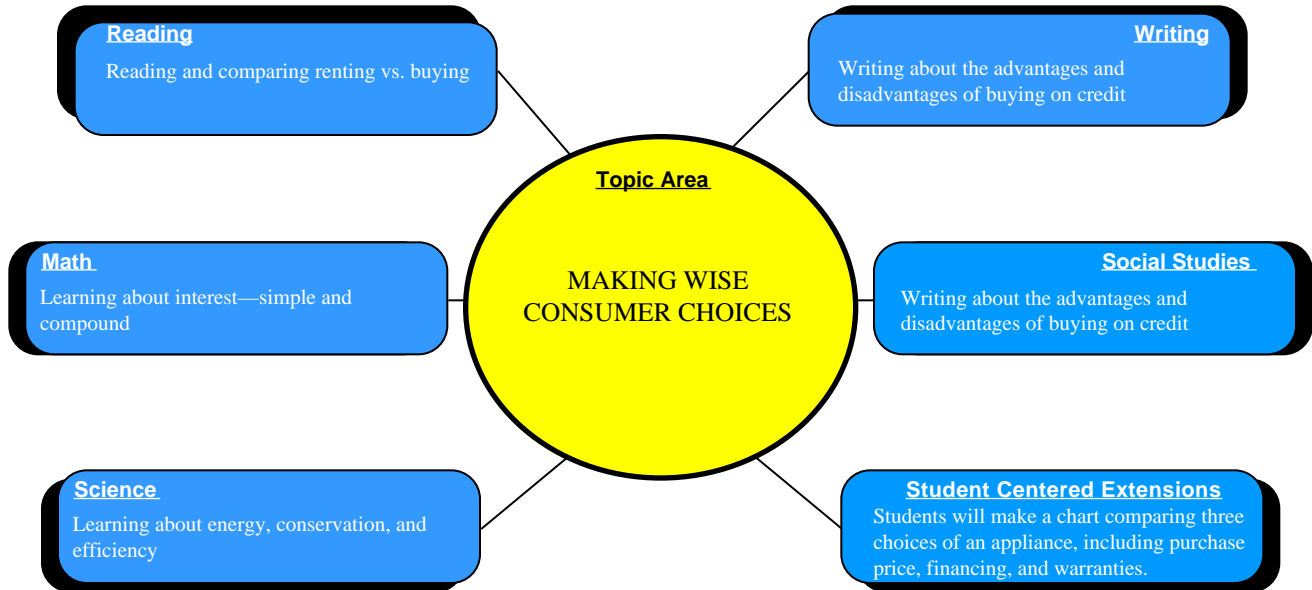


## Integrated Lesson

Theme: THE WORLD WE LIVE IN

**Introductory Statement:** This lesson will introduce students to the many considerations of making advantageous consumer purchases.



### SPECIFIC LESSON OBJECTIVES

As a result of these lessons . . .

Students will understand that making good consumer choices requires attention to not only the purchase price, but also to the financing, warranties, energy usage, and more.

### BACKGROUND INFORMATION

Before beginning this lesson, the teacher needs to be familiar with simple and compound interest; how appliances are labeled according to energy usage; and have a familiarity with the concepts of renting, leasing, and purchasing.

Before beginning this lesson, students should be familiar with the standard handheld calculator in order to facilitate the mathematical formulas used in determining interest.

### MATERIALS/RESOURCES/TOOLS

Calculator(s); overhead/flipchart/chalkboard for making chart of comparisons; articles on buying vs. renting, energy usage, interest, and the history of credit

## **PROCEDURES**

Start the class out by stating that making good consumer choices is a very important part of sticking to a budget. Not only should we be concerned with the purchase price of a desired item, but also how we plan to pay for it, what kind of warranties are available, and what (if any) energy usage information is available. Have students use a “KWL” form to assess what they know prior to the classroom lesson.

