Science in the News

Purdue University GK-12 2006-07

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1. Overview

This unit is a year-long news exploration activity designed to allow students to explore news media for science topics that influence our lives and society. Students were responsible for finding their own science-themed news article from a news source of their choice, such as newspapers, magazines and internet news sites. After reading their article, students would summarize the content in writing. Along with the summary, students answered the question “Who cares?” where they were encouraged to consider why the topic of their article was important enough to gain media attention, and to whom the topic matters most.

2. Purpose

Many students are unfamiliar with news media, and have very little experience reading and understanding articles in the newspaper or other news sources. Additionally, students may be unaware that news media are filled with science-themed articles that address topics of current interest and importance to modern society. The purpose of this lesson was to allow the students to use creativity to find science topics that were most relevant and interesting to them, and to read them for comprehension.

3. Objectives

The objectives for this project were to:

- Increase student exposure to and familiarity with news media
- Improve student awareness of current topics in science, both locally and globally
- To provide students with writing practice in science class
- To stimulate student awareness of how science affects specific groups of people, or even the world as a whole

4. Indiana Standards Met

7th grade Science Standards

7.1.5 Identify some important contributions to the advancement of science, mathematics, and technology that have been made by different kinds of people, in different cultures, at different times.

7.1.9 Explain how societies influence what types of technology are developed and used in fields such as agriculture, manufacturing, sanitation, medicine, warfare, transportation, information processing, and communication.

7.2.8 Question claims based on vague attributes, such as “Leading doctors say...,” or on statements made by celebrities or others outside the area of their particular expertise.
8th grade Science Standards

8.1.1 Recognize that and describe how scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory* leads to looking at old observations in a new way.

8.1.7 Explain why technology issues are rarely simple and one-sided because contending groups may have different values and priorities.

8.1.8 Explain that humans help shape the future by generating knowledge, developing new technologies, and communicating ideas to others.

8.2.7 Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.

5. Methods

5.1. Materials & Resources

The materials required for this activity are:

- Classroom newspaper subscription (can be obtained from the Lafayette Journal and Courier and other national papers for a discounted educational price)

- International Newspapers (for International News Assignment) – English language (individual articles can be obtained via Google News or another search engine; entire newspapers may be obtained by contacting specific newspapers by phone)

- World Map (for International News Assignment)

5.2. Procedures

5.2.1. Preparation

- Teachers should purchase a newspaper subscription from a local or national newspaper of their choice.
- Purchase a variety of national and local papers for the initial introduction of the activity
- Teachers should choose a science-themed article that is related to a current topic of classroom study. This will be used as an example during the introduction to the activity.
5.2.2. Standard Science in the News Assignment

5.2.2.1. Introduction to the Activity (Part of 1 period)
To introduce this assignment, bring several current editions of local and national newspapers to the classroom and display the front pages of the newspapers to the class. Ask students if they believe they can learn anything about science from these papers. To stimulate students, point out the numerous science-themed articles that fill the newspapers, from front page to back. Explain to students that because the field of science is so broad, articles with topics ranging from hunting regulations to climate change are all based on science. Then pass around some unopened newspapers and encourage students to find their own science-themed article and to point it out to the class.

5.2.2.2. Explain Assignment to the Students (Part of 1 period)
After the initial newspaper demonstration, present your chosen article to the class. Read the article together with the class and discuss its meaning. Finally, hold up the article and ask, “So who cares?”, and allowed students to offer their opinions as to why they think the topic of the article was important, and to whom it should matter. Follow this by giving students their assignment, which is to find and summarize their own news article, either from a classroom set of local newspapers provided through a daily subscription, or from a news media source of their choice. Emphasize the importance of including the “Who cares” statement along with their summary, encouraging students to think carefully about the impact of their news article to people in their community, state, and throughout the world.

5.2.2.3. Student Presentations (Part of 1 period)
After students have completed one assignment, begin student presentations. We randomly chose students several times per month to present their favorite article to the class. Encourage students to briefly summarize the article in their own words, and to answer “Who Cares?” Allow other students in the audience to offer their own “Who Cares” statement, and to ask questions of the presenter.

5.2.3 International Science in the News Assignment

Once students were comfortable with the routine of finding their own science-based articles and completing the assignment, we introduced an international version of the activity. We first conducted the international version with English-language newspapers from China and Singapore, then later repeated it with newspapers from India. The newspapers were obtained by friends who were traveling abroad. If you do not have access to paper copies of the papers, online articles can easily be obtained by visiting the website of any major international newspapers, or could possibly be obtained by calling the newspapers (phone numbers posted on websites), although that may be an expensive international phone call. A short list of newspapers and websites is provided in section 10 of this document.

The international news article assignment was initiated by asking students to locate the specific country of interest on a world map. We then discussed various aspects of that country’s culture, and followed this by looking through the newspapers together. If you do not have paper copies of the paper, you could navigate the newspaper website with the students. We focused on current events, politics, sports, entertainment and food advertising. For example, students
compared the sports sections of local and international newspapers and were interested to learn that cricket is the most popular sport in India. The entertainment sections and political sections of the international papers often displayed American celebrities and political figures, respectively. Food advertisements in the newspapers from China and Singapore revealed unfamiliar McDonald’s sandwiches. This perusal of the international newspapers allowed us to have a class discussion about the impact that America has on other nations. Finally, students were provided with their assignment, which was to read and summarize the article as usual, and to answer a few additional questions along with providing a “Who cares” statement.

