

Lesson by

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Lesson Description

In this lesson, students are given a portfolio of investments, and they assess the relative risk associated with the products in their portfolios. They later determine which savings and investment instruments might be most suitable for clients of different ages and economic status.

Time Required

45 minutes

Content Standards

National Standards in Personal Finance

Financial Responsibility and Decision Making: Apply reliable information and systematic decision making to personal financial decisions

- Benchmark 1, Grade 12: Financially responsible individuals accept the fact that they are accountable for their financial futures.
 - Benchmark 2, Grade 12: Attitudes and values affect financial decisions.
 - Saving and Investing: Implement a diversified investment strategy that is compatible with personal goals.
 - Benchmark 2, Grade 12: Generally, the more uncertain the future value of an asset, the greater the return.
 - Benchmark 5, Grade 12: Diversification reduces risk by spreading assets among several types of investments and industry sectors.
 - Benchmark 7, Grade 12: Mutual funds pool investors' deposits to purchase securities.
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Concepts

Portfolio
Diversification
Risk and Reward

Objectives

Students will:

- Define portfolio and diversification.
- Determine the relative risk and reward associated with different activities.
- State the relative level of risk and reward of different savings and financial investment instruments.

Materials

- Smart board slides (Diversification)
- Handout 1 – cut apart and place each term in a plastic egg
- Handout 2 for each seated student (10 students will be standing)
- Handout 3 – one scenario for each of 10 students
- Handouts 4, 5 and 6 – one copy for teacher
- Two plastic eggs per student
- One basket per group
- One sheet of flip-chart paper per group
- One marker per group
- Candy bar or other small prize for each student in the group with the most eggs
- Masking tape

Preparation

Fill each egg with an “investment” cut from Handout 1.
Hide the eggs prior to students entering the classroom.

Procedure

1. Tell the students that today they will participate in an egg hunt. Organize students into small groups. Provide one basket for each group. Explain that you will provide a prize to each student in the group that collects the most eggs. Tell students to keep the eggs closed when they find them and bring them back to the group.
2. When students have completed the hunt, direct them to sit in their groups. Award the prizes to the students in the group that collected the most eggs.

3. Announce that the students did a good job collecting the eggs but that each group has made a big mistake — they have placed all of their eggs in one basket. (Students will have placed the eggs in the baskets because the baskets are handy. If some groups have not used the baskets, direct your criticism toward those who have.)
4. Display slide 1. Ask students what it means to place all of their eggs in one basket.
5. Display slide 2. Explain that having all of your eggs in one basket makes you vulnerable to total loss. If you drop the basket, all of your eggs could break.
6. Distribute a piece of flip-chart paper and a marker to each group. Explain that each egg contains a financial investment. Ask students in each group to open their eggs and list their investments on their chart paper.
7. Explain that financial investors often use the analogy of the eggs and the basket to make a point about portfolio diversification. Display slide 3. Define a **portfolio** as a collection of financial investments held by an individual or financial organization. **Diversification** means to invest in various financial instruments in order to reduce risk. A diversified portfolio has a balance of financial investments. It might contain some lower-priced, more volatile stock and some higher-priced stock in strong, stable companies. It might contain stock in companies that offer products that sell well in good economic times, such as automobiles, while also containing stock in companies that offer products that sell, even when times are bad, such as prescription drugs.
8. Explain that it is important that an investment portfolio contain investments that carry risk suitable for the investor. **Risk** is the chance of a loss. As individuals, we tolerate risk differently. Some people are willing to accept more risk, financially or personally. For example, entrepreneurs often take significant financial risks when starting a business. Entrepreneurs also take on personal risks, such as the risk to their reputations. It can be embarrassing to have your idea proven wrong. We accept financial risk and personal risk because of the potential reward if the gamble pays off.
9. Invite ten students to the front of the room and provide a copy of handout 2 to each seated student. Give each of the standing students one scenario from handout 3. Instruct the ten students to form a line ranking the scenarios, with one end being the scenario that provides the greatest risk and reward and the other end showing the scenario with the lowest risk and reward. As the ten students determine their positions in the hierarchy of risk and reward, instruct the seated students to rank each scenario, 1 through 10, with 1 being the least risky and 10 being the most.
10. Beginning with the lowest level of risk and reward, ask each of the standing students why he or she took this position among the scenarios. Discussion points for each scenario are contained in Handout 4. (The scenarios might not appear in the same order as shown here; however, they should be close.)


