Workshop 4
Learning, Earning, and Saving

Description

Most high school economics courses include a unit on personal finance. The key to an effective personal finance curriculum is to apply economic concepts and an economic way of thinking to personal decision-making. A personal finance unit should include earning an income, as well as spending, saving and investing, borrowing, and managing money. Economics covers more than money, but particularly at the high school level, it covers money and personal finance.

Perhaps the most important lesson students can learn in the personal finance unit is that to become financially secure, people must save early and often. Marc Johnson's class at Smoky Hill High School in Aurora, Colorado, plays the "How To Really Be a Millionaire" game. They find that preconceptions about millionaires are not necessarily so and learn rules for improving their financial lives. Heather Anderson, from Eau Gallie High School in Melbourne, Florida, dramatically illustrates the power of compound interest to her class using "The Chessboard of Financial Life" simulation. Finally, Eliot Scher, from White Plains High School in White Plains, New York, has his students participate in a stock market simulation to get them interested in investing.

Key Concepts

- Higher education greatly increases lifetime earnings. On average, high school graduates earn more than high school dropouts, and college graduates earn more than high school graduates.

- Compound interest can work for or against you. If you save early and often, it works for you. If you borrow early and often, compound interest works against you.

- Good money-management skills improve your financial well-being.

- Wise personal decision-making involves identifying criteria and using those criteria to make decisions. Consumers must make decisions because resources are limited and wants are unlimited. Consumer decisions always involve costs, benefits, and trade-offs.

Voluntary National Content Standards in Economics

The activities shown in this workshop illustrate the following standards:

- Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something; few choices are "all or nothing" decisions. (Content Standard 2)

- Income for most people is determined by the market value of the productive resources they sell. What workers earn depends, primarily, on the market value of what they produce and how productive they are. (Content Standard 13)

Workshop Session

Getting Ready (20 minutes)

- Participants should tell the group which two personal-finance topics they feel are the most important to teach in their economics class.

- Have one participant write the topics on the board.

- Determine which three topics are the most important and why.

Watching and Discussing the Video (90 minutes)

1. View Section One (salaries and wages), Section Two (The Millionaire Game), and Section Three (education pay-off). (26 minutes)

2. Form small groups to discuss Visual 2 in The Millionaire Game (Lesson 4.1). (10 minutes)

   - What are some examples that support these rules for improving your financial life?

   - The game is clearly fun for Mark's students. What are the educational reasons for playing the game?

   - Are there any misrepresentations or overgeneralizations in the Millionaire Game?

3. View Section Four (compound interest). (14 minutes)

4. Now play "The Chessboard of Financial Life" in a different way. (12 minutes)

   - Appoint a participant to play the role of the teacher.

   - Now ask, "Would you take $10,000 or one cent doubled until the end of the third row of boxes?" Use Lesson 4.2.

   - At the end of each row, ask the question again to see if anyone has changed his or her mind. How many people changed their minds?

   - How much money would you have by the end of the third row?

   - What other activities can you suggest to illustrate the power of compound interest?

5. View Section Five (stock market). (15 minutes)

6. Discuss the advantages and disadvantages of stock market simulations. (13 minutes)

   - What are the advantages of using an online stock market simulation in your classroom?

   - What are the disadvantages of using an online stock market simulation in your classroom?

   - How does an online stock market simulation misrepresent basic principles of investing?

   - What additional curriculum materials does a teacher need to supplement a stock market simulation?

   - What activities can a teacher use to teach the benefits of long-term investing as opposed to short-term investing?

   - Should a personal-finance curriculum place more emphasis on the benefits of regular saving or on strategies for investing in the stock market?

Workshop Session, cont'd.

Closure (10 minutes)

- Write your own list of rules for improving your financial life. Share them with the other participants.

- Make a list of the instructional activities packages you use to teach personal finance. Which two do you think are the most effective?

Lesson 4.1: How To Really Be a Millionaire

"How To Really Be a Millionaire" is from *Financial Fitness for Life: Bringing Home the Gold, Grades 9-12,* by John S. Morton and Mark C. Schug, National Council on Economic Education, 2001.

Fitness Focus:

Lesson Description

This lesson is designed to get students interested in personal finance. Financial planning may seem dull and laborious, but finding out how to become a millionaire is an activity that tends to stir up considerable interest. This lesson shows the students that they are unlikely to achieve wealth without self-discipline. Achieving personal wealth involves planning and making sound choices, such as getting a good education, spending wisely, saving early and often, and taking prudent risks. The lesson here is not that the only goal in life is to become rich. Wealth, in itself, is no guarantee of happiness. Nevertheless, wealth provides the freedom to have more choices in life.

This lesson is correlated with national standards for economics as well as the national guidelines for personal financial management as shown in Tables 1 and 2 in the front of the book *Financial Fitness for Life.*

Student Objectives

At the end of this lesson, the student will be able to:

 • Describe the characteristics of millionaires.

