



MIDDLE SCHOOL | UNIT 6

Growing and Protecting Your Finances

Title

Dividends: What Are They, and Do They Matter?

LEARNING OBJECTIVES

Students will:

- **Review** what stocks are and that investing in them involves risk.
- **Develop** an understanding of dividends and yield.
- **Understand** how to determine if a company pays a dividend or not.
- **Calculate** annual dividend payments using ratios.

Content Area

Math

Grades

6–8

Overview

How can you make money in the stock market? Students discover that buying and selling stocks is not the only way to make money in the stock market. They learn what dividends are and investigate which companies pay dividends. The activity begins with an overview of investing and the traditional “buy low and sell high” method. Students then learn about dividends and how yield is a numeric indicator of a company’s dividends. As a class, students investigate whether each company in a provided set pays a dividend. Each student selects companies from the list to create his or her own hypothetical portfolio. Students use dice to determine their number of shares in each company and then calculate their dividend payments. The activity concludes with students considering whether they would invest in dividend-paying stocks and a reminder that all investments come with the potential for loss.

Themes

Personal Finance: Investing, dividends

Math: Ratios, rates, percentages

Common Core Math Standards

MP1 Make sense of problems and persevere in solving them.

MP2 Reason abstractly and quantitatively.

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6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

6.RP.A.3.B Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?

6.RP.A.3.C Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent. (extension activity)

Connect

How does this connect to the student?

Students may think that investing in the stock market is all about guessing whether a stock will increase in value. This activity helps students realize that there are ways to mathematically evaluate stocks and view their past performance.

How does this connect to careers?

Investment Advisor:

Individuals can purchase stocks on their own, but some people prefer to seek advice from a professional. Most investment advisors have a bachelor's degree and receive some on-the-job training. A solid understanding of math is important in this field, as many decisions to invest are made based on how well a company is doing—which is often expressed through various ratios and percentages.

How does this connect to technology?

Technology has had a significant impact on how investors research companies and decide which stocks to purchase. In the past, stock prices were listed in the newspaper. Information on things like yield and dividends required additional research which often involved a trip to a library or writing to a company to request financial information. Nowadays, investors have access to detailed financial information online.

Key Terms

Personal Finance: stock, shareholders, dividends, dividend reimbursement program, volatility, ex-dividend date, dividend payable date, yield, portfolio

Math: unit rate

Prepare

Background: When people say that a person “made money” in the stock market, they are usually referring to someone who purchased a **stock** (share of ownership in a company) at a low price and sold it at a higher price. The difference is their profit. However, this isn't the only way to receive income through investments. Some companies share their profits with **shareholders** (people who own shares of stock in a company) by paying out **dividends** (the total income an investor receives from a stock or another dividend-yielding asset during a given year). Some investors receive their dividends as a cash payout while others participate in what is called a DRIP or **dividend reimbursement program**. Investors that choose this option use their dividend payments to purchase additional stock in the same company from which it was received.

Pathway to Financial Success

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Dividends offer investors a way to receive money from their investments without selling them. This is particularly beneficial for individuals that take a “buy and hold” strategy—meaning they plan to buy a company’s stock and not sell it for a long time. Purchasing stocks that pay dividends can also be a good strategy for beginner investors. For the most part, such stocks tend to have relatively low **volatility** (meaning their stock prices don’t change often or considerably) and a track record of growth.

Companies generally announce the amount of their dividends on a quarterly basis. In addition to the amount, there is a date by which the shareholder must own the stock (**ex-dividend date**) and the date on which the dividends will be paid (**dividend payable date**).

When researching stocks, students can determine whether a company typically pays a dividend by finding out its **yield**. The yield equals the annual dividend amount per share divided by the price per share. In this activity, students will research whether certain companies pay a dividend and then determine how much money they might earn given a hypothetical portfolio.

Materials

- **Do They Dividend? Student Handout**—one copy per student or an electronic copy to display
- **Create Your Own Portfolio Student Handout**—one copy per student
- **Computers with Internet Access**
- **Dice**—one per student (or students may share); alternately, students can use a dice app or online dice simulator such as the one available from [Random.org](https://www.random.org/)
- **Growing and Protecting your Finances Unit 6 Student Video**

Engage

- Ask students what they already know about stocks.
- Show the video **Growing and Protecting your Finances**. Discuss any discrepancies between what students shared before and what they learned in the video.
- Reinforce that the traditional way to “make money” in the stock market is to buy stocks at a low price and sell them when they are at a higher price. Let students know that this isn’t the only way to get income from stocks.

