

What is Risk?

Suggested Grade & Mastery Level

High School - all levels

Suggested Time

45- 50 minutes

Teacher Background

Before students can become informed investors, they must understand that every investment carries risk. Each investor must determine his/her risk tolerance—is he/she a conservative, moderate or speculative investor? A number of factors including age and financial stability are important elements in determining a person's risk tolerance.

Conversely, all stocks carry some risk and the more information an investor has about a stock's risk level, the better that investor can determine whether it is compatible with his/her personal risk tolerance.

A stock's beta number is one way investors can estimate the level of a stock's risk. However, it should be stressed to students that no measure of risk or volatility is fool-proof or consistently accurate. The beta—a measure of a stock's volatility—shows of how a particular stock's price moves in relation to the market as a whole. There are betas for individual stock and for industries. A beta number greater than 1 is considered high risk.

A beta of 1 indicates that the stock price should move with the overall market. For example, if a stock's beta is 1 and the market goes up 20%, the stock's price can be expected to go up 20%. If the market is down 10%, the stock may be down 10%. The beta reflects the stock's performance over months, not days.

A beta of more than 1 indicates a stock that is more volatile than the market. For example, if the market goes up 10%, the stock may increase 15%.

In short, the higher the beta, the more volatile the stock; the lower the beta the more stable the stock compared with the market.

Vocabulary

Beta Number: A calculation that helps measure the level of risk in investing in a stock.

Price/Earnings Ratio (also P/E Ratio): The ratio of the stock's price per share to its earnings per share.

Risk: The chance of losing all or part of the value of an investment. Risk can be divided into three categories;

Conservative—fixed income and preferred stocks are considered conservative.

Moderate—include growth stocks—particularly young companies with great potential.

Speculative—stocks that are highly unpredictable. For example, many dot/com stocks are highly speculative, with incredible highs and devastating lows.

Risk Tolerance: An investor's ability to accept loss of some or all of the money he or she has invested, based on a number of factors including age, financial stability, amount of time before the invested funds are needed for other purposes, etc.

Volatile/Volatility: The potential unpredictability or instability of a stock. A volatile stock is a risky stock—one that can go very high, or very low.

Performance Objectives

Students will be able to:

- Define and illustrate the three major kinds of risk.
- Examine companies and determine the risk involved in investing in these companies.
- Research two companies and decide the level of risk their Stock Market Game team would take if they invest in these companies.
- Write a persuasive letter motivating or discouraging an investor from purchasing stocks in a company they researched.
- Solve decimal multiplication problems.

Subject Areas

Economics, Technology/ Research, English Language Arts (Writing), Mathematics, Business, Social Studies

Materials

- Chart Paper
- Internet/ Newspaper
- **Activity Sheet 1: Conservative, Moderate or Speculative?**
- **Activity Sheet 2: To Risk or Not to Risk**
- **Activity Sheet 3: Research Guidelines**
- **Activity Sheet 4: Understanding the Beta Number**

Springboard Activity

Jamie wanted advice about the best way to make money on money she received for her birthday.

Her brother told her, “Buy a lottery ticket. It may be risky but you could become a millionaire”.

Her grandmother said, “Put it under your mattress and save it for a rainy day.”

Her best friend advised her, “Buy stock in Sunoco, gas prices are always in the news”.

Her aunt said “Put it in a savings account and you can earn 1% interest a year for the next 20 years.

ASK

- Which investment seems the best? What do you think? Why?

Discuss, then have students, as a class, define “risk.”

Note: according to [Random House College Dictionary](#), Risk is “exposure to the chance of injury or loss.”

Procedure

ASK

- How do you think risk applies to investing?
- What does Jamie need to learn about investing to make the best decision?

Write the following terms:

Low risk = low return

High risk = high return, low return or loss

ASK

- What does this mean?
- How does it apply to investing?

Elicit from students the correlation that low risk usually means low profit; high risk may mean high profit or big losses.

Tell students:

Conservative Risk (Low): Means taking limited risk on secure stocks and fixed income investments. Fixed Income stocks are generally low stocks that pay higher than average dividends (4% or higher). A dividend is money paid out to the owner of a stock based on the profit of a company. The value or price of the stock does not change quickly.

