

## Lesson 7

# Save and Invest: Diversification

### Lesson Description

In this lesson, students will review the basics of stocks, bonds and indexes as a basis for understanding diversification of investments. Using interactive activities, students will explore the benefits of diversification. Using the analogy of a layered cake, students will be introduced to the concept of mutual funds as a tool of diversification. Students will compare index mutual fund and managed mutual fund to understand two possible ways mutual funds are constructed. Last, using fictitious mutual fund fact sheets, students will learn how to gather key information about mutual funds and prepare for the investment simulation in Lesson 8.

### National Standards in K–12 Personal Finance Education ([www.jumpstart.org](http://www.jumpstart.org))

#### *Saving and Investing*

Standard 3: Evaluate investment alternatives.

### Instructional Objectives

Students will:

- Describe the benefits of diversification.
- Examine the role of mutual funds in personal investing.
- Compare index mutual funds and managed mutual funds.
- Identify key information about mutual funds from a fund fact sheet.

### Time Required

One 50-minute class period

### Materials Required

SmartBoard

Notebook File

Copies of the Building Wealth Mutual Fund Fact Sheets

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

3. Display Slide 3. Use the interactive on the slide and the information below to review the financial assets covered in Building Wealth in the Classroom Lessons 5 and 6.<sup>1</sup>
- Touch the stock certificate on the slide to display the definition of a stock.
    - Remind students that stocks are the financial asset, called shares, that represent a piece of ownership in a company and allow the owner to participate in the profits and losses of the company.
    - Explain that stocks build wealth two ways, through appreciation and dividends.
    - Appreciation is when the stock price rises above the purchase price.
    - Dividends are the portion of the company's profits returned to the shareholders in the form of a cash payment.
  - Touch the bond on the slide to display the definition of a bond.
    - Remind students that bonds are financial assets representing a loan to an institution.
    - Explain that, in general, bonds build wealth through the regular interest payments they pay to bond owners.
    - When a bond matures, bond owners receive the face value of the bond.
4. Display Slide 4. Use the flow chart on the slide to review how stocks are categorized.
- 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.
    - Small cap companies have a market value of less than \$1 billion (for example, Papa John's and Buffalo Wild Wings). There are many more small cap companies traded than most people have heard of.
  - Touch the market-capitalization circle again 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 again to display the third 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 "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).

<sup>1</sup> If necessary, slides can be incorporated from Lessons 5 and 6 to further reinforce the definitions of stocks and bonds. Lesson 5 Slide 7 is the interactive demonstrating how stocks build wealth. Lesson 6 Slide 8 is the interactive demonstrating how bonds build wealth.

- 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.
  - Sector classifications are subjective.
- Touch the “Sector” circle three times to display three common sector classifications.
  - Technology
  - Manufacturing
  - Services

5. Display Slide 5. Use the graphic on the slide and the information below to review the concept of indexes.

- 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.

6. Display Slide 6. Use the graphic on the slide and the information below to review the concept of stock indexes.

Stock indexes function in the same manner as any other index. A basket of selected investments is compiled to provide insight or information into the market or sector of the market the index is designed to represent. Examples of major U.S. stock indexes are:

- Dow Jones Industrial Average(DJIA): Thirty large and well-known companies selected by the editors of the *Wall Street Journal*.
- Standard & Poor’s 500 (SP500): Five hundred leading U.S. companies. The index focuses on large caps.
- NASDAQ Composite Index: Over 3,000 companies, all traded on the NASDAQ.

7. Display Slide 7. Use the graphics on the slide and the information below to introduce students to the concept of diversification.

- Point out the one basket with many eggs on the left. Ask students what is the risk in “putting all your eggs in one basket?” Answers will vary but should include:
  - If something happens to the basket, you lose everything.
- Point out the three baskets on the right with fewer eggs per basket. Ask students what the benefit would be in dividing the eggs in the first basket into the three baskets on the right. Answers will vary but should include:
  - If something happens to one basket, the other two might still be OK.
  - The risk of a total loss is lessened.
- Ask students what else, other than spreading the eggs out into many baskets, might help to reduce the risk of losing all the eggs. Answers will vary but could include:
  - Keeping the baskets in different places.
  - Not carrying all the baskets at once.

Explain that diversification is the process of applying the concept of many baskets with few eggs to investing. By purchasing assets of many different types, including stocks and bonds, and in different categories, sizes, locations and sectors, investors may be able to reduce the risk of a group of investments. This group of financial investments is called a **portfolio**.