11. Explain to the students that, generally speaking, the higher the risks in life, the greater the potential rewards. This makes sense because people want to be compensated for the risks they take, and a higher reward is that compensation. This is the case with financial investments as well. The more uncertain the future value of an investment, the greater the return must be to compensate you for taking the risk on that investment.
12. Display slide 4 and discuss the following questions:
 - Would you bet \$100 on a coin flip if the deal were that you keep your \$100 and receive an additional \$5.00 for heads but lose \$100 for tails?
 - Would you bet \$100 on a coin flip if the deal were that you keep your \$100 and receive an additional \$100 for heads but lose \$100 for tails?
 - Would you bet \$100 on a coin flip if the deal were that you keep your \$100 and receive an additional \$400 for heads but lose \$100 for tails? Take a poll of students who are willing to take the first deal, the second deal and the third deal. Students can vote more than once because any student who would be willing to take the first deal would also be willing to take the second and the third. Point out that fewer students took the first deal than the second, and fewer took the second than the third. Explain that some people are more risk-averse than others. People who are risk-averse have an aversion to risk. They don't like it. Optional: Allow students to state which deal they would accept and then flip the coin several times to see if it would have paid off.
13. Display slide 5 and discuss each financial instrument. Discussion points are available on Handout 5.
14. Refer students to the portfolios they developed on their flip-chart paper. Instruct them to write the type of financial instrument each item is using the list of financial instruments on slide 5.
15. Display slide 6 and allow students time to rank each of their investments according to risk, using the ranking scheme on the slide. For example, a certificate of deposit would be labeled "3." When students have completed the ranking, ask if there are any large gaps in their ranks. Explain that it isn't necessary, and it sometimes isn't even advisable, to have each level of risk represented in a portfolio.
16. Explain that investment brokers are required to develop a risk profile for their clients to determine what level of risk is appropriate. Display slide 7 and explain these general guidelines.
 - Invest only what you can afford to lose. If you must have \$20,000 to start college in two years, and you have \$18,000 towards that goal, you might look for a two-year certificate of deposit. You probably won't earn \$2,000 from the CD, but you will earn 2% or 3% and, more important, you will not lose any of your principal.

- Invest at your comfort level. If you are invested in the stock market and fluctuations in the stock market keep you up at night, then you should sell your stock and stay out of that market.
 - Invest according to your age. Younger people can take on more risk than older people. This is not to say that young people are bold and older people are timid; however, perhaps they should invest that way. People in the early earning years have time to make up losses they may incur on riskier investments. People in their later earning years—who are likely preparing to retire—cannot afford to take risks that they can't make up through wage earnings before they retire.
17. Display slide 8 and explain that some people find that investment in mutual funds is a less complicated way to have a diversified portfolio. Read through the points on the slide and explain that people can still invest at different levels of risk with mutual funds. For example, there are income mutual funds. These funds invest in strong companies that pay dividends and can provide an income to the fund holders. Another type of mutual fund—a growth fund—contains stocks that carry a bit more risk. The goal is to have the stocks increase in value, therefore, increasing the value of the mutual fund.

Closure

1. Display slide 9 and instruct each group to discuss which types of investments might be most suitable. *(Answers will vary, but students should recognize that the young person in the first scenario, has a long time horizon to make up any losses on his investment. He should invest in stocks. In the second scenario, the person is young, but has an immediate need for the money. Therefore, he should place the money in a CD or savings account. In the third scenario, the person is young, but, again, has an immediate need for the money. A CD or savings account would be appropriate.)*
2. Provide each group with a client scenario from Handout 6 and instruct them to adjust their group's portfolio to the appropriate risk for their client.
3. Ask the following questions:
 - What is a portfolio? *(a collection of financial investments held by an individual or financial organization)*
 - What is diversification? *(investing in various financial instruments in order to reduce risk)*
 - What is the relationship between risk and reward? *(The more uncertain the future value of a financial investment, the greater the possible return.)*

4. Display slide 10. Instruct students to come forward and hit a circle to compare the hidden financial instruments. Students should state which of the two is riskier, in general. Use the following list to check the students' answers for accuracy.

