

Calculating rate of return

Students calculate the rate of return to measure an investment's performance and answer questions about investing.

Learning goals

Big idea

Rate of return is a common way to measure and compare the growth of investments.

Essential questions

- What is rate of return?
- How does rate of return help you determine how well investments have performed?

Objectives



- Understand how rate of return helps measure investments' performance
- Use a simple rate of return formula to calculate investments' gains or losses

What students will do

- Calculate the rate of return for a range of investments.
- Share their thoughts on topics related to investing.

KEY INFORMATION

Building block:

-  Executive function
-  Financial knowledge and decision-making skills

Grade level: High school (9-12)

Age range: 13-19

Topic: Save and invest (Investing)

School subject: CTE (Career and technical education), English or language arts, Math

Teaching strategy: Personalized instruction, Simulation

Bloom's Taxonomy level: Apply

Activity duration: 45-60 minutes

STANDARDS

Council for Economic Education
Standard V. Financial investing

Jump\$tart Coalition
Investing - Standard 1

Preparing for this activity

- Print copies of all student materials for each student, or prepare for students to access them electronically.
- While it's not necessary, completing the "Investigating investing" activity before this one will make it more meaningful.
- Students should have access to calculators.
- Provide notebook paper for students to complete a quick writing task, if necessary.

What you'll need

THIS TEACHER GUIDE

- Calculating rate of return (guide)
[cfpb_building_block_activities_calculating-rate-return_guide.pdf](#)

STUDENT MATERIALS

- Calculating rate of return (worksheet)
[cfpb_building_block_activities_calculating-rate-return_worksheet.pdf](#)
- Calculators
- Notebook paper (if necessary)

Exploring key financial concepts

Investing can help your money grow. Calculating rate of return is a useful way to determine how well an investment is doing and to compare one investment to another. Rate of return is the profit or loss on an investment expressed as a percentage. You can calculate the rate of return on typical financial investments (such as stocks and bonds) as well as non-financial investments, such as works of art, vintage cars, or other items. Regardless of what you invest in, it's important to research the investment carefully and to be aware of the risk. An investment's value can rise and fall over time – and it's possible to lose some or all of your money.

TIP

Because financial products, terms, and laws change, students should be encouraged to always look for the most up-to-date information.

Note

It's important to emphasize that all investments, even savings products, have some level of risk. These risks include how readily investors can get their money when they need it; how fast their money will grow; whether they can lose some, all, or in some cases, more than their initial investment; and how inflation, taxes, market conditions, and other external factors may affect the value of their investment.

Teaching this activity

Whole-class introduction

- Distribute the “Calculating rate of return” worksheet and calculators to students.
- Be sure students understand key vocabulary:
 - **Annual return:** The profit or loss on an investment over a one-year period.
 - **Bond:** A type of debt, similar to an IOU. When you buy a bond, you're lending to the issuer, which may be a government, municipality, or corporation. The issuer promises to pay you a specified rate of interest during the life of the bond and to repay the principal – also known as the bond's face value or par value – when the bond “matures,” or comes due after a set period.
 - **Certificate of deposit (CD):** Savings tool with fixed maturity date and fixed interest rate.
 - **Invest:** To commit money to earn a financial return; the strategic purchase or sale of assets to produce income or capital gains.
 - **Investment:** Something you spend your money on that you expect will earn a financial return.
 - **Money market deposit account:** Federally insured account at a bank or credit union that offers a higher rate of interest than a savings account, allows for a limited number of transactions monthly, and may require a minimum deposit or minimum account balance.
 - **Mutual fund:** A company that pools money from many investors and invests the money in securities such as stocks, bonds, and short-term debt. The combined holdings of the mutual fund are known as its portfolio. Investors buy shares in mutual funds. Each share represents an investor's part ownership in the fund and the income it generates.

TIP

Visit CFPB's financial education glossary at consumerfinance.gov/financial-education-glossary/.

- **Rate of return:** The profit or loss on an investment expressed as a percentage.
 - **Return:** The profit or loss on an investment.
 - **Risk:** Exposure to danger, harm, or loss.
 - **Security:** An investment product such as a stock or bond.
 - **Stock:** A type of investment that gives people a share of ownership in a company.
- Start a discussion by asking students “Why is it important to track how well an investment is doing?”
 - Explain that calculating rate of return can help them determine how well their money is making money.
 - Tell students that they’ll calculate rate of return on several financial and non-financial investments using the formula on their worksheets.

Individual or group work

- Students can work in pairs, but they should enter their calculations on their own worksheet.
- Once students finish the calculations, they’ll complete a quick writing task.
- Give them 8-10 minutes to respond to one of the three open-ended prompts about investing.
- To personalize the experience and make it more meaningful, students can choose one of three prompts for the quick write:
 - People are often tempted to invest in “get rich quick schemes.” Why might someone participate in that kind of investment?
 - What types of investments are you most likely to make in your own life? Why do you think these investments would help you reach your goals?
 - Some people don’t invest because it may seem too complicated or they may be afraid of losing money. How would you convince someone that investing is a valuable strategy to help them meet their financial goals?
- Students will write until you say “stop.”
- This writing strategy is used to develop writing fluency, nurture reflection and critical thinking, and create a habit of reflection. It can help students make deeper connections to the concept of investing and may help you to informally assess students’ thinking.

Wrap-up

- Ask for volunteers to share their responses to the quick write and discuss them as a class.
- If time permits, have students discuss the relationship between the rate of return and an investment's perceived riskiness. Ask students to consider their own comfort with risk.

Suggested next steps

Consider searching for other [CFPB activities](#) that address the topic of investing.

Measuring student learning

Students' answers on the worksheet and the quick write will give you a sense of their understanding. **Keep in mind that students' answers may vary.** The important thing is for students to have reasonable justification for their answers.

This answer guide provides possible answers for the "Calculating rate of return" worksheet.

Answer guide

Financial investments

Initial investment	Current value	Net profit or loss	Rate of return
You put \$10,000 in a mutual fund.	The investment grew in value to \$10,500.	\$500	5%
You bought government-issued bonds for \$8,800.	The bonds are now worth \$10,000.	\$1,200	13.6%
You put \$15,000 in a money market deposit account.	The account is now worth \$15,800.	\$800	5.3%
You put \$1,000 in a savings account.	The account is now worth \$1,010.	\$10	1%
You bought 10 shares of stock for \$12.50 each.	You held the shares for many years and then sold the shares for \$27.15 each for a current total value of \$271.50.	\$14.65 for each share (or a total of \$146.50)	117.2%

Non-financial investments

Initial investment	Current value	Net profit or loss	Rate of return
You bought a house for \$75,000 and spent \$35,000 on renovations.	You owned the house for five years and then sold the house for \$160,000.	\$50,000	45.5%
Your grandfather sold you his 1964 classic car for \$2,200, the price he paid for it. You spent \$10,000 to restore it.	You sold the car for \$20,000.	\$7,800	63.9%
You bought a painting at a garage sale for \$20. You learned it was done by a popular local artist.	You sold the painting for \$1,000.	\$980	4,900%
You bought a limited edition pair of sneakers for \$300.	You sold the unworn sneakers to a collector for \$500.	\$200	66.7%
Your aunt bought 100 collectible stuffed animals for \$5 each while she was a teenager, when the toys were popular.	Ten years later, she sold her collection to a neighbor for \$100.	-\$400 (she lost money)	-80%