Creative Problem Solving Activity

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The following activity was developed after attending a workshop on creative problem solving, which was presented by Julie Ellis of the University of Lethbridge. It provides a creative way to teach and reinforce estimation skills and is most suitable for students at the Division II level.

Fast Food Establishments and Estimation

The following steps should be carried out in the order in which they are listed below:

1. As a class, have students brainstorm all the fast food outlets they enjoy. The teacher should list these on the chalkboard.

2. Ask students to pick *one* of the fast food places on the list. The choice may represent a favorite place, the place the student usually goes, or the outlet that is closest to home. Each student should write down his or her choice on a sheet of paper.

3. As a class, brainstorm all of the "groups" with whom the students would attend these places (for example, ball team or family). The teacher should write the list of suggestions on the chalkboard. Only groups of four or more people may be included in this list.

4. Ask students to pick *one* type of group, and have each student write down his or her choice on the paper with the fast food outlet choice.

5. Ask students to go to the fast food outlet they have selected, and write down a price list from the menu. This part of the activity allows students to do homework in a favorable atmosphere.

6. From the menu, students should choose *one* type of beverage, main course, and dessert.

7. Ask students to *estimate* the cost of their choices in item 6 above. Their estimation should be derived from the price list acquired earlier.

8. Ask students to *estimate* the total cost of a complete meal for their chosen group. The method used to arrive at the estimation should not be stipulated by the teacher. That is, students may decide to add up the totals of the entire meal selection for each member of the group, or may add up all of the beverages, main courses, and desserts chosen for the entire group.

9. Ask students to check the accuracy of their estimations by using a calculator. Students will use the calculator to add up the actual cost and compare it to the estimated total.

The following sample activity illustrates the steps outlined above.

Sample Activity

STEP 1:
(on chalkboard)

Fast Food Outlets

Al Submarine
Top Pizza & Spaghetti House
A & W Restaurant
Dairy Queen
Taco Time
Kentucky Fried Chicken
Boston Pizza
Brownie Fried Chicken
Baaco Pizza
McDonald's
Burger King
The Sub Hut
Mary Brown's Chicken
Poppa's Pizza

STEP 3:
(on chalkboard)

Types of Groups

Family
Hockey Team
Ball Team
"The Gang"
Birthday Party
Brownies
Cubs
Scouts
Girl Guides
Classroom Students

STEPS 2 and 4:

If a student were to choose *Taco Time* with his or her *family*, the remaining steps in the activity might turn out as the following do.

STEP 5:

Beverages

large	$ .89
regular	.69
children's	.49
coffee	.35
milk	.65
hot chocolate	.45

Tacos

natural soft taco	$2.49
soft super taco	2.19
soft taco	1.94
taco	.99

Burritos

soft meat burrito	$2.34
crisp meat burrito	1.59
soft combo burrito	1.84
soft bean burrito	1.34

Specialties

taco salad	$1.94
nachos	1.79
casita burrito	2.99
tostado delight	2.54
torta con carne	1.79
refritos	1.29
mexi-fries	.85

Desserts

apple or cherry empanada	$ .75
crustos	.44

STEPS 6 and 7:
(This estimation is to the nearest dollar.)

regular beverage	$1.00
soft taco	2.00
cherry empanada	1.00
	$4.00

STEP 8:

Family of 4

2 regular drinks	2	@	$1.00	=	$ 2.00
2 large drinks	2	@	1.00	=	2.00
2 tacos	2	@	1.00	=	2.00
1 soft taco	1	@	2.00	=	2.00
1 soft super taco	1	@	2.00	=	2.00
3 crustos	3	@	0.00	=	0.00
1 cherry empanada	1	@	1.00	=	1.00

Estimated Total $11.00

STEP 9:

The actual work, which may be completed on the calculator, will have the following figures:

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   regular beverage          $ .69
   soft  taco                 1.94
   cherry empanada             .75
                      Actual $3.38
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Family of 4

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2 regular drinks    2 @ $ .69 = $ 1.38
2 large drinks      2 @   .89 =   1.78
2 tacos             2 @   .99 =   1.98
1 soft taco         1 @  1.94 =   1.94
1 soft super taco   1 @  2.19 =   2.19
3 crustos           3 @   .44 =   1.32
1 cherry empanada   1 @   .75 =    .75
                Actual Total Cost $11.34
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Extensions or Alternatives

The estimations in this activity may be made to the nearest dime, quarter, or half dollar, or all of these may be tried to find the most efficient method. This type of activity can also be developed for other subject areas.

Jacqueline Fischer graduated from the University of Lethbridge in May of 1986, with an education major in mathematics.