 • Illustrate how sound financial decisions can increase wealth and a person's standard of living.

Materials

 • Visual 1: The Millionaire Game

 • Visual 2: Rules for Improving Your Financial Life

 • Activity 1: Millionaire Game Score Sheet

Workout:

Warm-Up

Tell the students that the purpose of this lesson is to show how they can make choices that can improve their lives. The lesson has several tips about the accumulation of personal wealth. It introduces ideas that will be explored throughout the study of economics and personal finance.

Exercise

A. Divide the class into groups of three. To each group, distribute one sheet of paper with "T" on one side and "F" on the other, and one sheet with "Millionaire" written on it.

B. Explain the rules of The Millionaire Game.

  1. Choose a spokesperson for each group.

  2. All students in the group must tell the spokesperson what they think the right answers are for the questions on Visual 1.

  3. The majority prevails whenever the group disagrees on the answer.

  4. The spokesperson must hold up the sheet of paper with "T" and "F" to indicate the group's decision on the question. The teams must answer each question. The spokesperson may also hold up the "Millionaire" sign if the group wants to use this option.

  5. Each group gets five points for each correct answer. Each group loses five points for each incorrect answer.

  6. Each group may choose to "Millionaire" on any question up to a total of five questions. If the group answers correctly, it receives 10 points; if the group answers incorrectly, it loses 10 points from its current score. Groups should use this tactic on questions they are most confident about answering correctly.

Lesson 4.1, cont'd.

7. A total of 100 points is a perfect score. To earn this score, the students must answer all questions correctly and "Millionaire" correctly on five questions.

8. The team with the most points wins and is declared The Millionaires of Tomorrow.

C. Display Visual 1, "The Millionaire Game," on the overhead projector. At first, keep all the questions covered. Show the students one question at a time so they do not see them all at once.

D. For each question, ask the students to decide in their group if they think the statement is true or false. Then the spokesperson holds up the "True/False" sign to show the group's decision to the class. The spokesperson should also hold up the "Millionaire" sign if this tactic was chosen for this question. Make sure these sheets are raised simultaneously to discourage some groups from waiting to see what other groups decided. Or the groups can write their answers to all the questions first and then calculate their score.

E. While the students keep track of their scores on Activity 1, "Millionaire Game Score Sheet," keep a point total on the board so that each group can see how it is performing relative to other groups. They will use this information to decide when to go "Millionaire."

F. Discuss the answers, shown below, as the students answer each question or at the end of the game. Explain to the students some basic principles for getting rich and living a more satisfying life.

1. **True.** *Four of five millionaires are college graduates. Eighteen percent have master's degrees, 8% law degrees, 6% medical degrees, and 6% Ph.D.s.*

2. **False.** *About 2/3 of millionaires work 45 to 55 hours a week.*

3. **True.** *Only 19% of millionaires received any income or wealth of any kind from a trust fund or an estate. Fewer than 10% of millionaires inherited 10% or more of their wealth.*

4. **False.** *Only 28.6% of millionaires have American Express Gold Cards while 43% have Sears credit cards. Only 6.2% of millionaires have American Express Platinum Cards.*

5. **True.** *Ford is preferred by 9.4% and Cadillac by 8.8%. Lincoln comes in third at 7.8%. Only 23% of millionaires drive a current-year (new) car.*

6. **False.** *A majority of millionaires are in ordinary industries and jobs. They are proficient in targeting marketing opportunities.*

7. **False.** *About three out of four millionaires are self-employed and consider themselves to be entrepreneurs. Most of the others are professionals, such as doctors, accountants, and lawyers.*

8. **False.** *Few people get rich the easy way. If you play the lottery, the chances of winning are about one in 12 million. The average person who plays the lottery every day would have to live about 33,000 years to win once. In contrast, you have a one in 1.9 million chance of being struck by lightning. A pregnant woman has one chance in 705,000 live births to have quadruplets. How many sets of quadruplets do you know?*

9. **True.** *In recent years, the average college graduate earned 66% more than the average high school graduate did. People with professional degrees earned 150% more than high school graduates did.*

10. **True.** *Of course, a normal person would spend some of the difference, but it is a dramatic illustration of how valuable a high school diploma is. The difference in earnings between a high school graduate and a high school dropout is $8000 at age 18. The illustration assumes the difference increases by 1.5% each year and that the difference is invested at 8% interest each year.*

11. **False.** *Recent studies show that 80% of day traders lose money.*

Lesson 4.1, cont'd.

