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The math and science technology integration module is meant for use either after completion of the Project-Based Learning module and Technology Integration module or with participants who are familiar with both modules. This module is designed for a two- to three-hour class or training. It can be used in conjunction with trainings of software applications that are used in classroom settings. Ideally, the module would be the core of a training where participants develop ideas, go back to their classrooms to implement them, and then come back together to regroup, reflect, and refine projects designed at the first training session.

Part One, **Guided Process**, is a brief introduction to technology integration into math and science. It answers the questions "Why do we need to integrate technology into Math and Science Curricula?" "What does it mean to integrate technology into Math and Science?" and "How can technology be integrated into Math and Science Curricula?" These questions are generically addressed in the Technology Integration module. In this module, the curriculum will elicit the responses.

Part Two, **Group Participation**, guides participants in envisioning technology integration in math and science. It asks participants to visit various educational Web sites. The participants are then asked to brainstorm ideas for technology integration in the areas of math and science garnered from visiting and discussing these sites. Ideally, they will design projects and assessments that they can take back to their students and their classrooms. The tasks will be accomplished using group collaboration and hands-on use of technology -- the Internet, computers, software applications, CD-ROMs, scanners, printers, digital cameras, any and all technology resources that are available on the training site.

The PowerPoint® presentations found in the Resources section can be used to introduce the module, or can be used as stand-alone presentations.

The following ISTE NETS Standards have been addressed in this module:

I. Technology Operations and Concepts

- a. Demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students).
- b. Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. Planning and Designing Learning Environments and Experiences

- a. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- b. Apply current research on teaching and learning with technology when planning learning environments and experiences.
- c. Plan for the management of technology resources within the context of learning activities.

III. Teaching, Learning, and the Curriculum

- a. Facilitate technology-enhanced experiences that address content standards and student technology standards.
- b. Use technology to support learner-centered strategies that address the diverse needs of students.

- c. Apply technology to develop students' higher order skills and creativity.
- d. Manage student learning activities in a technology-enhanced environment.

IV. Assessment and Evaluation

- a. Apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- b. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- c. Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

To find the specific standards for your state visit emTech's Web site that links to all state departments of education.

Getting Started:

PDF files can be viewed on a wide variety of platforms -- both as a browser plug-in and a stand-alone application -- with **Adobe's free Acrobat Reader®** program. Follow the link provided below for installation instructions.

The videos on this Web site require that you have the **QuickTime Player** installed on your computer. Although most of the video and audio material will play reasonably well on older versions of QuickTime, we strongly recommend that you have QuickTime version 5.0.2 or later installed on your computer for an optimal viewing/ listening experience. If you need help determining whether or not you have the appropriate version of QuickTime installed (and installed properly), check out Apple's "Installation Check" Web page. To find answers to support questions often asked by QuickTime users, visit Apple's QuickTime

Support Web page. To download QuickTime, click on the link provided below.

To download a free version of the Microsoft®: PowerPoint Viewer®, visit Microsoft's Download Center at the links provided below.

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The following Web sites appear on this page:

ISTE NETS Standards:

cnets.iste.org/teachers/t_stands.html

emTech: www.emtech.net/states.htm

Apple's Installation Check Web page:
www.apple.com/quicktime/troubleshooting/

Apple's QuickTime Support Web page:
www.info.apple.com/usen/quicktime/

Download Adobe Acrobat Reader:
www.adobe.com/products/acrobat/readstep2.html

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