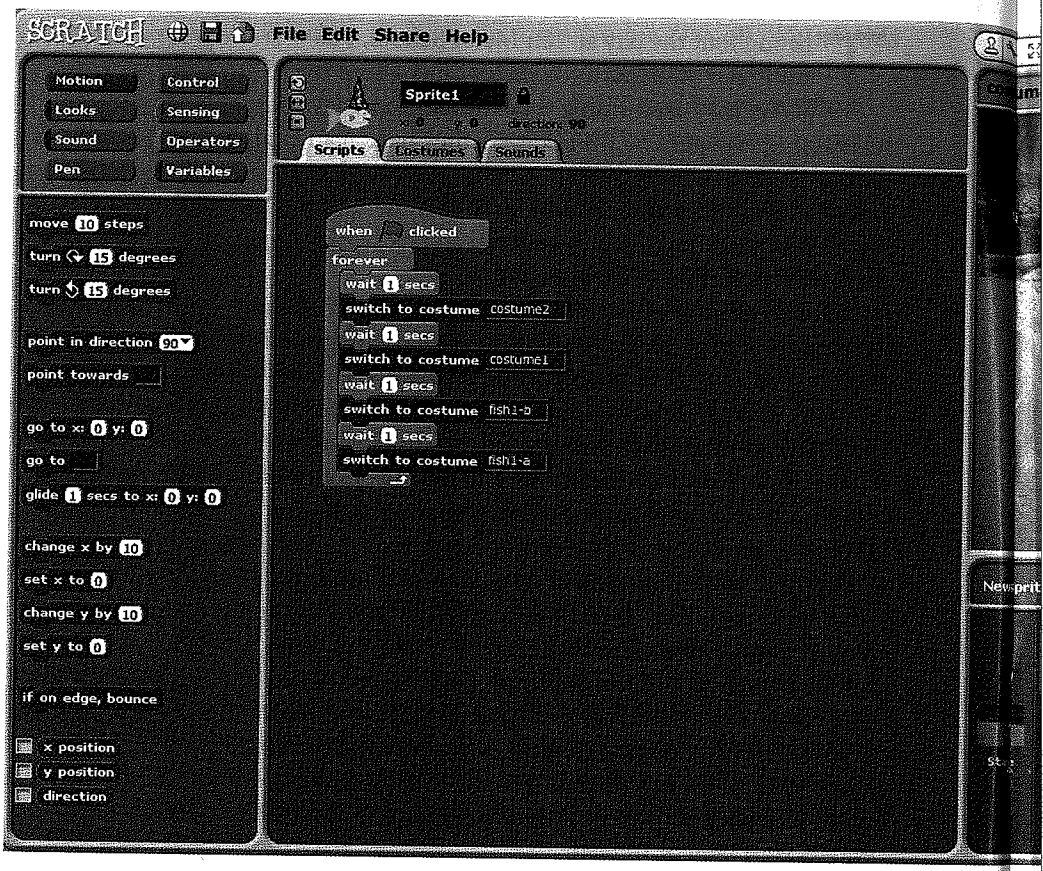
Just Scratching the Surface



The very first thing I do when I get my *L&L* magazine is flip through it to find new ideas and programs to share with my students and colleagues. This is how I found Scratch ("Sowing the Seeds for a More Creative Society," *L&L*, December/January, 2007–08, pages 18–22).

Scratch is a simple programming language that allows users to create interactive stories, animations, games, music, and art—and share them with others on the Scratch website (http://scratch.mit.edu).

The article, written by Mitchel Resnick, director of the Lifelong Kindergarten research group at MIT's Media Lab, piqued my interest. I was drawn to Scratch immediately for three reasons:

1. It was free.
2. It aligned with my own philosophy about teaching and learning.
3. It seemed like something the students would love.

Moving Cats

The first day I used Scratch with students in my computer lab, it was a hit. I started by teaching third graders how to make a cat move from one side of the screen to the top and then to the other side. Although this may seem simple, it took us most of the 45-minute period. I had to explain the Cartesian graph, which was a somewhat new concept for them, and review integers. I wanted them to use the language of the program, so I taught them that a *sprite* is an image or animation integrated into the larger scene. We also discussed *code* and *scripts*.

After working together as a class, I allowed time for independent exploration. Collaboration was everywhere. "How do I…" would come from somewhere in the room, followed by a quick, "Here, I'll show you!" Word quickly spread throughout the school, and soon students from other grades walked into the lab saying, "Can we do Scratch?" or "Are we doing Scratch today?"