12. **False.** *Long term (starting in 1926 and including the Great Depression), the Standard & Poor's 500 Stock Index has increased at about an 11% compound annual rate of return, exceeding the return on any other investment. Of course, there is risk. The stock market has down years, and there is no guarantee of an 11% return in the future, especially in the short run. In contrast, the long-term return on risk-free U.S. government securities during the same period ranged from 5% to 6%. The actual return depended on the term of the bond. Another way of looking at this is that $1.00 invested in the S&P 500 on January 1, 1926, was worth $1,828 on December 31, 1997. One dollar invested in long-term government bonds during the same period was worth $39 on December 31, 1997. It probably paid to take the additional risk of buying stocks.*

13. **True.** *Because of the power of compound interest, small savings can make a difference. It pays to resist temptation and live below your means.*

14. **True.** *Because of the power of compound interest, the earlier you begin saving the better. Regular saving will make you a millionaire, even if your salary is modest.*

15. **False.** *Most millionaires are married and stay married. By contrast, divorce is a gateway to poverty. Financially speaking, divorce is something you want to avoid, particularly after you have children. It is important to choose a marriage partner carefully.*

G. At the end of the game, display Visual 2, "Rules for Improving Your Financial Life," and go over the principles. Show that these rules are derived from the answers to the questions in The Millionaire Game.

Cool Down

A. Have the students write a brief essay on "How To Really Become a Millionaire."

B. The answers to this test come primarily from two excellent sources:

-   Lee, Dwight R., and Richard B. McKenzie. *Getting Rich in America.* Harper Business, 1999.

-   Stanley, Thomas J., and William D. Danko, *The Millionaire Next Door.* Pocket Books, 1996.

The Millionaire Game

Answer each question "True" or "False." For each correct answer, you will receive five points. For each incorrect answer, you will lose five points. For any five questions, you may hold up the "Millionaire" sheet with your answer. If you answer correctly, you will receive 10 points. If you answer incorrectly, you will lose 10 points.

1. Most millionaires are college graduates.

2. Most millionaires work fewer than 40 hours a week.

3. More than half of all millionaires never received money from a trust fund or estate.

4. More millionaires have American Express Gold Cards than Sears cards.

5. More millionaires drive Fords than Cadillacs.

6. Most millionaires work in glamorous jobs, such as sports, entertainment, or high tech.

7. Most millionaires work for big Fortune 500 companies.

8. Many poor people become millionaires by winning the lottery.

9. College graduates earn about 65% more than high school graduates earn.

10. If an average 18-year-old high school graduate spends as much as an average high school dropout until both are 67 years old, but the high school graduate invests the difference in his or her earnings at 8% annual interest, the high school graduate would have $5,500,000.

11. Day traders usually beat the stock market and many of them become millionaires.

12. If you want to be a millionaire, avoid the risky stock market.

13. At age 18, you decide not to smoke and save $1.50 a day. You invest this $1.50 a day at 8% annual interest until you are 67. At age 67, your savings from not smoking are almost $300,000.

14. If you save $2000 a year from age 22 to age 65 at 8% annual interest, your savings will be over $700,000 at age 65.

15. Single people are more often millionaires than married people.

Rules for Improving Your Financial Life

1. **Get a good education.**

2. **Work long, hard, and smart.**

3. **Learn money-management skills.**

4. **Spend less than you could spend.**

5. **Save early and often.**

6. **Invest in common stocks for the long term.**

7. **Gather information before making decisions.**

The Millionaire Game Score Sheet

1. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

2. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

3. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

4. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

5. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

6. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

7. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

8. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

9. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

10. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

11. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

12. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

13. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

14. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

15. **True** or **False**   Score (-5 or +5)
    (circle one)   (Millionaire card -10 or +10)   _____

Lesson 4.2: The Chessboard of Financial Life

"The Chessboard of Financial Life" is from *Financial Fitness for Life: Bringing Home the Gold, Grades 9-12,* by John S. Morton and Mark C. Schug, National Council on Economic Education, 2001.

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Which would you choose? $10,000 in cold cash or a penny doubled on each square in "The Chessboard of Financial Life" until you reach the final square?

Suggested Solutions—
Lesson 4.2: The Chessboard of Financial Life

1. Have students use a calculator to fill in the squares on "The Chessboard of Financial Life." On basic calculators, they would enter 2 x .01 = .02. Instruct them to continue hitting the = key; that will double the amount each time. Simply count as you hit the key each time. (The key sequence is sometimes reversed for scientific calculators, .01 x 2 =, or the K key must be used. Check the instructions for the calculators your students are using.) Record the amount on the transparency or board. By the 21st square, students will have $10,485.76. Most basic calculators will display an error E in the upper millions in square 34. A scientific calculator will take you all the way to the end (the 64th square) and display the result in scientific notation—9.2E16 or 9.2 times 10 to the 16th power.

2. Tell students that the continual process of multiplying that turned this penny into hundreds, then thousands, then millions, billions, trillions, and beyond, is called compounding. Explain that compounding is important to savers. For each dollar saved in a savings account the bank pays interest. This interest is added to the principal, the amount originally saved; then additional interest is paid on both. This compound interest makes money grow much faster. Eventually, money will double, as pennies did on this chessboard. The time it takes to double depends on the interest rate.