

FitMoney's high school curriculum aims to teach critical financial literacy skills with engaging and relevant classroom instruction. The 25-lesson sequence can be taught in multiple configurations: four stand-alone units, a full-semester course, or as a regular supplemental lesson throughout the year (i.e., "Financial Fridays"). Each unit is bookended by a pre- and post-assessment. The curriculum was built around the Jump\$tart National Standards and inspired by existing activities for teaching students about healthy financial practices. All units and lessons can be accessed via the [High School Curriculum Map](#) or your school's FitMoney Home Base.

Before the First Unit: Administer the all-in-one or unit assessment. While FitMoney lessons contain formative assessments, summative assessments allow the teacher AND FitMoney to determine the success of the lessons. The assessments can either bookend each unit as 15-20 minute unit pre/post-assessment OR the entire curriculum with a 60-minute all-in-one assessment. Students complete the assessments using a Google Form. The pre-assessment is the same as the post, so please do not review answers with your students.

- All-in-one Assessment: [Sample assessment here](#)
- Investing Wisely Unit: [Sample assessment here](#)

NOTE: Be sure when you share with students, to use a link that has been customized for your district. To request this link, contact teachers@fitmoney.org with your school name and the names of any teachers using the curriculum.

Materials and Resources: Each lesson in FitMoney's high school curriculum includes a lesson plan, presentation slides and handouts necessary to teach the estimated 60-minute lessons right "out of the box." Each unit has all lessons accessible in a Google Doc, all slides in a Google Slideshow and all handouts in a Google Doc. Answer keys to the student handouts are available at the end of the handout Google doc. Links within the lessons take you to the top of the relevant pages, slides or handout within the larger files. While complete as is, teachers can download and customize all materials at their discretion. Each lesson includes the following:

- **Objectives**, a suggested formative **assessment** and aligned **Jump\$tart standards**.
- **Materials and preparation guide:** Here teachers can find links to the FitMoney slides and handouts related to that specific lesson. To enhance the instruction with technology, several lessons use online resources, videos or other tools. FitMoney encourages teachers to explore these tools before teaching each class, and familiarize themselves and their students with additional resources for extending their financial literacy learning.
- **Key terms** and definitions that students will encounter during the lesson.
- **Procedure:** Each procedure starts with a "Do Now" relating to the day's objective and serves to activate prior knowledge. Following the Do Now are a series of activities, discussions, and resources that drive to meet the day's objectives as well as checks for understanding. Each step of the procedure has an estimated time frame and any relevant links to materials. Lessons end with a wrap up activity where students synthesize their learning and in some cases add to their unit project.
- **Extension:** In this section, teachers will find additional lessons, activities or other external resources.

Family Conversation Guide: The FitMoney curriculum comes with a family introduction letter and unit conversation guides. These guides explain what students learned during the unit and give potential follow up questions, activities, and resources, as a support for families to further their students' learning at home.

After the Last Lesson: Teachers should administer the post-assessment. It is the same as the pre-assessment and should take the same amount of time. FitMoney will receive and summarize the assessment data, and then return it to teachers by request.

HS.INV.1. Interest: Good, Bad, and Compound



Lesson Objectives

- Differentiate between interest owed and interest earned.
- Understand the function of compound interest and compare it to simple interest
- Estimate the length of time it will take an investment to double using the Rule of 72

Assessment

- Accuracy of Compound Interest Graph on the class handout
- Wrap Up Question as Exit Ticket
- [INV.1 Answer Key](#)

Materials

- Class set of Lesson Handouts:
 - [Interest: Good, Bad, Compound](#)
- Display/audio for [Lesson Slides](#) and [video](#)

Preparation

- Display Lesson Slides
- Print class set of Lesson Handouts

Jumpstart Standards Alignment

- For standards aligned with this lesson, [click here](#)

Key Terms/Vocabulary

- **Interest:** a profit earned on money invested and saved or a fee for money borrowed, usually calculated as a percentage of the principal.
- **Compound Interest:** interest paid on both the principal and accumulated unpaid interest.

