Scientifically Speaking...
Connecting the Present

A science unit that involves language arts, social studies and art, plus visits to three different recycling centers

BY DIANE McCARTY
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This article is the second in a three-part series dealing with how science speaks to us in the past, present and future. Although the authors connected the three parts when presenting the unit to students, each part can stand alone.

The authors suggest that to do the project well in its entirety, teachers will need from four to six weeks of 30- to 45-minute daily science lessons. Part one required about three weeks; part two lasted approximately two weeks; and the final section took only one week because the preliminary set-up was in place.

Next month: "Scientifically Speaking...Connecting the Future."

The overall goal of the second part of our "Scientifically Speaking" unit was for students to continue to see the importance of science in their daily lives. A major objective was to expose students to current events and in that way help them understand the need for science and scientific studies.

One activity involved collecting articles about science-related news from various sources, including the Internet, and placing them on a "current events" bulletin board.

After accumulating a number of articles, we chose a few to be discussed by cooperative teams. This modified version of literacy discussion groups enabled us, as instructors, to step aside and let the students lead the discussions.

The format of these discussions included reading an article, discussing it as a team and then sharing a synopsis of it with the class. With this format, the students were able to open the discussions for insights and clarification. We discovered that these conversations could go on for days.

Each student took an article (or a copy) home to share with their families. Part of their assignment was to write a paragraph summarizing the family discussion.

As a result of parental involvement in this assignment, other dimensions were often added to the original article. One student said, for example, "My dad had a totally different view of this article than what the class thought. He said he had read it the week before and was tickled that we had discussed it in class."

Timely invitation. A second objective was to engage students in a community environmental concern. Originally, we planned to contact the Chamber of Commerce for advice. However, a colleague approached us about involving our fourth graders in an educational signage grant for the Iowa Festival and Recycling Project (IFRP).

Talk about a timely invitation! This colleague had already identified a current need in our community: the lack of signs for reducing, reusing and recycling during major festivals and community events. His hope was that student-made signs would generate greater awareness on the part of the attendees during these celebrations, which would then cause them to adopt environmentally-sound practices.

According to the IFRP, 10 tons of trash were added to a landfill in 1997 from two festivals in our community – Sturgis Falls Days and The College Hill Arts Festival. The IFRP hoped to reduce the amount of trash going to the landfill after these two festivals by 60 percent.

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An unappetizing *view of the local dump.*

The assembly line *at Corkery Waste Disposal and Recycling Services.*

Looking *at methods of recycling antifreeze at the UNI Recycling Center.*

Firsthand information. At the initial meeting with this colleague, we determined that students needed firsthand information about the types of recycling that presently exist in their community. As a result, we made a site tour that included visits to and presentations at the University of Northern Iowa (UNI) Recycling Center, the Black Hawk County Landfill and the Corkery Waste Disposal and Recycling Services.

Each of these sites is a different type of recycling center. The UNI Recycling Center emphasizes reducing pollution through the recycling of oils, antifreeze, etc. The county landfill vividly shows the amount of garbage that our community produces, how it is buried and how the land is treated.

At our last stop, the Corkery Waste Disposal and Recycling Services, we saw an assembly-line process, which included a conveyor belt with magnetized pieces to attract metal. We also saw skid loaders picking up cardboard, and cans being crushed.

Visiting these sites not only increased student interest, but enabled students to see what efforts our community makes to reduce, recycle and reuse.

The three r's. The tour was a stimulus to brainstorm further methods of the three r's. In the days following the field trip, students collectively generated topics under the headings of reduce, reuse and recycle.

Under reduce, for example, students suggested: the typical can recycling efforts; rethinking our use of litter so that less goes in the landfill; and even using sheets of paper on both sides. To further enhance this discussion, a parent arranged a short walk to her house so that we could view and add to her family's personal compost pile.

With this background information, our students were prepared to select a signage topic and create an illustration with a short narrative – from 80 to 100 words – to accompany it. (Our colleague had previously identified the size, placement of illustration and the narrative format for the sign.)

Next, the students designed a rough draft of their topic on 18" x 20" kraft paper. For the final copy, they used white card stock. The illustrations were colorful and large enough for people to see at a distance.

Imagine the thrill of attending a local festival and finding your sign displayed for all the world to see. This was a *great* way for our fourth graders to see how their efforts can influence adults in a positive way.

In part two of "Scientifically Speaking...," we observed students connecting current events with current issues. We acknowledged the importance of students and teachers applying problem-solving skills to real life situations. And we recognized the value of learning science within the context of community issues. Such activities and events meaningfully connect students with science in today's living.

"Imagine the thrill of attending a local festival and finding your sign displayed for all the world to see."

INTERNET CONNECTIONS

TOPIC: RECYCLING

1. **ROSCOE'S RECYCLE ROOM:** **www.recycleroom.org/html/launch.html** Register for this free website on America's #1 recyclable – steel. Learn about recycling facts and play interactive games. There's even a quiz on recycling.
2. **U.S. EPA EXPLORERS CLUB:** **www.epa.gov/kids/** Full of activities for exploring the environment. Visit the <Art Room> for drawing projects about recycling. Explore <Student and Teacher Resources> for lessons and activities on ecosystems, the environment, health, waste and recycling.
3. **INTERNET CONSUMER RECYCLING GUIDE:** **www.obviously.com/recycle/** Concise chart about reduce, reuse and recycle with links to recycling resources. Students can compare recycling prices around the country.