5.2.4 Curriculum-matched Science in the News

To fit this activity into classroom learning and to emphasize necessary standards, students can be given the assignment to find a news article related to a specific curricular unit. This may be easier for some units than others. For example, units related to the solar system, earthquakes, or biology can easily be related to news articles about NASA, global earthquakes/tsunamis, and medical discoveries. This may emphasize the relevance of current classroom material to the student’s surroundings and the rest of the world.

6. Scope

This activity was performed many times throughout the school year. Aside from the initial introduction and days when students presented their articles to their classmates, the activity required very little in-class time. Students were allowed to look at classroom newspapers whenever there was “down-time” in class, and they completed their summaries or found other news sources (if they chose to do so) as homework.

When we implemented the international news article assignments, one class period was spent discussing the geography and culture. During that period we also looked through the international newspapers, comparing them to U.S. newspapers in regards to current events, politics, entertainment, sports, and food advertisements. Students completed the assignment for homework.

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<th>Number of 50 minute class periods</th>
<th>Tasks and Activities</th>
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7. Activities, worksheets, and templates

- Mars Rover Reaches Rim of Deep Crater – sample news article from the Lafayette Journal and Courier. This was used to introduce the students to the Science in the News activity, and fit into a solar system unit that we were covering in class.
Science in the News – India – this is the worksheet that students completed for the international news article assignments.

8. Evaluation
Students were evaluated on the quality and accuracy of their written summaries, as well as their responses to the “Who cares” statement. We discussed the seriousness of plagiarism and emphasized the importance of summarizing the news article in one’s own words. Students were encouraged to ask for help in understanding unfamiliar words or phrases. For the standard news article assignment, the written summary was worth 50% of total points, and the “Who cares” statement was worth another 50%. For the international news article assignment, the “Who cares” statement was worth 50%, and the rest of the worksheet was worth 50%.

9. Reflection/Lessons Learned/Alterations for future use
We found that the student presentations were a valuable addition to this project. It worked well for students to share their findings with their classmates, and always stimulated a lot of class discussion. This part of the activity really piqued the students’ curiosity about wide-ranging science topics. In several cases, students were able to share their own personal experiences – for instance, an article about pediatric heart disease allowed one student to share details of his battle with heart problems as a child.

10. Resources
To implement the international news article assignments, we used paper copies of the following newspapers that were obtained by friends traveling overseas. If you do not have access to paper copies of the newspapers, you can find all articles online at the following websites. An online search with the class will probably be just as useful for allowing students to compare the sports, political and entertainment sections with those of U.S. newspapers. If you want to find newspapers from other places, a simple search in Google News will yield a lot of results.


The Hindu: A national Indian newspaper written in English: www.hinduonnet.com

The Straits Times: A national newspaper published in Singapore, and written in English: www.straitstimes.com

The China Daily: A Chinese national newspaper written in English: www.chinadaily.com
Mars Rover Reaches Rim of Deep Crater

Lafayette Journal and Courier

September 28, 2006

LOS ANGELES (AP) -- The Mars rover Opportunity reached the rim of a deep crater Wednesday after an arduous 21-month trek, marking a milestone in its exploration for clues about the Martian past.

The rover beamed black-and-white images back to Earth showing the crater interior complete with hanging rocky cliffs and rippling sand dunes on its floor.

''We made it!'' said rover principal scientist Steve Squyres of Cornell University.

The road to Victoria Crater, a half-mile wide and 230-foot deep impact crater, was tough. The six-wheeled Opportunity drove through what scientists called a ''wasteland.'' At one point, it spent five weeks stuck hub-deep in a slippery sand dune before freeing itself.

Victoria, with its exposed walls of thickly layered rocks, is a treasure trove for scientists trying to determine whether the rocks were formed in shallow lakes, which might suggest the planet once could have been hospitable to life.

''The big payoff is getting to the rock record,'' said deputy principal investigator Ray Arvidson of Washington University in St. Louis.

Opportunity will spend a day looking for a more favorable spot around the rim to take a panorama of the vista. Meanwhile, scientists are plotting Opportunity’s next move and analyzing the images to find the safest route for the rover to enter.

Opportunity and its twin, Spirit, have been exploring opposite sides of Mars since landing in 2004. Both uncovered geologic evidence of past water activity on the planet.
Science in the News – India

Directions: Read your newspaper article, and write a summary just like you always do. After you write your summary, answer the questions on this page. Staple your summary and news article to this page.

1. Who cares/ why do we care?

2. Is your article about something that is happening in India or somewhere else in the world (tell me where)?

3. Do you think that the topic of your article is important for people in the United States? Why or why not?

4. Name one interesting thing that you learned about India today (either from our class discussion, or from your news article).