PROCEDURE

1. **Do Now** ([Slide](#), 5 min): Ask students, "What is interest? Where have you heard about it, how it works or what it does? Is it good or bad?" Students should answer on their own, on paper or in an established notebook, then briefly share their answers.
2. **Understanding Interest** ([Slide](#), [Handout](#), 10 min): Ask students to share what they know and where they have heard about interest. As students share, list their brainstorm items in either Earned Interest or Owed Interest. (Their handout has space to brainstorm at the top.) When there are sufficient brainstorm items, create a class definition of each term using the information/examples from the brainstorm and have students write it down in their handout. For example:
 - *Earned Interest:* Interest that is paid to you as a reward for investing or saving your money.
 - *Owed Interest:* Interest that you have to pay as a fee for borrowing money.
3. **Introducing Compound Interest** ([Slide](#), 15 min): Explain that compound interest is a very important component of earned interest. Share the [Compound Interest Video](#) - watch once all the way through, then a second time to have students graph growth of interest along with the video on the handout, by pausing at the following points. (This is also available as an [EdPuzzle](#).)
 - 0:14: Have students copy or paraphrase the definition of compound interest
 - 0:48: Ask students: at 5% simple interest, how much is your \$10,000 simple interest investment worth after 3 years? (\$11,500)
 - 1:39: Ask students: at 5% compound interest, compounded annually (once a year), how much is your \$10,000 investment worth after 3 years? (\$11,576.25)

Note: A simple definition of compound interest is: *Interest paid based on both the principal AND the interest you've earned so far.*

4. **Calculating Compound Interest** ([Slide](#), 20 min): Ask students to calculate interest on that \$10,000 investment, both as simple and compound interest, out to 10 years. Use the compound interest algorithm that best suits your students. A simple approach is to instruct them to take each year's total, and multiply it by 1.05 to find the next year's total, then repeat and graph out to 10 years. Or direct your students to use an [online graphing calculator](#) from desmos.com. (Note: The slide is animated with an example graph. After students finish the graph you can click to reveal the example graph. Then click on the link in "Let your money grow [even more!](#)" which takes you to the online graphing calculator. Use the zoom to illustrate how the difference between the compounding interest balance and the simple interest balance grows significantly over time.)
5. **Rule of 72** ([Slide](#), 5 min): Explain "the Rule of 72" that allows you to estimate how long it will take your money to double. [Read this article](#) or [watch this video](#) (just to the 1:35 mark) to further explain the rule of 72. On their handouts, have students use the rule of 72 to predict how long it would take their original investment of \$10,000 with an interest rate of 5% to double. Then have them check this prediction using the calculator at <http://www.helpfulcalculators.com/compound-interest-calculator>. If time remains, allow students to extend their timeline to 25, 30 or more years to see how their money would grow (maybe connect this to retirement, which will be a lesson later in this unit).
6. **Wrap Up** ([Slide](#), 5 min): Ask students, "How does investing earlier help you take advantage of compound interest?" Students can answer as a closing discussion, or in writing as an exit ticket.

Extensions

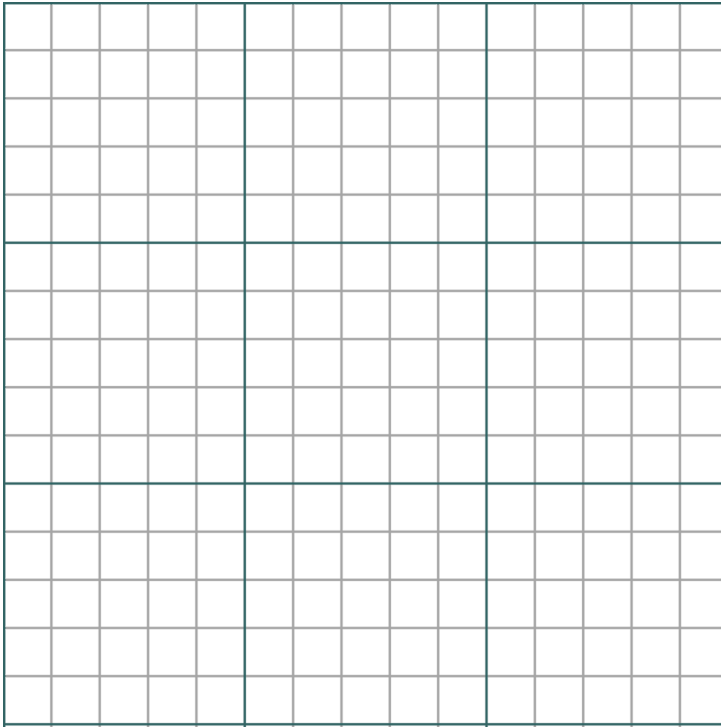
- Ask students to prove which is a better investment: [a penny compounded every day for 30 days or \\$1mil now](#).
- Challenge students to develop a formula using Google Sheets or Excel to calculate compound interest for any amount, time period, interest rate.

Interest: The Good, The Bad, The Compound

HS.INV.1. Interest: The Good, The Bad, The Compound

What is the difference between earned interest and owed interest?

