



Shop Til You Drop: Food for Thought

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Subjects: Mathematics and Home Economics - Grade 6-8

Duration of this lesson unit: 4-5 days/class periods

Rationale:

Text activities presented on this and other consumer math-related items are often too basic and outdated. Students need a more interactive, hands-on activity that is both fun for them and a creative outlet.

Lesson Instructional Objectives:

1. Locate items in a virtual grocery store.
2. Calculate the unit price for items and determine the best buy.
3. Calculate the tax and total grocery bill.
4. Use coupons and sale items to save money.
5. Plan a well-balanced meal.
6. Shop on a limited budget.

Applicable Standards:

- NCTM Standard #1 Mathematics as Problem Solving
- NCTM Standard #4 Mathematical Connections
- NCTM Standard #7 Computation and Estimation

Required Lesson Materials:

Internet access, grocery coupons (provided in the Sunday paper), grocery sale flyers (optional)

Lesson Procedure:

Day one: Introduce students to a web site that allows consumers to shop for groceries. (One such web site local to St. Louis that can certainly be accessed from anywhere is www.schnucks.com. All the rest of the information regarding this lesson is specific to this web site.) Students should register for the home shopping club by entering name, password for shopping, address, etc. (However, have students enter a fictional zip code. This way the web site will respond that the address is outside of the delivery area and students will be "test driving.")

Next, have students browse the virtual grocery store. (Instruct them to find their favorite ice cream under frozen foods or a gallon of milk under dairy.) Make sure students visit the meat department. Explain that meat can be ordered according to weight but that they might not get that exact weight depending on the selection. Therefore, the cost is approximate.

Students should choose items for their shopping cart by indicating the quantity and submitting the items as they leave each department. At this point, there is no limit to the amount students may choose.

Students should then check out and, while doing so, print a list of items that is given at the end, as well as the total cost. Using this subtotal, students should determine the tax, if applicable in your state, at the appropriate rate. (e.g., 6.5%). Student also need to add a \$15 delivery fee and determine their new total.

Discuss as a class the advantages and disadvantages of shopping using the Internet. Have students compare totals to see who was frugal and who was extravagant.

Day two: Discuss unit price, that is total cost divided by total quantity. (e.g., if apples are 4 for \$1, then they are \$.25 each; if juice is \$1.65 for 10 ounces, then it is \$.165 per ounce.)

Students should log onto the grocery store web site and find a sale item (usually indicated in different color.) Introduce sale flyer if desired. As a class, compare a sale item's unit price to a generic or store brand to determine the better buy.

Students will find 3 to 4 items that are available in differing quantities. They will record price and quantity and determine the unit price. Then they should indicate which is the best buy for each item.

Day three: Pass out 2 to 3 coupons to each student. Discuss expiration date and double coupons. Have students log onto the grocery store web site and find the items for which they have coupons. (Note: Students should discover that not all items are available at that particular store.) Have students shop for coupon items and check out. Since the web site does not take into account coupons, students should calculate their discount, tax and new total.

Day four and five: Give students instructions and time to work on final project. The project will consist of students planning a well-balanced meal for 4 to 6 people. Well-balanced means the meal should include a meat item or something comparable, a fruit or vegetable item, a starch or bread item, a beverage, and a dessert. (No microwave dinners or pizzas!) However, each student must not spend more than \$50. Students are required to use at least 2 coupons. If students find that they are still under budget, they may shop for bonus items (which will be worth extra credit since this indicates a student has cut costs!)

The student will then present his or her project in two parts. The first will consist of a printout of the shopping list with an attachment which includes the computation of discount, tax, delivery fee, and total. The second part is a visual model or poster of what is included in the meal or shopping cart.

Evaluation Rubrics or Guidelines

- Introductory Shopping List (5 points). Graded only for participation.
- Unit Price Activity (15 points). Graded for correctness of computation.
- Coupon Activity (10 points). Graded for correctness of computation.
- Project
 - (10 points for being within budget.)
 - (10 points for being well-balanced.)
 - (2 points for each additional item beyond original meal.)
 - (20 points for correctness of computation.)
 - (30 points for creativity of presentation.)