Least Risk  Most Risk	Savings account
	Checking account
	Certificate of deposit
	U.S. Government bond
	Municipal Bond and Special Purpose Bond
	Corporate bond
	Income mutual fund
	Growth mutual fund
	Blue Chip stock
	Penny stock
	Real Estate
	Art collection
	Gold and silver
	Stuffed animal collection

Note: For this example, the commodities, gold and silver, are listed as more risky than the art collection and less risky than the stuffed animal collection. Students can legitimately argue between the art collection and the commodities. In general, collectibles are less risky than commodities, but that depends on the collectible, the commodity and the market.

Handout 1

Municipal bond	Cisco® stock	Caterpillar® stock	Dow index fund	Kraft Foods® stock
Small cap mutual fund	Bond mutual fund	Apple® stock	Gold	Merck® stock
Certificate of deposit	Corporate bond	Procter and Gamble® stock	Silver	DuPont® stock
Income mutual fund	Residential rental property	IBM® stock	Savings account	General Electric® stock
Commercial property	American Express® stock	Residential property flip	Checking account	Disney® stock
Government securities	Coca-Cola® stock	Art collection	3M® stock	S&P 500 index fund
Dow index fund	Kraft Foods® stock	Municipal bond	Cisco® stock	Caterpillar® stock
Gold	Merck® stock	Small cap mutual fund	Bond mutual fund	Apple® stock
Silver	DuPont® stock	Certificate of deposit	Corporate bond	Procter and Gamble® stock
Savings account	General Electric® stock	Income mutual fund	Residential rental property	IBM® stock
Checking account	Disney® stock	Commercial property	American Express® stock	Residential property flip
3M® stock	S&P 500 index fund	Government securities	Coca-Cola® stock	Art collection

Handout 2

Rank the scenario from 1 through 10, with the lowest risk/lowest reward scenario as 1 and the highest risk/highest reward scenario as 10.

_____ John is a high school sophomore who plays soccer year round, indoor and outdoor, for several teams. He hopes to earn a full college scholarship.

_____ Jeanita is a skateboarding champion. She is working to perfect the double-blind rollover flip, a move she has invented for competition. She has entered a contest with a \$5,000 first-place prize.

_____ Greg saved his money and bought a ride-behind lawn mower for \$750. He hopes to earn \$150 each weekend cutting ball fields.

_____ Benjamin studied for an hour to prepare for the math quiz today. He earned a gold star for his perfect score.

_____ Lyla bought two cases of water to sell to people in line waiting to enter the mall on the day after Thanksgiving.

_____ Paulo parted his hair on the opposite side this morning. Hannah told him his hair looks nice.

_____ Nate put a quarter in the gum machine and got a piece of gum.

_____ Matt heard the new movie, *War of Words*, is very good, so he bought a ticket. He liked it.

_____ Kyle warned Andrew that Bella was way too hot to go to the prom with him. Andrew asked Bella anyway. She said no.

_____ Lena is 13 and an aspiring gymnast at level 10 in the Junior Olympics program. Her practice sessions average 40 hours each week. She has a tutor to keep her at grade level in her schoolwork. She hopes to make the 2012 Olympic team.

Handout 3

John is a high school sophomore who plays soccer year round, indoor and outdoor, for several teams. He hopes to earn a full college scholarship.

Handout 3, cont.

Jeanita is a skateboarding champion. She is working to perfect the double-blind rollover flip, a move she has invented for competition. She has entered a contest with a \$5,000 first-place prize.

Handout 3, cont.

**Greg saved his money and
bought a ride-behind lawn
mower for \$750. He hopes to
earn \$150 each weekend
cutting ball fields.**

Handout 3, cont.

**Benjamin studied for an hour
to prepare for the math quiz
today. He earned a gold star
for his perfect score.**

Handout 3, cont.

**Lyla bought two cases of water
to sell to people in line waiting
to enter the mall on the day
after Thanksgiving.**

Handout 3, cont.

**Paulo parted his hair
on the opposite side this
morning. Hannah told him
his hair looks nice.**

Handout 3, cont.

