

### What Does It Mean to Integrate Technology into Math and Science?

The availability of tools and knowledge of their proper use aids in getting a job done. Nothing could be truer when describing the use of technology tools in school. While it's true that public education has done a fine job of educating students for years without them, it's also the case that properly used technology tools can deepen understanding, allow students to explore subjects in ways impossible without them, and help prepare students for the tools they will be using for the rest of their lives -- in the workforce as well as at home.

Mathematicians and scientists were among the first to see the value of technology tools for their own work, and they have pushed the development of meaningful tools in many areas. For example, space science would not be as advanced as it is today without an array of instruments and data collection and analysis tools that allow the deployment and safe return of probes and other spacecraft, and also supply data for analysis while missions are in flight.

The following resources from The George Lucas Educational Foundation provide examples of technology integration into math and science curricula. The focus, as always, should be on the teaching and learning -- what we expect students to know and be able to do when their math or science class is over. As you read the following articles and view the film segments, here are some questions to consider:

- ♦ What evidence do you see and read that technology tools are being used effectively?
- ♦ What evidence do you see and read that curriculum standards are being addressed?
- ♦ How would you adapt what you see and read to your own classroom and school?

- ♦ What other topics that enhance math and science integration with technology came up (for example, project-based learning, school-to-career programs, emotional intelligence)?
- ♦ What methods of assessment will you use to determine if your students are learning what you want them to learn?
- ♦ What methods of assessment will you use to determine how technology integration into math and science make a difference in student achievement?
- ♦ How can you share with your colleagues what you're doing, for the purpose of expanding their understanding and yours?

#### **The Maine Event**

Maine's provision of a laptop for each of its 33,000 middle school students: "The best thing they've ever done in education."  
Published: 12.16.2003

#### **Biotech Academy: Challenging Assumptions and Changing Lives**

Students enter Biotech Academy in San Jose, California, with low expectations of themselves. They graduate with college acceptances and scholarships.  
Published: 10.1.2003

#### **Geometry in the Real World: Students as Architects**

Students in Eeva Reeder's geometry class design schools for the year 2050, with guidance from two Seattle architects.  
Published: 2.11.2002

#### **Handhelds Go to Class**

A suburban Chicago school district takes the lead in outfitting teachers and students with personal digital assistants.  
Published: 3.12.2002

### **Classrooms Without Boundaries**

At West Hawaii Explorations Academy, students develop and manage their own projects, with guidance from mentors in the community.

*Published: 11.1.2001*

### **More Fun Than a Barrel of ... Worms?!**

You can't tear students at Newsome Park Elementary School away from their schoolwork when it involves in-depth applications with real-world implications.

*Published: 10.1.2001*

### **A Change in Attitude**

High-tech gadgets such as GPS systems and probes catch students' interest at Harrison Central High School.

*Published: 4.1.2003*

### **Laptops for All**

A commitment to projects and widespread use of laptop computers has spelled success for students at The Mott Hall School in New York City.

*Published: 11.1.2001*

### **More Fun Than a Barrel of ... Worms?!**

[www.glef.org/modules/modarticle.php?id=Art\\_860&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_860&mod=ms)

### **A Change in Attitude:**

[www.glef.org/modules/modarticle.php?id=Art\\_1029&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_1029&mod=ms)

### **Laptops for All:**

[www.glef.org/modules/modarticle.php?id=Art\\_895&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_895&mod=ms)

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## **The following Web sites appear on this page:**

### **The Maine Event:**

[www.glef.org/modules/modarticle.php?id=Art\\_1119&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_1119&mod=ms)

### **Biotech Academy: Challenging Assumptions and Changing Lives:**

[www.glef.org/modules/modarticle.php?id=Art\\_1060&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_1060&mod=ms)

### **Geometry in the Real World: Students as Architects:**

[www.glef.org/modules/modarticle.php?id=Art\\_909&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_909&mod=ms)

### **Handhelds Go to Class:**

[www.glef.org/modules/modarticle.php?id=Art\\_955&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_955&mod=ms)

### **Classrooms Without Boundaries:**

[www.glef.org/modules/modarticle.php?id=Art\\_885&mod=ms](http://www.glef.org/modules/modarticle.php?id=Art_885&mod=ms)