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Project Abstract:

Purpose/Overview: The Garbage Project is an online collaborative project which serves as an information exchange for classrooms around the world. The goal of this project is to provide an opportunity for students to gather and analyze data in order to guide their understanding of the importance of responsible waste disposal. Using online student-collected data, the participants will discover how much garbage their households produce within a week's time. By collecting data in an online environment they will be able to share information about garbage generation and recycling habits with others from across the country and around the world. This collaboration will allow for greater learning by teaching students to work together to solve problems, by increasing and promoting interdisciplinary study across the curriculum, and by broadening the understanding and appreciation of different cultures and global environmental issues.

Objectives: This project gives classrooms from around the world the opportunity to join together and experience collaboration on an international scale. Students will understand where trash comes from and learn where it goes, as well as the importance of recycling to keep trash at a minimum. By actually keeping track of how much is thrown away, they will begin to realize how much garbage goes into the landfills and learn that their actions have a strong impact on the environment.

Procedure: Students will record each standard (kitchen-size) bag of garbage that is thrown away by their household for one week. For the purposes of this project, it is assumed that each bag of garbage weighs about the same as a one-gallon container of milk or four liter-size bottles of soda (8.5 lbs/3.8 kg). A form is provided on the project website that can be printed and distributed to the students. At the end of one week they will compile their results and, as a class, calculate the average amount of garbage thrown away by one house per week. If applicable, they will also calculate the average amount that was recycled. The class average will be submitted to the project website to be posted, and by viewing the collected data students can compare their own class figures to the averages submitted by students in other classrooms. In this project students will add, multiply, divide and find averages, as well as apply critical thinking skills in analyzing the amount of garbage that we make and its impact on the environment.

Participants: Open to anyone who wants to participate, but is recommended for grades 4-8.

Subject Areas: The Garbage Project can be useful for a number of different subject areas, including earth science, biology, environmental studies, and math.

It also is also a suitable project for Earth Day activities, with the potential for numerous learning activities related to environmental issues and taking care of the planet.

Materials: project website (<u>http://web.utk.edu/~jenscag/thegarbageproject/</u>), student worksheet and activities page (located on website), computer with internet access and email account (so teacher can register and submit data), project wiki.

Teaching Strategy: An activities page is provided on the project website which lists ideas for learning activities to be used in conjunction with the Garbage Project. A wiki has also been created to promote collaboration and idea sharing between the classrooms of students.

Evaluation: The participants were able to investigate the trash generation and recycling habits of their own households. By doing so they were able to get a first hand look at the amount of garbage that is thrown away each day and the recycling habits of students in their own class and in other classrooms. Eight classrooms registered to participate in the project, and three submitted their data (as of April 20, 2007). The data showed an average of 6 bags of garbage produced in a one-week period, with an average of 3.2 bags recycled in the same period (averages are per household).

Conclusions: This information exchange activity provided classrooms with a set of data to be used for in-class assignments, reflection, and critical thinking. It enabled students from different classrooms in various locations to complete a relevant, hands-on learning activity, and participants had the opportunity to exchange ideas and information with students across the globe. Because classrooms from different countries participated, the students were able to see if there are variations in amounts of trash and recycling and could form hypotheses as to why there might be differences. If I were to replicate this project I would make the following changes:

- send more than one email to remind participants to submit their data
- specifically state how the project meets curriculum standards
- solicit participant feedback