Gold Seal Lesson

Author(s):			*Lesson Title:*			
Marsha Kucker			*A Clue About Credit Cards*			
Grade Span			*ICLE Application Model*			
K-4	*5-8*	*9-12*	*A*	*B*	*C*	*D*
		X				*X*

Instructional Focus:

Number Operations and Concepts Students use number, number sense, and number relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.
Algebraic Concepts and Relationships Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation. Students evaluate and communicate the reasoning used in solving these problems.
Problem-Solving and Mathematical Reasoning Students apply a variety of problem-solving strategies to investigate and solve problems from across the curriculum as well as from practical applications.
Listening Students listen for a variety of purposes appropriate to the grade level.
Speaking Students speak for a variety of purposes and audiences with sophistication and complexity appropriate to the grade level.

Performance Task

1. Begin with a basic discussion of credit cards - how they work, the application process, the pros and cons.
2. You may wish to show a video dealing with credit card use and abuse to students.
3. Bring examples of credit card application forms for students to review.
4. Discuss with them how interest is assessed on account balances. Interest is usually assessed at 18 to 20% a year until the bill is paid.
5. Work through an example with the students. (e.g., if you have an average daily balance of $100 and are charged 18% on unpaid balances, you would owe $101.50 at the end of the first month. ($100 x .18) divided by 12 (months) + $100 = $101.5 (note there are more complicated ways to compute this, i.e., varying daily balances, varying payment dates, and using a 365 day year instead of 12 months, but this example is sufficient to make a point.)
6. Try this example on the class. On July 1, Bill buys a stereo on his credit card for $300. Interest on Bill's credit card is 18% per year or 1.5% per month. Bill misses the first month's payment, but makes $25 payments on the last day of each month after that. Before showing students the computations below, ask them to guess how long it will take before the stereo is paid off.

Month 1 Beginning Balance = $300 Interest = $4.50 Payment = $0 Ending Balance = $304.50
Month 2 Beginning Balance = $304.50 Interest = $4.57 Payment = $25 Ending Balance = $284.07
Month 3 Beginning Balance = $284.07 Interest = $4.26 Payment = $25 Ending Balance = $263.33
Month 4 Beginning Balance = $263.33 Interest = $3.95 Payment = $25 Ending Balance = $242.28
Month 5 Beginning Balance = $242.28 Interest = $3.63 Payment = $25 Ending Balance = $220.91
Month 6 Beginning Balance = $220.91 Interest = $3.31 Payment = $25 Ending Balance = $199.22
Month 7 Beginning Balance = $199.22 Interest = $2.99 Payment = $25 Ending Balance = $177.21
Month 8 Beginning Balance = $177.21 Interest = $2.66 Payment = $25 Ending Balance = $154.87
Month 9 Beginning Balance = $154.87 Interest = $2.32 Payment = $25 Ending Balance = $132.19
Month 10 Beginning Balance = $132.19 Interest = $1.98 Payment = $25 Ending Balance = $109.17
Month 11 Beginning Balance = $109.17 Interest = $1.64 Payment = $25 Ending Balance = $ 85.81
Month 12 Beginning Balance = $ 85.81 Interest = $1.29 Payment = $25 Ending Balance = $ 62.10
Month 13 Beginning Balance = $ 62.10 Interest = $ .93 Payment = $25 Ending Balance = $ 38.03
Month 14 Beginning Balance = $ 38.03 Interest = $ .57 Payment = $25 Ending Balance = $ 13.60
Month 15 Beginning Balance = $ 13.60 Interest = $ .20 Payment = $13.80 Ending Balance = $ 0

Total Interest Paid $38.80

7. Ask the class to compute how much the interest cost as a percentage of the original cost of the stereo. (Answer: 12.93%) Ask the students if Bill may have had a better use for the $38.80 spent in interest for the stereo.
8. Have the students select something they would like to buy on credit. Give them some parameters so that they don't buy something too expensive or something that is too inexpensive to have meaning for buying on credit. Have them decide a rate of interest and an amount for payment that they will pay each month in addition to the interest. Have them develop a chart similar to the one in # 6 above and also have them answer # 7 for their purchase.
9. Have the students investigate other types of credit such as a home mortgage. Have them compare their type with the credit card purchase. You will be able to obtain an example of a mortgage amortization schedule from a bank. (An amortization schedule lists the amount of interest and principal payments for each month of a mortgage). Impress on the students that in the case of a mortgage, the amount of interest paid can easily exceed the original amount borrowed.
10. Have a class discussion, allowing the students to make comments about buying on credit. Then, have the students reflect on the task, stating, in writing, what they have learned and what their opinion of buying on credit is.

ICLE Essential Skills

Perform operations with signed (positive and negative) numbers, including decimals, ratios, percents, and fractions. (m1)
Understand basic algebraic properties (i.e., commutative: ab=ba; associative: ab(c) = a(bc); and distributive: a(b+c)=(ab)+(ac)). (m3)
Understand the use of variables in expressions such 4x, x+2, and 2x-1, solve for the variable, and know how to represent expressions such as "twice the number" or "four more than the number" using variables. (m7)
Understand the correct order of operations for performing algebraic computations. (m8)
Follow oral or written directions. (ela 4)
Express opinions clearly and forcefully without interrupting or insulting others. (ela 16)
Use brainstorming, role playing, and standard problem solving strategies to define a problem and suggest solutions. (ela 19)
Participate, sometimes leading, in group meetings by contributing, taking turns speaking, and working toward a common goal. (ela 20)
Gather information such as data, facts, ideas, concepts, and generalizations from oral sources. (ela 51)
Analyze and evaluate a speaker's statements of opinion, personal preference and values. (ela 70)

Scoring Guide:

See attachment: A Clue About Credit Cards Chart

Keywords

English Language Arts	Mathematics	Science
Reading	**Algebra** Algebraic operations Computation Cost analysis Math in daily life Problem solving	**Earth Science**
Writing	**Geometry**	**Life Science**
Communications Listening Discussion Illustration	**Statistics**	**Chemistry**
Literature	**Calculus**	**Physics**
Other	**Trigonometry**	**Other**
	Other	

Chart

3	**BEYOND**	Analyzed and readily understood the task. Developed an efficient and workable strategy. Showed explicit evidence of carrying out the strategy. Synthesized and generalized the conclusion.
2	**AT LEVEL**	Understood the task. Developed a workable strategy. Inferred (some evidence) but not always clear. Connected and applied the answer.
1	**NOT YET AT**	Partially understood the task. Appropriate strategy some of the time. Possible evidence of a plan – not clear. Partial connection of answer.
0		Totally misunderstood. Inappropriate, unworkable strategy. No evidence of carrying out a plan. No connections of answer. Blank.