

Applying Mathematics to Enrich Society (AMES)

I think this project was effective in getting fifth graders to see beyond themselves, to feel they had valuable contributions to make to their community, and to engage their academic skills in meaningful public service.

Curriculum/State Standard

Pennsylvania Academic Standards in Mathematics:

- 2.2.5 (Computation and Estimation)
- 2.3.5 (Measurement and Estimation)
- 2.5.5 (Mathematical Problem Solving and Communication)

Pennsylvania Academic Standards in Writing:

- 1.4.5 (Types of Writing)
- 1.5.5. (Quality of Writing)

Pennsylvania Proposed Academic Standards in Citizenship:

- 5.2.6 (Rights and Responsibilities of Citizenship)

Overview

Students selected, budgeted, shopped for and wrapped gifts to present to county families who lost loved ones in the September 11, 2001, terrorist attacks. Students held a remembrance ceremony on March 6, 2002, the six-month anniversary, to present these gifts to the invited families. The mathematics, language arts, and social studies skills learned in school were applied to a community act of generosity and compassion.

Objectives

- The student will be aware of his or her connection to other members of our community.
- The student will be able to know, define, and identify the term "needy child."
- The student will write a friendly letter to a Pennsylvania child affected by the terrorist attacks of September 11, 2001.
- The student will add and subtract money amounts to the penny.
- The student will multiply a money amount times a decimal number.
- The student will demonstrate compassion for and awareness of other people by selecting, purchasing, and wrapping an age- and gender-appropriate gift for a child in need.
- The student will measure the girth of three-dimensional geometric shapes (the gifts) to ascertain the amount of wrapping paper needed for each gift.

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5

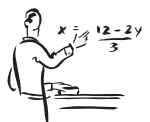
GRADE LEVEL



ARTS



LANGUAGE



MATH

Misc

MISCELLANEOUS



SCIENCE



HISTORY



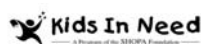
SOCIAL STUDIES

7

CLASSES

\$1000

TOTAL BUDGET



THIS WINNING LESSON PLAN WAS SUBMITTED BY:

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“Applying Mathematics to Enrich Society” project continued...

Materials

Sales circulars from the cooperating store, calculators, scrap paper, scissors, tape, plain and lined paper, envelopes, gift wrap, purchased gifts, oaktag for gift cards, crayons, markers or colored pencils.

Readiness Activity

Students in mathematics class used the sales circulars to first develop imaginary shopping lists and calculate their totals. They also calculated the change they would receive for a given amount of money. Students in language arts class reviewed the parts of a friendly letter. After students demonstrated ability to perform simpler tasks, the teacher described the actual project and solicited reactions and comments. Students universally wanted to participate and engaged in a lively discussion about the possible impact the terrorist attacks may have had on the families involved. They compared their own situations to those of the families in need. Very little emotional readiness was needed, since students had been contending with the September 11, 2001, attacks all year, both informally and through current events class.

Strategies/Activities

Select a community member or members in need. While the September 11, 2001, tragedy is a unique and terrible focus, many members of our community (foster children, children in poverty, homeless people, elderly people, veterans, burn victims, etc.) are in need of compassion, support and attention.

Contact a local charitable organization to act as liaison between the students and the needy community member(s). I used the American Red Cross, who knew the names and addresses of county families affected by September 11, 2001.

Identify a local business willing to work with you on allowing students to shop in their store. Using grant money or other financial resources, divide the available funds among the student groups (I used three students per group) and provide them with store circulars, calculators, and age and gender information about the needy neighbor(s).

Students develop a shopping list to fit their budgets and to calculate sales tax. They prepare a final list.

As a class field trip, students shop in the store. At this point they may need to make changes to their list, which entails recalculating totals, sales tax, and difference between item totals and available funds. Students provide an estimated total cost, make the purchases, and compare their estimated and actual costs.

Students measure the packages' girth to measure and wrap the gifts. Students wrap the gifts and compose small gift tags.

Students write friendly letters to the needy neighbor(s) demonstrating compassion, caring, and the ability to think beyond their own needs.

If possible, students plan a presentation ceremony and write invitations to the needy neighbor(s), school board members, district administrators, and charity.

Students present the gifts and letters to the needy neighbor(s) or their representative charity at the ceremony. This is done without publicity to protect the privacy of the individuals and to remind the students that the charitable act is reward enough.

Culminating Activity

On March 11, 2002, the six-month anniversary of the terrorist attacks, students held a one-hour remembrance ceremony in the school. The American Red Cross had passed our invitations on to the families affected by the attacks. The invitations stipulated that the families' identities would be protected, they were welcome to come or not to come, and no one would take their pictures. Of five county families, one did come to the remembrance. This widow, with her three very small children, became a focus for the 120 fifth graders. The students quietly watched the children open their gifts, then encouraged the widow to open hers. She hadn't realized she, too, would receive anything, and was deeply touched that fifth graders could think about the wants and needs of a grown woman, a stranger to them. The school superintendent, assistant superintendent, mathematics supervisor, and two school board members all attended. Even now, I get goosebumps thinking about the emotions of that morning.

Evaluation

In class, student groups had to present their preliminary shopping list, demonstrate the ability to calculate sales tax, calculate the estimated total cost, and calculate the difference between their budget and their estimated total. At the store they had to restate their estimate, receive the actual sales receipt, and justify the difference between estimate and actual total.

The students' friendly letters were proofread, edited, and returned for corrections until each one was to the student's best ability.

Students wrote self-evaluations of the project, to reflect on their achievements.