**Nate put a quarter in the
gum machine and got
a piece of gum.**

Handout 3, cont.

**Matt heard the new movie,
War of Words, is very good,
so he bought a ticket.
He liked it.**

Handout 3, cont.

**Kyle warned Andrew that
Bella was way too hot to go
to the prom with him.
Andrew asked Bella anyway.
She said no.**

Handout 3, cont.

Lena is 13 and an aspiring gymnast at level 10 in the Junior Olympics program. Her practice sessions average 40 hours each week. She has a tutor to keep her at grade level in her schoolwork. She hopes to make the 2012 Olympic team.

Handout 4

Nate put a quarter in the gum machine and got a piece of gum.

- What was Nate's risk? (*The machine might have malfunctioned.*)
- What was his reward? (*the gum*)
- Do you think Nate thought of his gum purchase as a risk? (*No. The risk is low and the reward is small, so taking this risk does not require much analysis.*)

Paulo parted his hair on the opposite side this morning. Hannah told him his hair looks nice.

- What was Paulo's risk? (*People might have ridiculed his new hair style.*)
- What was Paulo's reward? (*Hannah told him she liked his hair style.*)
- Do you think Paulo thought of his hair style change as a risk? (*Yes, but a small one.*)

Matt heard the new movie, *War of Words*, is very good, so he bought a ticket. He liked it.

- What was Matt's risk? (*He may have wasted his money on a movie he didn't like.*)
- What was Matt's reward? (*He liked the movie.*)
- Do you think Matt thought of his movie purchase as a risk? (*Yes, but a small one.*)

Benjamin studied for an hour to prepare for the math quiz today. He earned a gold star for his perfect score.

- What was Ben's risk? (*He may have studied and still received a poor grade.*)
- What was Ben's reward? (*He aced the test.*)
- Do you think Ben thought of his study time as a risk? (*Yes. He probably thought about the opportunity cost of devoting so much time to studying.*)

Lyla bought two cases of water to sell to people in line waiting to enter the mall on the day after Thanksgiving.

- What was Lyla's risk? (*buying water for resale*)
- Was Lyla rewarded for taking this risk? (*We don't know.*)
- What could have gone wrong with Lyla's plan? (*It may have poured rain and forced everyone to stay in their cars. There may have been another vendor there selling better beverages. A security guard may have run her off.*)
- Was Lyla's risk relatively small or large? (*relatively small*)
- Was Lyla's reward relatively small or large? (*relatively small*)

Handout 4, cont.

Kyle warned Andrew that Bella was way too hot to go to the prom with him. Andrew asked Bella anyway. She said no.

- What was Andrew's risk? (*He risked rejection from Bella.*)
- Was Andrew rewarded for taking this risk? (*No.*)
- Do you think Andrew thought that asking Bella to the prom was a big risk? (*Yes.*)
- Would a date with Bella have been a relatively big reward? (*Andrew probably thought so.*)

Greg saved his money and bought a ride-behind lawn mower for \$750. He hopes to earn \$150 each weekend cutting ball fields.

- What was Greg's risk? (*a \$750 investment in the lawn mower*)
- What was Greg's reward? (*He hasn't realized a reward yet. He hopes to earn \$150 each weekend.*)
- Would this be a relatively large risk for you? (*Answers will vary, but many teens would see a \$750 investment as a big risk.*)
- Is the potential reward worth the risk? (*Yes. There is the potential to earn a lot of money.*)

Jeanita is a skateboarding champion. She is working to perfect the double-blind rollover flip, a move she has invented for competition. She has entered a contest with a \$5,000 first-place prize.

- What is Jeanita's risk? (*She is risking time practicing, and she is risking injury.*)
- If Jeanita realizes her reward, what will it be? (*\$5,000 and recognition as an accomplished skateboarder*)
- Would you classify her risk and reward as relatively high or low? (*both are relatively high*)

John is a high school sophomore who plays soccer year round, indoor and outdoor, for several teams. He hopes to earn a full college scholarship.