Define **Compound Interest**:



Imagine you invest \$10,000, and never add another deposit. **Graph two lines:** First, your \$10,000 investment at 5% simple interest for 10 years. Second, the \$10,000 investment at 5% interest compounded annually over 10 years.

What does this graph demonstrate about the power of compound interest?

Using the “Rule of 72,” make a prediction: How long will take to double your money? (i.e. have \$20,000+ in your account.)

Check your prediction using the compound interest calculator at helpfulcalculators.com/compound-interest-calculator. Based on this calculator, did the “rule of 72” work? Explain.



Lesson HS.INV.1:

Interest: The Good, The Bad, The Compound

Do Now: What is interest? Where have you heard about it, how it works or what it does? Is it good or bad?

Interest is either profit earned on money saved OR a fee paid for money borrowed, usually calculated as a percentage of the principal.

Understanding Interest * Handout

Earned Interest

*Interest that is **paid to you as a reward** for investing or saving your money.*

- Interest on money in your bank account
- Interest you get from lending someone money

Owed Interest

*Interest that **you have to pay as a fee** for borrowing money.*

- Interest you pay on a car loan
- Interest you pay on a mortgage (loan to buy a house)
- Interest you pay on the outstanding balance of a credit card

Simple vs. Compound Interest * Handout



As you watch think and then answer:

What is compound interest?

Interest paid based on both the principal AND the interest you've earned so far.

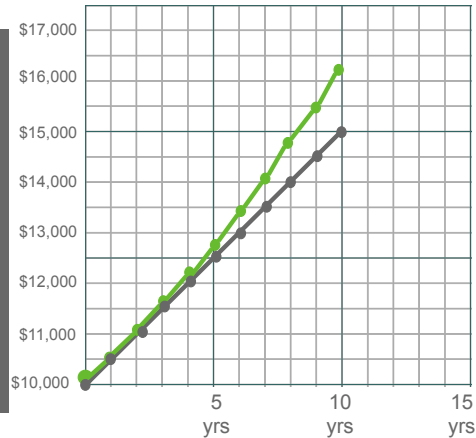
Simple vs. Compound Interest

Imagine you invest \$10,000 at 5% for 10 years.

Which line represents:

- Simple Interest?
- Compound Interest?

What does this graph demonstrate about the power of compound interest?



Rule of 72



Divide the number 72 by the interest rate to find out about how many years it will take for your money to double.

For example, \$1,000 at 4% interest will double in 18 years, because:

$$72 \div 4 = 18 \text{ years}$$

\$10,000, Compounded Annually at 5% Interest



helpfulcalculators.com/compound-interest-calculator

Wrap Up: How does investing earlier help you take advantage of compound interest?



HOME CONNECTION

UNIT INVESTING WISELY

In this unit, students worked to answer the question, “how do different financial products grow invested money and what are the risks associated with them?” Students also created a diversified portfolio.

Students first explored the definition and effect of compound interest along with the “Rule of 72” to understand the time value of money. Students then learned about inflation, the difference between saving and investing along with the risk and return relationship of several investment products. Through playing an interactive game, students learned the definition and the risk levels of different savings and investment products and reflected on their choices. Using this knowledge and reflection students learned about diversification to create a diversified portfolio and gave financial advice to other students. Finally students learned about an important investment that they can and should start as soon as possible: investing for retirement.

KEY TAKEAWAYS FROM THIS UNIT

- Compound interest is interest paid on both the principal and accumulated unpaid interest.
- Inflation affects your purchasing power - so a dollar today can buy less than a dollar tomorrow, one more reason why your money should be earning money through compound interest.
- Savings allows a person to keep their money safe and easily accessible, but for little interest reward, while investing allows a person the opportunity to earn money through their invested money for potentially much higher returns.
- In general, when it comes to financial products, the greater the risk the greater the reward.
- Diversification is a strategy where you invest in many different financial products to help minimize risk.
- The longer your money is invested the greater the impact of compound interest. This is why it is important to start saving for retirement as early as possible (as soon as you have a paying job.)

CONVERSATION STARTERS AND ACTIVITIES TO DO AT HOME

- Ask your student about the different investment products s/he researched in class.
- If your student has a job, help him or her open a retirement account and help choose meaningful and diversified investments. For more tips on helping your student navigate their first paying job read bethkobliner.com/conversation/5-things-your-teen-needs-to-know-first-real-job/
- Play the same investing game that your student played in class at buildyourstax.com
- Spark more conversation at home by listening to our podcast at fitmoney.org/podcast
Episodes specifically related to this unit:
 - Campus, Careers, and Accounting with Matt Trogon