8. Display Slide 8. Use the Flash application on the slide to reinforce the need for diversification.

Tell students to take out a sheet of paper for an investment game. Ask them to write the years 2008–2011 on the paper. In the game, they will be picking a major index, stock or bond, in which to put all their “eggs.” The indexes they can choose from are explained below.

<b>Standard and Poor’s 500 (SP500)</b>	Stocks from 500 leading U.S. companies (mainly large caps)
<b>Russell 2000</b>	Stocks from approximately 2,000 of the smallest U.S. companies
<b>Standard and Poor’s Midcap 400 (SP400)</b>	Stocks from 400 U.S. midcap companies
<b>MSCI EAFE (pronounced eef ah)</b>	Stock from just under 1,000 companies from Europe, Australasia and the Far East
<b>Barclays capital U.S. Bond Aggregate</b>	Broad-based bond market index that measures performance of many U.S. and a small portion of international bonds.

After students have made their 2008 selections, begin the game.

- Touch the arrow at the bottom right to advance to the 2008 order of returns. The baskets will sort in order of performance, better performance toward the top, worse toward the bottom.
- Ask students to write down where the basket they chose was in the order, 1 being at the top, 5 being at the bottom.
- Tell students they are welcome to change baskets and ask them to write down the reason they choose to change, if they do.

Repeat the process until the 2011 results are displayed.

- Ask students to average their outcome over the four years.
- Ask if anyone changed baskets every year. Have a couple of students give their explanation of why they changed baskets and what their average position over the time period was.
- Ask if anyone did not change baskets. Have them explain their reasoning for staying constant and give their average to the class.
- Ask students to give any pattern they saw and what the best strategy would have been.

Explain that guessing in which basket to put your eggs still leaves you with only one basket at any time. This is **not** diversification. Diversification is the process of spreading assets over many investments of different types and categories to reduce the overall risk of the portfolio.

Some common strategies for the game:

Strategy	2008	2009	2010	2011	Average
Last Year's Best	5	5	2	4	4
Last Year's Worst	2	2	5	1	2.5
EAFE	5	2	4	5	4
SP400	3	1	2	3	2.25
BC U.S. Bond Agg.	1	5	5	1	3
SP500	4	4	3	2	3.25
Russell 2000	2	3	1	4	2.5

9. Display Slide 9. Use the Flash application on the slide and the information below to explain ways to diversify a portfolio.

- Touch the BW stock certificate to display information about diversifying through individual stocks.
  - Using the categories discussed earlier, explain that using stocks from different locations, different sectors and of different capitalizations, an investor could diversify a stock portfolio.
- Touch the bond on the bottom right to display information about diversifying bonds.
  - Investors can purchase bonds from different issuers (to protect against the default of any one) and with different maturities (to mitigate the risk of changing interest rates).

By using a portfolio of both stocks and bonds, both diversified appropriately, investors can spread their investments across asset types and help reduce risk.

- Touch the three mutual fund fact sheets in the top right to display information about how investors can diversify through mutual funds.
  - A mutual fund is a portfolio that has already been diversified.
  - Investors can buy shares of this already diversified portfolio to help them achieve diversification in their own portfolio.

10. Display Slide 10. Use the graphic on the slide and the information below to define and explain mutual funds.

- Tell students that mutual funds are investments that pool large amounts of money from many different investors to build a portfolio.
- They invest in assets like stock, bonds and real estate.
- Investors receive shares whose value is derived from the investments within the fund.

Use the layer cake to explain that a mutual fund can be thought of like a layered cake. Tell students that each layer represents an investment that the mutual fund has purchased. Ask students which layers they get to eat when they cut out a slice of the layer cake.

Explain that when investors purchase shares of a mutual fund, they do not get any specific underlying investment; they get a piece of each underlying investment, in the proportion the fund holds them as

a whole. For example, if a fund purchases 10 different stocks in equal proportions, when an investor purchases a share of the mutual fund, that share contains 10 percent of each of the underlying companies.

11. Display Slide 11. Use the graphic and interactive on the slide to explain the two main types of mutual funds available to investors.

- Remind students that a stock index is a basket of stocks selected to represent the market or some sector the market.
- Explain that some mutual funds, called **index funds**, seek to replicate the performance of an index.
- For index funds, the choice of investments making up the funds and the proportion of those investments within the fund are directed by the index components.

Explain to students that in addition to index funds, there is a second type of mutual fund called an **actively managed mutual fund**.

- Actively managed funds do not seek to replicate the performance of an index.
- The goals of an actively managed mutual fund are often conveyed to investors through an investment objective.
- The investment choices and proportions are decided on by the fund manager(s) to meet the fund's investment objective.
- The managers use research and analysis to decide which investments will be included in the fund.
- Touch the managers (left to right) to see how this group of managers makes a decision for their portfolio.