The first topic to cover is that of interest. Many people are unaware of how costly it can be to finance a purchase. Have the class choose a major appliance and find out how much it will cost. Find out what financing options are available, then show students how expensive financing can be. For example, a loan of \$1,500 at 21.5% interest will take ten years to pay off at the minimum payment of \$30 per month. The interest alone will be \$2,159 over the original \$1,500! (See article titled “About Interest.”) To determine the true costs of interest, see the following website: <[www.bankrate.com/brm/calc/loancost\\_smm.asp](http://www.bankrate.com/brm/calc/loancost_smm.asp)>.

Discuss energy efficiency. Have class members call the local utility company and find out what the current costs of gas and electricity are. A useful website to compare appliance energy usage is <[www.epa.gov/grtlakes/seahome/housewaste/quiz/cornel36.htm](http://www.epa.gov/grtlakes/seahome/housewaste/quiz/cornel36.htm)>.

Ask students if they have noticed the Energy Guide Facts for Consumers stickers that are required to be on many new appliances. Why are some appliances more expensive to operate? Is the amount of convenience worth the added cost? A good website that explains the Energy Guide stickers is <[www.ftc.gov/bcp/menu-home.htm](http://www.ftc.gov/bcp/menu-home.htm)>.

Have students compare buying and renting. How much do appliances bought from “rent-to-have” businesses really cost by the time they are fully paid for? Have students write a comparison/contrast essay about the advantages and disadvantages of buying on credit. See the following website for interesting information on “rent to own” purchases: <[www.consumersleague.org/rto\\_warn.htm](http://www.consumersleague.org/rto_warn.htm)>.

Have credit cards always been around? Have students go to <[www.didyouknow.com/creditcards.htm](http://www.didyouknow.com/creditcards.htm)> to find out some information on the history of credit. What would be different today if credit were not available? Or if credit cards had never come into being?

## **ASSESSMENT**

Have students complete the “KWL” form that they began before the lesson. Ask students to cooperatively brainstorm all the information that they learned from the lesson. What information did they think was most important? What further information would they like to know?

Another effective way of assessing what students have learned is to assign them the task of creating a quiz on the information presented, sort of a pre-lesson assessment that you could use with future groups. This reinforces what they learned and lets the teacher know what the students thought was most important.

## ABOUT INTEREST

Interest is the fee charged by a lender to a borrower for the use of borrowed money, usually expressed as an annual percentage of the principal (amount borrowed); the rate is dependent upon the time value of money, the credit risk of the borrower, and the inflation rate.

*Simple Interest* (as opposed to compound interest) is the fee figured on only the amount borrowed. The formula for simple interest is

$$\text{Interest} = \text{Principal} \times \text{rate} \times \text{time}$$

Where P = principal, or the amount borrowed

r = the interest rate, written as a decimal (i.e., 12.5% = 0.125)

t = the time involved

Example: you borrow \$1,000 at 8% interest for two years. Using the formula to find out how much money you owe at the end of two years,

$$I = \$1,000 \times 0.08 \times 2$$

$$I = \$160$$

PLUS the original amount you borrowed. You owe a total of \$1,160 at the end of two years.

Unfortunately, most lenders do not use simple interest; they use *compound interest*, interest which is calculated not only on the initial principal but also the accumulated interest of prior periods. This adds up much quicker!

$$\text{Total} = \text{Amount} (1 + \text{rate}/\text{number of times compounded})^{\text{number of times} \times \text{time}}$$

Where

Total = future value

Amount = initial deposit

rate = interest rate (expressed as a fraction: e.g., 0.06)

n = # of times per year interest is compounded (yearly, monthly, or daily)

t = number of years invested

So for the example of \$1,000 at 8% interest for two years, compounded daily, the total amount owed

$$\begin{aligned} P &= \$1,000 (1 + .08/360)^{(360 \times 2)} \\ &= \$1,173.35 \end{aligned}$$

Remember that 8% interest is fairly low. Many credit cards charge as much as 21.5% and higher! See how this higher interest rate impacts the same loan amount:

$$\begin{aligned} P &= \$1,000 (1 + .215/360)^{(360 \times 2)} \\ &= \$1,537.06 \end{aligned}$$

What a difference!