Teach

- Explain what dividends are and how they work (see **Background** section for additional information).
- Demonstrate to students how they can determine whether a company pays a dividend using an online tool. Options include [Google](https://www.google.com/) (search “<company name> stock snapshot”), [Yahoo! Finance](https://finance.yahoo.com/), and [Wall Street Journal](https://www.wsj.com/). Companies that pay a dividend will show an amount under yield (also shown as Dividend Yield on some sites). The same tools can be used to determine the current price of a stock.
- Share with students that the yield is a ratio which represents the annual dividend per share to the current price per share. Expressed as an equation or rate, the yield is the annual dividend amount per share divided by the price per share.

$$\text{Yield} = \frac{\text{Annual Dividend per Share}}{\text{Price Per Share}}$$

- Distribute a copy of **Do They Dividend? Student Handout** to each student or display a copy for students to view. Ask students to predict which of the companies on the list might pay a dividend and which likely do not. Remind students that companies which pay a dividend are usually those that have a track record of growth and are sharing their profits with the investors that own their stock.

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- Direct students to work together to locate the information for all the stocks on the handout and share the results. If desired, complete the first row together as an example. Students can add additional stocks to the bottom of the table based on their own interests or research.
- Distribute a copy of **Create Your Own Portfolio Student Handout** to each student. Explain that a *portfolio* is a collection of investments. Invite each student to create their own portfolio of stocks by selecting six companies (the first column on the handout) from the list on the **Do They Dividend? Student Handout**. Students should also record the current stock price and yield for each company.
- Direct students to calculate the annual dividend per share for each company using the equation provided (yield x price per share).
- Distribute dice to students or let them know how to access an [online dice simulator](#). Allow students time to roll the dice for each company and calculate the number of shares and total dividend payment.
- Discuss each student's results and the variation between them. Did any student select a company that did not pay a dividend? If so, why? How did the number of shares influence the amount of dividends?
- Challenge students to identify the unit rate in this exercise (the annual dividend per share) and explain how it was used.

Conclude

- Ask students if they think that buying stocks that pay dividends is a smart decision for an investor. Anticipated responses might include:
 - Yes, because it can provide a source of income for the investor without selling the stock.
 - No, because you must own a lot of shares to make much money.
- Remind students that investing—unlike saving money in a savings account, for example—involves risk. The price of the stock may go down, or the company could decide to pay less dividends or stop paying them altogether.
- Direct students to submit an exit ticket answering this question: Would you invest in a dividend paying stock? Why or why not?

Extend

- **Mathematics:** Invite students to create a new portfolio based on a given amount to invest (such as \$1,000 or \$5,000). In this scenario, students must determine the number of shares of each stock they could afford given the current stock price and the amount they have to invest. Challenge students to determine the total dividend amount per year and then calculate the rate of return on their investment from the dividends.
- **Research:** Ratios are widely used by investors to decide whether to buy, sell, or hold a company's stock. Challenge students to learn more about these ratios including what they are, how they are calculated, and what they tell investors. Some of the more common ratios are price to earnings (P/E), price to cash flow, price to earnings to growth (PEG), current, debt to equity, and return on equity.
- **Project:** There are several stock market simulations that can be used in classrooms to help students further their understanding of investing. [The Stock Market Game](#) is one example in which students invest a hypothetical \$100,000 over a period of time and compete with other students for prizes.
- **Guest Speaker:** Invite a local stock broker or investment advisor to speak to your class. Ask him or her to share the impact that math—and ratios and rates, in particular—have in their work.

Do They Dividend?

Directions: Look up and record the **current stock price** and the **yield** (or dividend yield) of each company below. Use the bottom rows to add other stocks of your choice.

Company (Ticker Symbol)	Current Stock Price (\$)	Yield (%)
Amazon (AMZN)		
Apple (AAPL)		
AT&T (T)		
Chipotle (CMG)		
Coca-Cola (KO)		
Disney (DIS)		
Facebook (FB)		
Home Depot (HD)		
McDonald's (MCD)		
Microsoft (MSFT)		
Netflix (NFLX)		
Nike (NKE)		
Starbucks (SBUX)		
Target (TGT)		
Verizon (VZ)		
Walmart (WMT)		

Create a Portfolio

Directions:

- Select six of the stocks from the class list to create your own portfolio.
- Complete the first three columns with the information from the **Do They Dividend? Student Handout**.
- Calculate the annual dividend per share for each stock (= Current Stock Price x Yield). Be sure to convert yield to a decimal format when multiplying.
- Determine your number of stocks by rolling a dice (= number on dice x 100). Be sure to roll once for each stock.
- Calculate the total dividend payment (=annual dividend per share x number of stocks).
- Determine the total amount you would receive in dividend payments for your entire portfolio.

Company	Current Stock Price (\$)	Yield (%)	Annual Dividend Per Share (\$)	Number of Stocks	Total Dividend Payment (\$)
TOTAL					