



Smoking: The Real Cost

Adapted from "Smoking: The Real Cost" by Carol Spice, Santa Rosa District Schools. See <http://www.beaconlearningcenter.com/Lessons/855.htm>

Subjects: Math

Overview:

Students calculate the cost of smoking over a period of time and construct graphs to display the data.

Suggested Time:

1 Class Session

Resources/Materials:

The following items are needed:

- Worksheet with questions (see attached)

OBJECTIVES:



Students will:

1. Calculate the amount of money a smoker will spend on cigarettes throughout his or her lifetime.

Preparation:

- Copy one set of questions from the attached sheet per student.

Procedure:

1. Discuss the adverse effects of smoking. Ask students if they know what it costs financially to be a smoker. Allow time for a brief discussion.
2. Pass out the attached worksheet.
3. Either have students find data (perhaps on the Internet) for the first three questions or give them the following answers for questions one through three:

Answers:

1. The average cost of a pack of cigarettes today is \$3.25
2. The average smoker smokes 1 1/2 packs per day.
3. The average % increase in the price of a pack of cigarettes is 10% per year.

4. Ask Q 4. Allow time for discussion about how to find the answer. If students are having trouble, model one way. Ask students to think of and write down another method of calculating the same information. Allow them to compare methods. Review bar graph information (you might want to have one as an example transparency.) Circulate and assist students in answering the rest of the questions and making the graphs.

5. When the students are finished, discuss the results and compare the graphs. Allow time for comparisons and discussions.

6. Collect the questions and graphs.



Method of Evaluation:

Questions and graphs can be assessed for solving real world problems accurately. This assessment only deals with those operations necessary to solve the questions about smoking.

Extension / Reinforcement:

1. Allow students to research health factors as well as the costs they discover in this lesson.
2. Have students use the internet to find information about the social costs of smoking: how much does smoking cost society in lost productivity, in increased health care insurance costs, etc.?

3. In small groups, have students figure out how to calculate a person's net financial gain or loss after 10, 20, and 40 years of smoking or not smoking. Assume the average 1.5-pack-a-day habit for the smoker and that the nonsmoker, rather than spending the money on cigarettes, puts the same amount of money into a savings account that earns 6% a year. (To simplify the calculations, have students assume that the nonsmoker puts the money in the bank at the beginning of the year and that the smoker buys his or her supply for the year at the same time.)

Answer:

After one year, the smoker will have spent \$1,764, while the nonsmoker will have \$1,869.84 in the bank. By the end of ten years, the smoker (assuming no inflation) will have spent \$17,640. The nonsmoker would have a bank account of \$24,645.98. After 20 years, the smoker (again, assuming no inflation) will have wasted \$35,280. The nonsmoker, by contrast, will have \$68,783.17 to spend. After 40 years, the smoker will have lost \$70,560, while the nonsmoker would have \$289,380.10! Have the class imagine what they could do with that amount of money.

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Name: _____

The Real Cost of Smoking

1. What is the average cost of a pack of cigarettes today?
2. How many packs per day does the average smoker smoke?
3. Estimate the average % increase of a pack of cigarettes per year?
4. If you start smoking today, how much will your addiction cost you the first year if you smoke the average amount of cigarettes and they do not increase in price over the year?
5. Based on the average % increase, how much will a pack of cigarettes cost you in one year?
6. Changing the price of a pack of cigarettes every year, determine how much you will have spent from the time you start to the end of the number of years below.

-1 year

-5 years

-10 years

-15 years

-20 years

-25 years

-30 years

7. Make a bar or line graph showing how cost will change over the time period of 30 years.