquisition and analysis.

itsi.concord.org

The Concord Consortium is a nonprofit educational research and development organization.

ITSI activities run on Windows, Macintosh and Linux computers with Java 5 (1.5) or later installed.

If you are using Java 1.5 on MacOS 10.4 or later, you will almost certainly need to fix a Java Web Start bug: http://confluence.concord.org/display/CCTR/How+to+fix+the+WebStart+bug

When I run an activity for the first time, it takes a long time to start. Why?

The activity is run on your computer, so it needs to download several files before it can start up. These files contain the Java code to run all the interactive models in the activity. There are several large models used in ITSI so the initial download is large. ITSI uses Java Web Start to handle the downloading of these files in order to make this download as efficient as possible.

What is Java Web Start?

Java Web Start is a program created by Sun Microsystems, the creators of Java. It is included in all standard installations of Java. Java Web Start is used to download and launch Java applications from web pages. Java Web Start downloads the files needed to run Java applications in a compressed format. It caches these files, so later start-up times are fast. When a file is updated on the web site, Java Web Start only downloads the changes.

What exactly gets downloaded to my computer?

A Java application is downloaded to your computer. After this application is downloaded, it is automatically launched. This application then displays the content for the particular activity you clicked on. The application's files are saved in the Java Web Start cache. This application is not installed in Program Files (Windows) or in Applications (Mac). The Java application will not interfere with your other applications.

Do I have to register in the portal to run activities?

No. You can run activities from the portal without registering. Go to: http://itsi.portal.concord.org/preview/

Is student work saved?

Yes! Student work is automatically saved when a student quits an activity. She/he does not need to click a special "save" button. Teachers can see student work through the portal by setting up a class and having students associated with that class.

What are the probe kit activities listed in the portal?

The Concord Consortium developed over 50 activities for use with probes that can be built with simple, inexpensive materials. We put together kits of these materials, which can be used to measure 14 different parameters. For more information on the kits and where to purchase the contents, see: http://probesight.concord.org/probekit/

Can I customize an activity?

Yes! When you are logged into the portal, you can preview an activity, which opens the activity in a web browser in the ITSI DIY (Do It Yourself) site. You can run the activity, test the activity (run it without saving data), and copy the activity. Copy the activity, make any changes you want, and save. It's that easy.

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