The Scratch website contains countless projects that educators can download. They can even copy the code and modify it. Finding sprites that had code already attached gave students experience with sharing and modifying code. Students became experts, and soon their sprites could follow the mouse or stretch in interesting ways. They were problem solving and collaborating. The energy in the room was palpable!

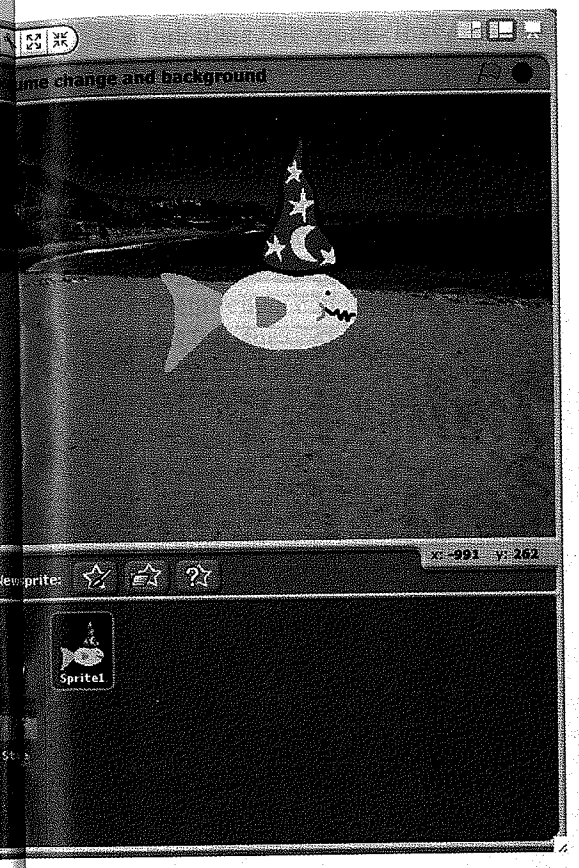
Animating Names

After about four sessions of exploring the program, I added more parameters. The first Scratch project was to animate their names. They had to use all the letters of their first names, animate them, and choose a background. Most of the students went beyond the requirements and were thrilled to share their animations at the end of class.

This initial success inspired me to branch out in other directions. Scratch became one way for fifth graders to share their work as a culminating project on U.S. government. The students worked in groups to research one of the three branches of government. After a few weeks, the students would share their information with

By Michelle Podulka

Multidisciplinary



Students create animations using Scratch.

the class using any medium they chose. Several chose to use Scratch. One group imported and edited images in Scratch of current and past presidents to explain the executive branch of the government.

Making Lunes Come Alive

I even got second graders to use Scratch. As part of a collaborative effort between the Spanish teacher, the classroom teacher, and me, students wrote three-line poems called *lunes* and animated them with the Motion and Looks tabs in Scratch.

Fifth graders created simple calculators and programmed a sprite to do their math for them. Although some found this challenging, all of the students were able to make their sprite do one basic math function. It was exciting to see the technology become a teaching tool.

Creating Literary Characters

The third graders worked on a Scratch project designed to develop literary characters, a concept they were working on in class. The students made puppets depicting characters from a story, scanned them, and uploaded the images to Scratch. The students then created backgrounds and uploaded another image to interview their puppets. Working alone or in pairs, they created scripts and recorded the conversations of the puppets to reflect the stories they had chosen. The students enjoyed creating these animations, and they did a wonderful job.

As I reflect back on the projects we created together using Scratch, I am keenly aware of how much more powerful this tool will be when it is embedded deeper into the curriculum. This year we are letting go of the last of our stand-alone technology classes. We are evolving into a model of truly integrated technology. As with all change, there is a hint of risk but also an abundance of opportunity for our program to grow and become stronger. Scratch is one of the tools I will be using to smooth the transition and empower teachers.

—Michelle Podulka has been teaching for more than a dozen years in both public and independent school settings. She is currently the technology integration teacher at Abington Friends School in Pennsylvania. She helps faculty and students use technology to empower learning.

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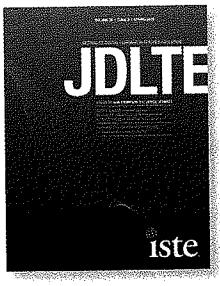

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