Lesson 5

Save and Invest: Stocks—Owning Part of a Company

Lesson Description

This lesson introduces students to the basic concepts about stocks, stock markets and indexes. By using an interactive map, students learn about stock exchanges from around the world. Through an interactive balance sheet, students will demonstrate how people build wealth through capital appreciation and dividends. Using a variety of activities, students will learn three ways stocks can be classified and will classify the companies of the Dow Jones Industrial Average by student-selected sectors. Finally, students will learn about indexes and discuss their relationship to various sectors of the economy. Outside of class, students will research two companies of their choosing to create "Investor Information Sheets" and categorize stocks based on the criteria established during classroom instruction.

National Standards in K–12 Personal Finance Education (www.jumpstart.org)

Saving and Investing
Standard 3: Evaluate investment alternatives.

Instructional Objectives

Students will:

- Identify stocks as financial assets (shares) that represent ownership in a company.
- Describe the role and variety of stock exchanges around the world.
- Use a balance sheet to explain the risk and rewards of stock ownership.
- Categorize publicly held companies in terms of market capitalization, industry sector and location.
- Identify and describe the role and composition of stock indexes.

Time Required

One 50-minute class period

Materials Required

SmartBoard
Notebook File
Copies of Handout 1: Stock Assessment
Copies of Handout 2: Stock Market Research

Warning

The first time you teach the lesson, save a master copy to your computer or a flash drive. If you do not, you will not be able to save notes from each class. Before each class, reload the master copy of the notebook file to be certain that all of the elements on each page are ready for use.

Procedure

1. Display Slide 1. Tell students that the topic of the lesson is stocks and stock exchanges.

2. Display Slide 2. Review the instructional objectives for the lesson.

3. Display Slide 3. Brainstorm information about stocks with students. Student responses will vary, but should include the following information.
   - Stocks are a type of financial asset. An asset is anything an individual or business owns that has commercial or exchange value. (See BW Lesson 1.)
   - Stocks are also called shares, as in "shares of ownership." When investors buy stock, they become part owners of the company.
   - As owners, stockholders participate in the profits or losses of the company.
   - Investors buy stock in the hopes of increasing their net worth, but this is not guaranteed. (Net Worth = Assets – Liabilities, See BW Lesson 1).

4. Display Slide 4. Use the computer graphic and the information below to review the definition of a market.
   - A market brings together buyers and sellers for the purpose of exchange.
   - A farmers market is an example of a physical market. People who sell fruits and vegetables find consumers who wish to purchase. Supply and demand interact to determine prices.
   - Markets can be virtual. In virtual (or online) markets, transactions are completed electronically. Ask students to name virtual markets. Answers will vary, but could include the following businesses.
     - Ebay
     - App store
     - Stubhub

   Use the pull tab to drag in the definition of a stock exchange. Emphasize that stock exchanges are the institutions that create markets for stocks. Ask students to name familiar stock exchanges. Possible answers include these American exchanges.
   - New York Stock Exchange
   - NASDAQ

   Use the information below to discuss the price-setting mechanism in a stock market.
   - Buyers offer to buy shares of stock at a given price (a bid price).
   - Sellers simultaneously offer to sell shares of stock at a given price (an ask price).
   - When the bid price and the ask price match, a transaction occurs and shares of stock are sold.

5. Display Slide 5. Use the information below and the interactive map to discuss stock exchanges around the world.
   - There are stock exchanges in many countries around the world. This map highlights 18 of the largest exchanges.
   - Touch the green countries to display information about the size of markets, measured in dollars and number of companies.
   - To display information about a different exchange and to remove a box that has been displayed, touch a dif-

ferent country.
- To remove all boxes, touch the Atlantic Ocean.

6. Display Slide 6. Use the information below and on the graphic to discuss the two potential financial rewards for owning stocks—stock appreciation and dividends.

Use the pull tab on the left on the screen to display the graphic about stock appreciation.

- When an investor owns stock and the price of that stock rises, net worth increases.
- However, the gains (or losses) from stock appreciation (depreciation) are not permanent until the stock is sold.
  - If an investor sells stock for more than the original purchase price, the difference is a profit called a capital gain.
  - If a stock is sold for less than the purchase price, the resulting loss is called a capital loss.
- If a company goes bankrupt, an investor's losses are limited to the original purchase price of the stock. The price of the stock of a bankrupt company is reduced to zero and the shareholder owns a worthless asset.

Use the pull tab on the right to display the graphic about dividends.

- Dividends are part of a company's profits that are paid to shareholders as cash.
- The board of directors of a company decides when, and if, to distribute dividends and how much the payment will be.
- Not all companies (even profitable ones) pay dividends.

