This Class Is for the Birds!

by Kathleen Temple

Look! Up in the sky!
It's a bird!
It's a pigeon!
It's an urban city bird!

Computer time is exciting for my fifth-grade students this year. My class spends a minimum of thirty minutes every day in the computer lab. Since I teach all subjects and there is not a technology teacher in my building, I integrate technology into all disciplines. On some days we use the SmartBoard and projector for instruction; on others we use Excel for our math lesson; and on others the students do Internet-based research and work on independent projects. We have laptops in the classroom but do not have an Internet connection for them. In our first scheduled computer class in September, I introduced my class to their first project of the year, PigeonWatch. "This class is for the birds," I said, and the children all laughed.

PigeonWatch, an Internet-based project from the Cornell Lab of Ornithology, is just one of many online projects in which my classes participate every year. As part of this program, students become citizen scientists by helping Cornell ornithologists answer questions to understand why there are so many colors of feral pigeons. All pigeons we see today come from escaped domestic pigeons (from the stock of rock pigeons that were introduced to North America in the early 17th century—see Karen Purcell's article on page 15 for more information).

In the wild, all individuals of a species usually look much the same; for example, crows are black. However, pigeons have large color and pattern variation. Cornell is studying why this is the case, and asking students to help by tallying the colors of pigeons in specific flocks. Participants observe pigeons and send their data to the Cornell Lab where ornithologists analyze the data sent in from different parts of the country. What better place for studying pigeons than our own Hoboken, New Jersey, home to many pigeon fanciers and to several champion racing pigeons?

After taking a guided exploration of the Cornell PigeonWatch site at http://www.pigeonwatch.org, the students began their own pigeon research using the Web sites recommended by Cornell. Students worked in groups and each group was assigned a specific topic, such as pigeon anatomy, racing pigeons, pigeons in combat, etc. The next step was for each student to use his or her pigeon information to create a PowerPoint presentation with facts, pictures, graphs, and of course all of the bells and whistles.
this confusing.) For digital resources, click on “Preview Digital Products.” The publishers have put all of the teacher materials and student handbooks online for schools that buy the series. Student pages can be manipulated on-screen; so, for example, geometry challenges can be worked on, not just printed out. The publisher says all the student pages can be viewed in either English or Spanish. Unfortunately, there are no examples of these student pages that you can actually manipulate at this Web site, although you can see static images. Manipulating pages has to wait until you buy.

**In science, more choices**

In K–8 science there are vast online resources and many fine ones are not part of published curricula (NASA resources, problem-solving games, programs that encourage inventions—and even allow a degree of testing of inventions online). If your science classes feature hands-on problem solving, there may be no need for online resources linked to a curriculum. There are so many other types of online opportunities for students working on topics or projects. However, a middle ground of project or theme-based curricula does exist in science kits for K–8 classrooms. The relatively new kits include *Insights* (developed by EDC, Education Development Center), *Science, Technology and Children* (STC), *Full Option Science Series* (FOSS), and *Great Explorations in Math and Science* (GEMS).

FOSS and GEMS have the advantage of a common developer, Lawrence Hall of Science at the University of California, Berkeley, and they share Web site resources. FOSSweb offers interactive investigations online and also “short courses” designed for upper elementary and middle school students. A teacher must register first. GEMS provides over twenty interactive investigations in easy to navigate style, in keeping with the well known GEMS guides. These are free and accessible without owning any of the kits or guides.

You can review FOSS and GEMS online resources at these Web sites:

- [http://www.lawrencehallofscience.org/gems/](http://www.lawrencehallofscience.org/gems/)

Their willingness to put so much material on the Web for everyone stands in contrast to the commercial publishers who now control several other K–8 science kits and guides.

**Many curricula, trustworthy reviews**

To get another perspective, visit a site created by the Center for Science Education at EDC, an organization that has created many fine learning resources itself. This site is at: [http://cse.edc.org](http://cse.edc.org). You can search by grade levels and topics. There is an evaluation tool on the site. The resources listed here are large-scale projects, often developed with government funding. The site does not list smaller online sites, but it is very valuable for the resources that it does provide.

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