Moderate Risk: Growth stocks—stocks that grow faster and higher (value and price) than stocks of other companies with similar sales and earnings—are considered to be of moderate risk.

Speculative Risk (High): Stocks that carry major risks on investments with unpredictable results, but the potential to earn very high returns. When investing in speculative stocks, the investor must realize that while there is a chance of great returns, there is also the possibility for great loss.

Novice Level:

Divide the class into their Stock Market Game teams. Have each group rate different investments on **Activity Sheet 1: Conservative, Moderate or Speculative?** Have students share their answers with the class and explain the reasons for their ratings.

Apprentice and Master Levels:

Explain that risk is very personal and is based on a variety of elements including: income, age, and financial goals. Different investors can tolerate different levels of risk.

Have each SMG team member evaluate risk taken by each individual on **Activity Sheet 2: To Risk or Not to Risk?** After each team member has evaluated the scenarios on the activity sheet, have team members discuss their evaluations, reach agreement and share the team's decisions with the class.

Grand Master Level:

Explain that risk is very personal and is based on a variety of elements including: income, age, and financial goals. Different investors can tolerate different levels of risk.

Have each SMG team member evaluate risk taken by each individual on **Activity Sheet 2: To Risk or Not to Risk?** After each team member has evaluated the scenarios on the activity sheet, have team members discuss their evaluations, reach agreement and share the team's decisions with the class.

Then have each team lower the investment risk for one (or two) individuals from the activity sheet who have high-risk investments by writing a new investment plan that has lower risk.

Assessment

[Novice](#) and [Apprentice](#) Levels:

Have each SMG team, or have students on their own, write a paragraph explaining what type of investors (low, moderate or high risk) they will be and why.

ASK

- Will they take high risks?
- Will they choose growth stocks?
- Why or why not?

[Master](#) and [Grand Master](#) Levels:

Have students, alone or in teams, research three stocks; one conservative risk, one moderate risk, and one speculative risk; and calculate the Beta number for each.

ASK

- In which stocks would you feel comfortable investing?
- Why?

Application

[Novice Level](#):

All SMG teams have been given a virtual \$100,000 to invest in the stock market.

ASK

- Given what you know about your own risk tolerance level, how will risk influence your stock picks?
- Given what you now know about your teammates' views of risk, might there be conflict in your group over selection of investments? Explain.
- How do you think your tolerance for risk might influence your investment strategy if you had a real \$5000 to invest as opposed to a hypothetical \$100,000?

[Master](#) and [Grand Master](#) Levels:

It is important that students understand they should research many different aspects of a company to determine if investing in it is worth the risk.

ASK

- If you are going to invest in a company, how can you evaluate the risk level for that investment?

- List ideas.

Answers should include:

- Growth over past months, years
- The overall economy's effect on the company's products or services
- The company's new products, mergers, plans for the future
- Beta Numbers

Working in SMG teams, have students research two companies in the same industry. **Activity Sheet 3: Research Guidelines** will direct their research.

The students can find all the answers to the activity sheet questions on www.nyse.com or the company's website. If students use www.nyse.com, they should click on search and type in corporation's name.

If students use the company's website (there is a link from the NYSE website) it has information for investors and media. For example, at the bottom of www.mattel.com, click "investors and media" for all information about the stock and products.

Enrichment Activities

Novice Level:

Have students write a business letter to a potential investor encouraging her to purchase shares in a particular company. This company can be is high risk, with great potential for success or low risk, providing a more modest, but a steady income.

Apprentice and Master Levels:

Student teams plan a comparative presentation based on the two companies they have researched. In this presentation they should note the positive and negative aspects of both companies and explain which company may be the most beneficial to invest in and why. They should discuss risk factors of investing in each company.

Grand Master Level:

Have SMG teams complete Activity Sheet 4: Understanding the Beta Number.

Have teams develop a sales pitch to convince an investor to buy stock in one company and not another, based on the companies' risks.

*Work Cited

Mladjenovic, Paul. (2002) *Stock Investing for Dummies*. Indiana: Wiley Publishing, Inc.