

BUYING ON CREDIT

Student/Class Goal

Student's goals of managing money to support needs and priorities will be supported by learning how to use their resources in an efficient manner.

Outcome *(lesson objective)*

By computing interest, participants will determine how buying on credit adds to the total cost of an item.

Time Frame

1-2 hours

Standard *Use Math to Solve Problems and Communicate*

NRS EFL 3-6

Number Sense	Benchmarks	Geometry & Measurement	Benchmarks	Processes	Benchmarks
Words to numbers connection		Geometric figures		Word problems	3.21, 4.25, 5.25, 6.26
Calculation		Coordinate system		Problem solving strategies	
Order of operations		Perimeter/area/volume formulas		Solutions analysis	4.27, 5.27, 6.28
Compare/order numbers		Graphing two-dimensional figures		Calculator	3.22, 4.28, 5.28, 6.29
Estimation	3.4, 4.5, 5.4, 6.4	Measurement relationships		Mathematical terminology/symbols	
Exponents/radical expressions		Pythagorean theorem		Logical progression	3.24, 4.30, 5.30, 6.31
Algebra & Patterns	Benchmarks	Measurement applications		Contextual situations	4.31, 5.31, 6.32
Patterns/sequences		Measurement conversions		Mathematical material	
Equations/expressions	3.15, 4.16, 5.16, 6.16	Rounding		Logical terms	
Linear/nonlinear representations		Data Analysis & Probability	Benchmarks	Accuracy/precision	
Graphing		Data interpretation		Real-life applications	3.27, 4.34, 5.35, 6.36
Linear equations		Data displays construction		Independence/range/fluency	3.28, 4.35, 5.36, 6.37
Quadratic equations		Central tendency			
		Probabilities			
		Contextual probability			

Materials

How Interest Works & How Much Does Credit Really Cost? Handouts available at Beyond Basic Skills
Calculators
Advertisements and credit card offers

Learner Prior Knowledge

Have a roundtable discussion about financial choices and evaluating credit costs. What do students already know? What is interest? How is it related to credit? What contractual agreements have they been involved with? Record definitions on board. Any experiences or information the class offers will be useful. Teacher checks for understanding of vocabulary. What do students know about the standard? How familiar are they with using calculators? Can they use the interest formula with percentages to solve interest problems?

Instructional Activities

Step 1 - The class reads part 1 of the *How Interest Works* Handout together in what ever manner seems appropriate to the group. Offer highlighters so students can highlight any new vocabulary. Go over any unfamiliar vocabulary and then as a group summarize what was read. Students can write unfamiliar terms in their journal and add definitions as acquired. Once everyone understands the information go on to Part 2. There is likely to be more discussion here like, "That's not fair to charge poor people more!" etc. These seeming digressions may help illustrate the need for understanding this material. Ask if anyone knows about rent-to-own stores? How do they work? Is there any interest involved?

Step 2 - Introduce the interest formula. Everyone should have access to a calculator to begin working with the formula.

$$I = PRT \text{ (Principle } \times \text{ Rate } \times \text{ Time)}$$

Use examples to let the class practice using the formula.

$$I = \$200 \text{ television } \times 5\% \text{ rate } \times 1 \text{ year}$$

Demonstrate how to solve this problem using the Casio fx-260 calculator. Have the students key in 200.00. Next, hit the x symbol. Have them key in the rate amount 5, and then hit the shift key and then the % symbol. Last, have them key in the time 1 year and then hit the = symbol. They should see the number 10 in the display window. Explain that this is the amount of interest that they would pay for buying this television on credit. The total amount paid for the television at the end of the 1-year would be \$210. Work through as many examples as needed, until the students feel comfortable with the formula and the calculator.

Samples: $I = \$500 \text{ stereo} \times 12\% \times 2 \text{ years}$
 $I = \$15,000 \text{ car} \times 4.5\% \times 3 \text{ years}$
 $I = \$90,000 \text{ home} \times 7.0\% \times 30 \text{ years}$

Using the Handout *How Much Does Credit Really Cost?* to discuss information that was read and give students a chance to check any calculations on the page for themselves.

GED LINK The $I=PRT$ formula is listed on the GED formula reference page. Testers are expected to be familiar with and know how to use it. Have students work with several examples of interest problems in a section from a textbook such as *Contemporary's Math Skills That Work*, 1991 p. 130 -131, "Understanding Simple Interest."

Step 3 – Looking at the information they already have, ask students to bring in copies of any contracts they have that include an interest charge. Have them blank out any personal information before sharing it with class members. The teacher could bring in any credit card or department store terms she/he can locate for the students to use as an example. Also, have students bring in local store advertisements such as H.H. Gregg, Best Buy, etc.

Allow each student to choose 3 items they would like to purchase from the advertisements. Students will then need to determine what means of credit they are going to use to pay for the items. Have them choose from the sample credits available. Once a decision has been made, students will need to determine what information they will need to be able to work with the Interest Formula. For lower level students this information could be provided.

After all the information is gathered have students solve their own personal interest problems using the Interest Formula and calculators. Have them report the total cost they would pay for each of the three chosen items.

Assessment/Evidence *(based on outcome)*

To demonstrate mastery, a student could put their interest calculations in a written form; give a verbal presentation of the steps taken to determine the total cost of the item, or produce a sample contractual agreement to purchase an item.

Teacher Reflection/Lesson Evaluation

Higher level students found this learning activity to be fun and challenging. They were very curious about the total cost of many items they had purchased in the past. They completed the actual activity in about 25 minutes with minimal assistance. A good bit of the time was spent in choosing items from the advertisements. Many students were shocked at how much they were truly paying for an item when they bought on credit. Some said they would really have to think before they purchased something again using credit.

Lower level students were frustrated by the formula and where to gather the information needed to plug into the formula. They needed a great deal of assistance to complete the activity. They did enjoy choosing items to purchase from the advertisements and using a calculator to do math computations. They shared that they did not like the idea of paying more for an item, but "If you really want something you should do what you have to do to get it." However, they did walk away from the activity understanding that interest adds to the cost of an item.

Next Steps

Technology Integration

Beyond Basic Skills <http://literacy.myweb.uga.edu/documents/fall1996.PDF>

Purposeful/Transparent

Students are often taken advantage of because of their lack of knowledge about total cost. Once they can personally calculate the total cost of an item they can use the information to make better decisions involving money.

Contextual

By using real life materials that students have already encountered or could encounter, their learning happens in the context of the real world. Practice with locating information in a contractual agreement will lead them to careful observation of credit agreements

in the future.

Building Expertise

Having students recall personal experiences with buying on credit encourages students to recall what they already know about the topic. Using their previously learned math skills and knowledge of calculators puts their skills to practice. Having them integrate skills, experiences, and new information will allow students to construct new meanings about a familiar or unfamiliar topic.