- What risk is John taking? (*He is devoting all of his spare time to soccer. There are many other boys also competing for soccer scholarships.*)
- What is John's potential reward? (*He could win a college scholarship.*)
- Is John taking a large risk? (*Answers may vary. Students may say there is little risk in his decision to play soccer because he probably enjoys it. Others may recognize that there is a risk of injury or burn out. There is a risk that he will not get the scholarship.*)
- Does his risk match his potential reward? (*Answers will vary depending on how students view the risk.*)

Handout 4, cont.

Lena is 13 and an aspiring gymnast at level 10 in the Junior Olympics program. Her practice sessions average 40 hours each week. She has a tutor to keep her at grade level in her schoolwork. She hopes to make the 2012 Olympic team.

- What is Lena's risk? *(She is putting all of her time into practice.)*
- What is Lena's reward? *(She could participate in the Olympics.)*
- What could go wrong with Lena's plan? *(She could be injured. She could burn out. She could fail to make the Olympic team. An international incident could keep the U.S. from participating in the Olympics.)*
- Does the risk match the reward? *(Yes, this is high risk, but the potential reward is high.)*

Handout 5

Checking accounts in FDIC member banks are insured. Your principal will always be available to you, but you will receive little or no return. It may seem that holding cash would be just as prudent; however, cash in your home or on your person is vulnerable to loss or theft.

Savings accounts in FDIC member banks are insured up to \$250,000. You will never lose your principal, but your return will be relatively small.

Certificates of deposit are very safe and offer a greater return than on savings accounts, but instant access carries a penalty.

U.S. Government Bonds are backed by the full faith and credit of the U.S. Government. You will not lose your principal; there is no chance of default. The return is greater than savings accounts or Certificates of Deposit. When you buy a U.S. Government bond you are lending your money to the government.

Municipal Bonds or Special Purpose Bonds are not backed by the federal government. There is seldom a default on these bonds, but it can happen. The risk is low, and the return is relatively low. However, there are tax benefits.

Corporate Bonds are not insured. They are debt issued by corporations. If a company wants to borrow money to finance a project, it might borrow from the public by issuing a bond. The return will be greater than on a government bond because there is a risk of default.

Mutual Funds are pools of cash, bonds and/or stocks and provide a means of diversification. Some funds are more risky than others. That is to say some have a more uncertain future value. For example, income mutual funds invest in large, stable and profitable companies. Stock prices in these companies are high because the future value of these companies is considered to be high. Growth mutual funds invest in companies that are not quite as large or stable or profitable. Investors expect these companies to grow, but their future value isn't considered as certain. So, income mutual funds would be considered less risky than growth mutual funds. The return varies by fund; however, returns are generally higher than government bonds or insured savings.

Stocks are part ownership in a company. Some stocks are riskier than others. Generally, the lower the price, the higher the risk. For example, Blue Chip stocks are shares in what investors consider to be very stable and profitable companies. Those stocks trade at high prices. On the other hand, penny stocks are shares in companies that investors consider to be volatile and risky. Those stocks trade at low prices to attract investors. Potential returns on stocks are greater than those from bonds or insured savings.

Real estate is residential or commercial property. The recent housing bubble illustrated the risk in real estate. For those who sold before the bubble burst, the returns were quite high.

Collectibles vary greatly, and so do their potential for risk and return. Some art, coins, stamps... have provided very worthwhile returns while, say, Beanie Babies - not so much.

Commodities, such as gold and silver, are speculative. In general, their values grow in times of economic uncertainty but returns are relatively low during steady economic times.

Handout 6

Sam is 35 years old. He is an accountant with a large firm. He earns \$100,000 annually. His savings goals are to send his two children to college in 10 and 12 years and to retire at age 66.

Connor is 65 years old and recently retired. He has income from a pension, his 401(k) and rental property.

Sarah is 55 years old and would like to retire at 66. She is single and has no dependents. Bradley is 29 and single. He is an electrician earning \$58,000 annually. He had no particular savings goal; he just wants to amass as much money as he can.

Rikita and Lowel are a married couple in their late-40s. They have twin girls heading off for college next year. They have saved \$60,000 for the girls' education, which should cover two years of community college followed by two years of state school. The next expense will be retirement, with perhaps a wedding or two within the next 15 years.

Lyla is 15 years old. Her parents and grandparents matched whatever she saved over the years. She now has \$4,000 and would like to invest it. She has no specific plan for using the money.