12. Display Slide 12. Use the kitchen graphic on the screen to explain how a person could construct a portfolio using mutual funds.

- Explain to students that a portfolio is all the financial investments an individual owns.
- Diversifying a portfolio requires understanding how different investments perform in different markets.
- Only by purchasing investments in different asset classes and categories can an investor diversify their portfolio.

Using the kitchen, explain how a portfolio can be looked at very similarly to an individual mutual fund.

- An individual mutual fund that seeks to replicate the returns of a large cap index only has one component of diversification within it.
  - The fund is providing many different companies whose market cap is similar.
- A fully diversified portfolio would have more than one mutual fund, each with a different objective.
- When a person builds a portfolio of mutual funds, they are deciding which cakes (mutual funds) and how much of each cake to add together to meet their specific objectives.

13. Display Slide 13. Use the Flash application on the screen and the information below to explain how to gather information about a mutual fund from its fund fact sheet.

- The interactive is a touch to magnify. You must keep your finger in contact with the board to view the magnified components.
- Start by touching the mutual fund name (top right).
  - Tell students that this is the Building Wealth Large Cap Fund.
  - Ask students if they can tell the class anything about this fund.
- Touch the left side, just below the Building Wealth blocks to display the fund's investment objective.
  - Ask students if this sounds like an index fund or an actively managed fund.

- Index Fund
  - Ask students which index's returns it is seeking to replicate.
- The Building Wealth Large Cap Index
- Touch below the investment objective to show the fund's lifetime statistics.
  - Explain that inception date is the date the fund was created.
  - Standard deviation is a measure of volatility, or how much a stock goes up and down, that shows how much the fund varies from the mean. About two-thirds of the returns will fall within one standard deviation above and below the average lifetime returns.
  - The one-year minimum and one-year maximum give investors an idea of the fund's best and worst performance.
- Touch the pie chart in the bottom left.
  - This is the industry breakdown of the fund.
  - It gives investors an idea of how diversified the fund is in its underlying investments.
- Touch the line graph at the top right.
  - This is a visual representation of the returns of the funds over the past 10 years.
  - It can help investors visualize the volatility of the fund.
- Touch the table directly below the line graph.
  - This is the one-, three-, five- and 10-year average annual return.
  - This gives investors an impression of how they would have fared had they remained invested in the fund the entire timeframe.
- Touch the next table down.
  - This is the individual calendar year returns for the past 20 years.
  - Investors can see the annual returns they would have experienced if they had been invested in each of the previous 20 years.
- Touch the mountain chart at the bottom right.
  - This chart shows the hypothetical growth of \$10,000 had it been invested in this fund for the entire 10-year period.
  - In the case of this investment, in spite of the volatility, the investor would have grown their \$10,000 to almost \$40,000.

**14.** Display Slide 14. Use the interactive on the slide and the information below to introduce each of the five Building Wealth Mutual Funds. These funds are the basis of the investment simulation students will be participating in.

- Touch each of the fund fact sheets to display a larger image of the sheet.
- Have students take note of the objectives of each fund and its historical performance.
- Ask what the differences are between the funds. Answers will vary but could include:
  - They focus on different sized companies.
  - They focus on different locations in the world.
  - One focuses on bonds.

Explain that the goal tomorrow is to make the most money by choosing the best investments. Hand out the Building Wealth Mutual Fund Fact Sheets for each student to take home and decide on their own mix.

## Closure

**1.** What is diversification?

*Diversification is the process of spreading assets over many different types and categories of investments to reduce the overall risk of the portfolio. Diversified portfolios own assets of different sizes (such as small cap, mid cap and large cap), locations (such as domestic and international), sectors (such as manufacturing, technology and services) and classes (such as stocks and bonds).*

**2.** How do mutual funds help investors diversify?

*By using many investors' money to purchase securities, and then distributing shares of the fund to those investors, mutual funds allow people to purchase many different investments without picking each one themselves. Mutual funds have specified investment objectives that can be used to build a portfolio that is diversified across asset classes, sectors and locations.*

**3.** What is the main difference between an index mutual fund and a managed mutual fund?

*Index mutual funds seek to track the performance of a specific index by purchasing the same securities in the same proportions as the index they are based on. They are not actually an investment in the index.*

*Managed mutual funds determine their investment mix based on the research and ideas of a manager, or group of managers, seeking to meet an investment objective. Managed mutual funds do not seek to track the performance of an index.*

## Assessment

The assessment for Lesson 7 is the simulation contained in Lesson 8.