7. Display Slide 7. Use the interactive balance sheet on this slide to demonstrate the impact of stock appreciation and dividend payments on net worth. Remind students that Net Worth = Assets – Liabilities. (See BW Lesson 1.)

Use the arrows on the right to raise and lower the stock price.

- As the stock price increases, the value of the stock increases. Therefore, net worth rises.
- As the stock price decreases, the value of the stock decreases. Therefore, net worth falls.

Raise the stock price to an amount over \$50. Use the "Sell Stock" button to sell the stock and realize a capital gain.

- Point out the changes on the balance sheet.
- Shares owned are reduced to zero, and the value of the stock at the time of sale is credited to the savings account.
- Point out that the increase in net worth occurred when the stock appreciated in value. The sale transferred assets from the stock entry on the balance sheet to the savings account.
- Now, change the stock price and point out that after the stock is sold, the changing price no longer affects net worth.

Use the "Reset" button to return the balance sheet to the original values. Reduce the stock price to less than \$50, and use the "Sell Stock" button to sell the stock and realize a capital loss.

- Point out the changes to the assets on the balance sheet.
- The decrease in net worth occurred when the stock depreciated in value. The sale transferred assets from the stock entry on the balance sheet to the savings account.

Use the "Reset" button to return the balance sheet to the original values. Discuss dividends using the information below.

- Dividends are a portion of a company's profit paid to stock owners. Dividends are usually paid quarterly and are stated as a dollar amount per share.
- Press the "Receive Dividend" button to credit the quarterly payment to the savings account.
- Change the stock price. Press the "Receive Dividend" button again. Point out that changes in the stock price do not affect the dividend payment.
- Press the "Receive Dividend" button two more times to receive the final two quarterly dividend payments for the year. Note that the "Receive Dividend" button will disappear.

8. Display Slide 8. Use the questions on the slide and the information below to discuss the information an investor would seek before buying a stock.

- Reporters use basic questions to make sure that they are covering every facet of a story.
- Brainstorm how the information about a company and its stock relate to these questions. Answers will vary, but could include the following.
    - Who? Name of company, stock symbol
    - What? Goods or services produced, line of business, sector of the economy
    - When? Founding date, dividend payment schedule
    - Where? Location of headquarters, production facilities or major markets
    - How much? Revenue, total sales, value of company, market capitalization
- This information can be used to classify stocks so that investors can look at groups of companies with similar characteristics.

9. Display Slide 9. Use the concept map on the slide and the information below to discuss classification categories.

Press the "Public Company" circle to display a new circle that says "Market Capitalization."

- Market capitalization (or market cap) refers to the total value of the company in the stock market.
- Market cap is computed by multiplying the price of the shares by the total number of outstanding shares.

Touch the circle that says "Market Capitalization" to display the first market cap category.

- Large cap companies have a market value of more than $5 billion (including ExxonMobil, Walmart and Microsoft). Generally, large cap companies are well established and grow more consistently. Many of the most well-known companies in the world are large caps.

Touch the circle that says "Market Capitalization" to display the second market cap category.

- Mid cap companies have a market value between $1 billion and $5 billion (including Barnes and Noble). Mid cap companies are often growing companies. Their growth might be restricted by region, age or sector.

Touch the circle that says "Market Capitalization" to display the third market cap category.

- Small cap companies have a market value of less than $1 billion (including Papa John's and Buffalo Wild Wings). There are many more small cap companies traded than most people have heard of.

Touch the "Public Company" circle again to display the "Location" circle. Then touch the "Location" circle twice.

- Location refers to the location of the headquarters of the company or the country in which the corporation was chartered.
- Companies are classified as domestic or international.

Touch the "International" circle twice.

- International companies can be divided into those located in developed markets (Europe, Australasia, Far East) and those located in emerging markets (Brazil, Russia, India and China).
  - U.S. companies include Nike and Ford.
  - Japanese companies include Toyota, Canon and Sony.
  - German companies include Adidas, Daimler AG and Volkswagen.
  - Brazilian companies include Embraer (aircraft) and Banco Santander.

Touch the "Public Company" circle again. This will display the "Sector" circle.

- Sector refers to the business of the company. Investors consider the types of goods and/or services the company produces.
- Not all sector classification systems are the same. The next activity allows students to develop their own sector categories.

10. Display Slide 10. Tell students that they will work in pairs to create classification categories for stocks based on the types of goods or services that the companies produce.
- Distribute copies of Handout 1. The sheet contains a brief description and the ticker symbol for 30 companies. Students should read the descriptions and work with their partner to create three to five broad categories into which all of the stocks can be sorted. On a separate sheet of paper, have students write the categories and list the ticker symbols of the stocks that belong in each one.
- Allow one pair to come to the board to write their categories on the top row of the table. Then they should drag and drop the stock certificates for the companies into the categories they created. Have each group explain the categories that they selected.
  Note: The SMART Board will automatically resize the certificates to fit the table. Also, if more than one group want to display their categories, clone the page before the first group begins.
- Discuss different categories that groups used. Differences might come from the groups' views of the com-

pany's primary business (Is Kraft's business food, consumer goods or manufacturing?). Groups might differ on the breadth of their categories (Is AT&T a telecom company or a technology company?). Emphasize that there are many correct ways to categorize these stocks. One possible grouping is shown in the table below.

Manufacturing	Technology	Services
MMM	T	AXP
AA	CSCO	BAC
BA	GE	HD
CAT	HPQ	JPM
CVX	INTC	MCD
DD	IBM	TRV
XOM	MSFT	WMT
KFT	VZ	DIS
KO		
JNJ		
PFE		
PG		
MRK		
UTX		

11. Display Slide 11. Touch the "Public Company" circle three times. This will display again the three circles from Slide 9. Remind students that these are three ways to categorize stocks. Review market capitalization and location as necessary.

    Touch the "Sector" circle three times. Explain that sector categorization is subjective. Three common categorizations are listed below. Discuss companies that fit into these categories. Choose a few examples from each category to reinforce the categorization exercise.

    - Technology
    - Manufacturing
    - Services

12. Display Slide 12. Describe indexes using the graphic and the information below.
    - An index is a ratio that illustrates the change in some value over time.
    - Price indexes are usually built using a group, or basket, of goods.
    - A "date index" would illustrate the change in the price of a date over time.
        - The basket contains two movie tickets, dinner for two at a restaurant and two gallons of gas.
        - The items in the "basket" are consistent in every year.
        - The prices of all items in the basket are added together to find the total cost of the basket in each year.
        - The index is the ratio of the current price and the price in some base year. (1995 is the base year in this example.)
    - As the index number increases, it shows that the total cost of a date is increasing, even if one component was

falling in price.

13. Display Slide 13. Discuss stock indexes using the information below and on the graphic.

- In the same way that the date index is made up of items consumed on a date, a stock index is made up of a group (or basket) of stocks.
- The performance of a stock index relates to the performance of all the components, not any individual component. The price of an individual stock in an index can fall while the index as a whole appreciates.
- Movements in stock indexes are thought to indicate changes in the broader market for all stocks and perhaps the economy as a whole.

14. Display Slide 14. Explain that stock indexes can be classified by the location of the stocks they contain. Use the graphic and the table below to introduce some well-known indexes.

U.S. Indexes		International Indexes	
Dow Jones Industrial Average (DJIA)	30 large and well-known companies selected by the editors of the Wall Street Journal	EAFE (pronounced eef ah)	Just under 1,000 companies from Europe, Australasia and the Far East
Standard and Poor's 500 (SP500)	500 leading U.S. companies (mainly large caps)	Nikkei 225	225 stocks traded on the Tokyo Stock Exchange
Russell 2000	Stocks of approximately 2,000 of the smallest U.S. companies	DAX	30 large German companies traded on the Frankfurt Exchange
Standard and Poor's Midcap 400 (SP400)	400 U.S. midcap companies	Hang Seng	46 large companies listed on the Hong Kong Stock Exchange
NASDAQ Composite Index	Over 3,000 stocks that are traded on the NASDAQ	FTSE 100	100 largest companies traded on the London Stock Exchange

15. Display Slide 15: Tell students that these indexes are sorted by the market cap of the companies that largely (though not exclusively) make them up.

Large Cap	Dow Jones Industrial Average (DJIA)	30 large and well-known companies selected by the editors of the Wall Street Journal
	Standard and Poor's 500 (SP500)	500 leading U.S. companies (mainly large caps)
Mid Cap	Russell Midcap	Approximately 800 U.S. midcap companies
	Standard and Poor's Midcap 400 (SP400)	400 U.S. midcap companies
Small Cap	Russell 2000	Stocks of approximately 2,000 of the smallest U.S. companies
	Russell Small Cap Completeness	The components of the Russell 3000 excluding any members of the SP500
Broad Market	NASDAQ Composite Index	Over 3,000 stocks that are traded on the NASDAQ
	Russell 3000	Largest 3,000 companies in the U.S.

16. Display Slide 16. Remind students of the categorization activity. Indexes that represent sectors of the economy are constructed of related stocks.

Closure

1. Why are stocks also referred to as shares of ownership?
   By purchasing stock in a company, an investor is buying ownership in that company. This entitles the investor to participate in the profits or losses of the company through capital appreciation or depreciation and dividends. (Generally, stockholders also have the right to vote for members of the board of directors.)
2. How do dividend payments help stockholders build wealth?
   Dividend payments are the share of profits distributed by companies to their shareholders. Dividends are distributed as cash, which increases an investor's net worth once it is received.
3. If a company goes bankrupt and its stock price goes to zero, what happens to its shareholders?
   If a company's stock price goes to zero, investors lose all of the money they have invested in the company. However, investor losses are capped at the amount they invested, they cannot lose more than that.
4. What is the difference between the New York Stock Exchange and the Dow Jones Industrial Average?
   The New York Stock Exchange is one of the institutions that facilitate the market for stocks. Stock exchanges bring together buyers and sellers of stock. The Dow Jones Industrial Average is a stock index. It is made up of 30 large U.S. companies chosen by the editors of the Wall Street Journal. Stock indexes are baskets of stocks selected to represent some aspect of the market that allow investors to track the performance of groups of stocks.

Assessment

Distribute copies of Handout 1 and Handout 2 and allow students to complete independently.

Sources

Movie ticket prices from the National Association of Theatre Owners
http://www.natoonline.org/statisticstickets.htm

Price of meal out calculated using 2005 national average cost of restaurant meals from Zagat
http://money.cnn.com/2005/12/22/pf/meals_averagecost/

Adjusted for other years using Consumer Price Index for All Urban Consumers: Food Away from Home
http://research.stlouisfed.org/fred2/series/CUUR0000SEFV

Cost of two gallons of gasoline: Energy Information Administration
http://www.eia.gov/oil_gas/petroleum/data_publications/wrgp/mogas_history.html

Name:____ Date:_____________

Handout 1: Stock Assessment

1. What is a stock?

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2. What is a stock exchange? Give one example.

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3. What are two ways stock ownership builds wealth?

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4. Answer each of the following questions about stock with one specific piece of information an investor would gather.

   a. *Who?*____

   b. *What?*____

   c. *When?*____

   d. *Where?*____

   e. *How much?*____

5. What is market capitalization and how is it calculated?

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6. What is the difference between a stock exchange and stock index?

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Lesson 5 – Save and Invest: Stocks—Owning Part of a Company

Handout 1: Suggested Answers

1. What is a stock?
   A stock is a financial asset that represents a piece, or share, of ownership in a company. As an owner, the investor is entitled to reap the benefit of a company's success or suffer the losses of its failure.

2. What is a stock exchange? Give one example.
   A stock exchange is the institution that creates the market where stocks are bought and sold. Two U.S. exchanges are the New York Stock Exchange and the NASDAQ. International exchanges include the London Stock Exchange and the Tokyo Stock Exchange.

3. What are two ways stock ownership builds wealth?
   Stock ownership builds wealth (increases net worth) through capital appreciation and dividends. Capital appreciation is the increase in net worth created through a rise in stock price. Dividends are the portion of a company's profits that is returned to shareholders in cash, at the discretion of the company.

4. Answer each of the following questions about stock with one specific piece of information an investor would gather.
   a. Who? Name of company, ticker symbol, CEO
   b. What? Primary business line or brand
   c. When? Company founding, dividends payment schedule
   d. Where? Headquarters location, primary markets
   e. How much? Revenue, profit, share price

5. What is market capitalization and how is it calculated?
   Market capitalization is the value of a company's stock. It is calculated by multiplying the number of outstanding shares of stock by the share price of the stock.

6. What is the difference between a stock exchange and stock index?
   A stock exchange is the institution that creates a market for stocks. A stock index is a basket of stocks selected to represent some sector or aspect of the market or economy.

Name:____ Date:____________

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Handout 2: Stock Market Research

1. Select two companies from the list of stocks included on the Dow Jones Industrial Average. Write the names of the companies below.

   a. ____________________________________

   b. ____________________________________

2. Use newspapers, corporate websites and online news sources to research information about both of the companies you selected. Information should include:
   a. Name of company
   b. Description of the company and its business
   c. Major products or services that the company produces
   d. Name of president and CEO (may be the same person) along with other leaders that you feel are important.
   e. Information about the performance of the stock, including price, dividends and yield over the past year.

3. Create an investor information sheet about both of your companies. Provide information that a person should consider before purchasing stock in the company. The sheet should include:
   a. Information about the company that you gathered in your research
   b. Graph of the stock price for the last year
   c. Major competitors or related companies
   d. Your assessment of the future prospects for the company (see note)

Note: When you assess the future of the company, consider economic developments that would help the company make profits and grow in coming years. Also, consider threats to the company's future growth or profitability. For instance, does the company produce goods or services that are increasingly popular? Are competitors from around the world threatening the company's market share?